

DOI : 10.47191/jefms

Impact Factor: 6.274

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# **JOURNAL OF ECONOMICS, FINANCE AND MANAGEMENT STUDIES**

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**VOLUME 05 ISSUE 03**  
**March 2022**

# Journal of Economics, Finance And Management Studies

ISSN[Online] : 2644-0504 || ISSN[Print] : 2644-0490

<https://ijefm.co.in/index.php>

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## Tax Sustainability: The Effectiveness and Contribution of Land and Building Taxes to Regional Original Revenue in Yogyakarta City, Indonesia



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**ABSTRACT:** The principle of decentralization has been emphasized since the existence of regional autonomy to manage its resources. Various regional regulations that originally had to be approved by the central government in advance, can be set by regional heads independently. With regional autonomy, it is hoped that the investment procedure will be easier so that the potential of the region can be utilized as much as possible to increase Regional Original Revenue (PAD) in the region. Tax revenue is one of the sustainable aspects in order to increase Regional Original Revenue. Land and Building Tax in Indonesia (PBB) has the potential to support regional revenue in order to implement regional autonomy and development. The aims of this study are: (1) to determine the growth of Yogyakarta's land and building tax revenue in 2016-2020, (2) to determine the effectiveness of Yogyakarta's land and building tax revenue based on 2016-2020 clarification, (3) to determine the contribution land and building tax on local revenue of Yogyakarta in 2016-2020. The population in this study is the government of the Yogyakarta City. This study uses a quantitative descriptive method. Data collection techniques through documentation, interviews and observation. The data used in this research is (random sampling). That is, in this study, it is secondary data, namely data collected from the Regional Assets and Management Agency in the form of reports on the Realization of Land and Building Taxes and Regional Original Revenue (PAD) of Yogyakarta during the 2016-2020 period. Potential land and building taxes and the realization of local revenue. Data were analyzed using effectiveness analysis, and contribution analysis. The results of the study can be concluded (1) The highest land and building tax growth was obtained in 2020 of 116.99% and the lowest growth was obtained in 2018 of 101.87%. (2) Land and building tax revenue in Yogyakarta Municipality based on the clarification of 2016-2020 is very effective. (3) Yogyakarta Municipality's land and building tax revenue contributes less to the Regional Original Income.

**KEYWORDS:** tax sustainability, land and building tax, tax contribution, regional original revenue

### I. INTRODUCTION

Local taxes can be done with a centralized or decentralized approach. The centralized approach is to concentrate all authority on a small number of managers or those in top positions in an organizational structure (Nuradhawati, 2019). While the decentralization approach is the granting of authority to all areas of government that are fully responsible to the city and district areas. The principle of decentralization has been emphasized since the existence of regional autonomy to manage its resources. Various regional regulations that originally had to be approved by the central government in advance, can be set by regional heads independently. With regional autonomy, it is hoped that the investment procedure will be easier so that the potential of the region can be utilized as much as possible to increase Regional Original Revenue in the region.

Regional autonomy is implemented in stages, the central government has transferred various authorities in an effort so that the government can manage the region so that it is more developed. The implementation of regional autonomy and fiscal decentralization over the last ten years still needs continuous improvement. One such effort is fiscal decentralization with management and revenue, in this case taxes and retribution. Tax revenue is one of the important aspects in order to increase Regional Original Revenue.

Regional Original Revenue itself is regional revenue that comes from pure regional revenue sources and is used to finance regional development. For this reason, Regional Original Revenue must be pursued as best as possible so that it always increases in line with improving services to the community. In the history of local government in Indonesia, since Indonesia's independence

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until now, local taxes and retributions have become a reliable source of revenue for the regions. However, in general for regencies/cities, the contribution from taxes is quite good, regional retributions on the State Revenue Expenditure Budget in Indonesia (APBN) are very varied according to the potential of each region. Together, Regional Original Revenue in Indonesia (PAD) has a significant influence on regional expenditures. So that it can be said that local governments in carrying out annual expenditures are influenced by the amount of Regional Original Revenue.

The amount of Regional Original Revenue is obtained from various taxes that exist in an area. In this case, the Yogyakarta city government manages 11 types of taxes, namely: Hotel Tax, Restaurant Tax, Entertainment Tax, Street Lighting Tax, Parking Tax, Land Tax on Water, Bird's nest wallet tax, Land and building tax, Advertising Tax, Tax on Intake of Non-Metal and Stone Minerals. One of the types of taxes listed above will be discussed in this study, namely the Land and Building Tax. Land and Building Tax in Indonesia (PBB) has the potential to support regional revenue in order to implement regional autonomy and development (McCluskey, William J. & Plimmer, 2011). Land and Building Tax should be able to provide substantial revenue in the tax sector (Norregaard, 2013).

Officially in Indonesia, on January 1, 2010 the era of regional autonomy was enacted, in which the central government wanted every region in Indonesia to be able to find its own source of income to finance regional needs or expenditures in administering government and development, which means in that era, regions were really required to be more independent in implementing government and development and not relying on the central government. The distribution of finance between the central government and regional governments in which the implementation of their duties and authorities at each level of government requires funding support. It means that local governments are required to have financial independence because assistance from the central government which is the source of the Regional Revenue Expenditure Budget in Indonesia (APBD) begins to reduce its contribution, so that what is now the source of the APBD is Regional Original Revenue. One of the Regional Original Revenue (PAD) comes from local taxes, one of which has increased from year to year is the land and building tax. By looking at the contribution of land and building taxes in recent years, it can be said that the land and building tax in Yogyakarta is one source of Regional Original Revenue (PAD) which has the potential to always be increased. Based on this, it is necessary to know how much effectiveness the collection of land and building taxes is and how much it contributes to local revenue.

Effectiveness is a measure of the success or failure of an organization in achieving its goals (Halim, 2012). Effectiveness is a multilevel achievement of the results of work programs with predetermined targets (Kadir, 2017). Effectiveness is a condition that occurs as a desired result. If it is related to land and building tax revenues, effectiveness is how much land and building tax revenue is realized that must be achieved in a certain period (Fitriani, Handayan, & Z.A, 2015). So that it can be known whether the collection of land and building taxes has been effective or not. While the local contribution is a premium or donation. Local contributions can be used as a benchmark for the level of contributions that have been given to Regional Original Revenue (PAD) receipts. If it is associated with land and building tax contributions, then the local contribution is how much the premium rate or donation from land and building taxes to the amount of local revenue.

The difference between this study and the previous one is in the research location, the period used for research and the amount of land and building tax revenue received by the region due to the area. Judging from previous research, research related to the effectiveness and contribution of land and building taxes to the increase in Regional Original Revenue results in the effectiveness of land and building tax revenues on increasing Regional Original Revenue, which is included in the very effective criteria. Do the land and building tax revenue has very big contribution in increasing Regional Original Revenue in Yogyakarta? The level of effectiveness and contribution from land and building tax revenues to local revenue can be used as input for the Yogyakarta government in determining policies regarding tax revenues, especially land and building taxes.

## **II. LITERATURE REVIEW**

### ***Land and Building Tax***

Land and Building Tax (Pajak Bumi dan Bangunan / PBB) is a state tax imposed on land and buildings based on Law No. 12 of 1994. PBB is a tax that is material in nature in the sense that the amount of tax payable is determined by the condition of the object, namely the land/land and/or building. Land and Building Tax (PBB) is a type of tax that is fully regulated by the government in determining the amount of tax (adhering to the official assessment system collection system). Here the state of the subject (who pays) does not determine the amount of tax. (United Nations Billing Section. Regional Revenue, Financial and Asset Management Office. 2012. No. 12 of 1994 Land and Building Tax. Gresik: Regional Revenue, Financial and Asset Management Office).

# Tax Sustainability: The Effectiveness and Contribution of Land and Building Taxes to Regional Original Revenue in Yogyakarta City, Indonesia

## **Regional Original Revenue (Pendapatan Asli Daerah / PAD)**

Based on Law No. 33 of 2004 concerning Financial Balance between the Center and the Regions Article 1 point 18 that local revenue is income earned by the region based on regional regulations in accordance with statutory regulations.

According to Natalia Rawun (2016), Regional Original Revenue is income obtained by the region which is collected based on regional regulations in accordance with applicable laws and regulations, and aims to give authority to regional governments to fund the implementation of regional autonomy in accordance with regional potential, so that the analysis of Regional Original Revenue become one of the important factors in achieving financial resources. Regional Original Revenue is revenue that comes from within the area concerned in order to finance the activities of the area. Regional original income as a source of regional revenue itself needs to be continuously increased so that it bears the burden of spending needed for government administration and development activities every year so that the independence of regional autonomy is broad, real, and responsible.

According to Luthfi (2015), "Regional Original Revenue (PAD) is the regional government obtaining income from sources that are collected by themselves in accordance with applicable laws". Sources of Regional Original Revenue (PAD) are as follows:

- a. Local tax
- b. Regional retribution;
- c. Revenue of regional owned enterprises and management of other separate regional assets;
- d. Other legit "regional original income" as follows:
  1. "regional fixed asset sales"
  2. "giro services"

## **Contribution of the Land and Building to Regional Original Revenues (PAD)**

According to Mahmudi (2010), contributions are used to determine the extent to which local taxes can contribute or contribute to local revenue receipts. To find out the contribution, it can be done by comparing local tax revenues with Regional Original Revenues. Land and Building Tax Contributions are collections made by the government to the entire community to increase tax revenues, which are generated through process implementation activities based on systems and procedures in tax collection. which has been applied in order to increase Regional Original Revenues.

The author can conclude that the contribution is a way to measure or find out how big the contribution given by local taxes, especially the Land and Building Taxes to the realization of Regional Original Revenue.

Local taxes get a large contribution if the results of the calculation have a percentage of more than 50%. To find out how big the contribution of the Land and Building Taxes can be used the following indicators.

**Table 1. Interpretation of Contribution Value**

Presentasi	Kriteria
0,00 - 10%	Sangat Kurang
10,10 – 20%	Kurang
20,10 – 30%	Sedang
30,10 – 40%	Cukup Baik
40,10 – 50%	Baik
Diatas 50%	Sangat Baik

**Source:** Research and Development Team of the Ministry of Home Affairs-Fisipol UGM

## **Effectiveness of Land and Building Tax**

Effectiveness in general is a measure used to measure the extent to which a set goal or target has been achieved. Effectiveness is a measure of the success or failure of an organization to achieve its goals (Ulum, 2012). If an organization succeeds in achieving its goals, then the organization is said to have been running. Effectiveness focuses on achieving results. Effectiveness is the utilization of resources, facilities and infrastructure in a certain amount that is consciously determined beforehand to produce a number of jobs on time (Abdurrahmat, 2003). Effectiveness is a measure of the success or failure of an organization in achieving its goals (Mardiasmo, 2011). If the determined regional goals are successfully achieved by the regional government, then the region is said to have been effective in managing PBB revenues.

Effectiveness is a measure used to measure the relationship between the results of a tax levy received with the tax revenue target set. Based on the definition of effectiveness, which is meant for PAD in terms of the effectiveness of PBB revenue, is the

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ability of local governments to realize the received PBB revenue compared to the target of PBB revenue that has been set (Halim, 2001). So if it is associated with land and building taxes, then effectiveness is a measure used to measure the relationship between the results of land and building tax collections received and the tax revenue targets set.

To measure the level of effectiveness the following indicators can be used:

**Table 2. Interpretation of Effectiveness Value**

Presentase	Kriteria
>100%	Sangat Efektif
90% - 100%	Efektif
80% - 90%	Cukup Efektif
60% - 80%	Kurang Efektif
<60%	Tidak Efektif

Source: Ministry of Home Affairs, Ministry of Home Affairs No. 690,900,327 Year 1996

### III. METHODS

The object of this research is the Regional Financial and Asset Management Agency in Yogyakarta (BPKAD) which is located on Jl. Kenari No.56, Muja Muju, Kec. Umbulharjo, Special Region of Yogyakarta 55165. The data obtained are land and building tax data and local revenue for a period of 5 years (2016 - 2020). The data used in this study mostly used quantitative descriptive data. The descriptive method is taken from the Yogyakarta regarding land and building tax revenue data, and the Regional Original Revenue data for the 2016-2020 period. The type of data used in this study is secondary data obtained from reports in the BPKAD. Sampling in this study using a simple random technique.

In addition to secondary data, this research also obtained data through interviews. In an effort to obtain data and information related to this research as material or material for discussion purposes, data collection was taken to support this writing directly from the field in Regional Financial and Asset Management Agency, Yogyakarta City. The interview technique in this study is a structured interview, namely the interview is conducted by asking questions systematically and the questions asked have been prepared (Maleong, 2010: 186).

### IV. RESULTS AND DISCUSSIONS

The data obtained is the Land and Building Tax Revenue for 2016-2020 as shown in table 1.

**Table 3. Realization of Land and Building Tax Revenue of Yogyakarta in 2017-2020**

No	Year	Target (Rp)	Realization (Rp)	Increase/decrease
1	2016	53.000.000.000	55.250.865.938	2.250.865.038
2	2017	66.000.000.000	75.942.236.947	9.942.236.947
3	2018	75.000.000.000	76.403.636.198	1.403.636.198
4	2019	82.500.000.000	86.550.328.189	4.050.328.189
5	2020	82.500.000.000	96.517.233.954	14.017.233.954

Source: Yogyakarta Financial and Asset Management Agency 2022

From the data above, it can be seen that during the last five years the achievement and development of Land and Building Tax realization has always been achieved and exceeded the set target and the amount of income received from the Land and Building Tax sector has always increased. As for the data above, which experienced the largest growth rate and with a realization value that was far greater than the set target budget, the one obtained in 2020 was Rp 96.517.233.954. Meanwhile, the budget target set is only Rp 82.500.000.000. So that in 2020, an increase of Rp 17.017.233.954 was obtained from the specified target value. The smallest realized value was shown in 2016, where the realized value obtained was only around Rp 55.250.865.938.

#### **Analysis of Land and Building Tax Effectiveness Ratio**

The effectiveness of the Yogyakarta's land and building tax revenue was analyzed using the effectiveness ratio with the following formula:

$$Effectiveness = \frac{Land\ Buiding\ Tax\ Revenue\ Realization}{Land\ Building\ Tax\ Revenue\ Target} \times 100\%$$

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Based on data of the land and building tax revenue target with data of the realization, the Effectiveness of Land and Building Tax receipts can be determined by the formula. So the level of effectiveness of land and building tax revenue in 2016 is 104.25%, in 2017 is 115.06%, in 2018 is 101.87%, in 2019 is 104.91%, and the level of effectiveness of land and building tax revenue in 2020 is 116.99%.

Based on the effectiveness formula above, it can be seen the level of effectiveness of the 2016 - 2020 Land and Building Tax.

**Table 4. Effectiveness of Land and Building Tax Revenue for Yogyakarta 2016-2020**

Year	Target (Rp)	Realization (Rp)	Effectiveness Level	Information
2016	53.000.000.000	55.250.865.938	104,25%	Very effective
2017	66.000.000.000	75.942.236.947	115,06%	Very effective
2018	75.000.000.000	76.403.636.198	101,87%	Very effective
2019	82.500.000.000	86.550.328.189	104,91%	Very effective
2020	82.500.000.000	96.517.233.954	116,99%	Very effective

From table 4. can be seen that the level of effectiveness of Land and Building Tax Revenue on Regional Original Revenue for the last five years has tended to rise and fall, but despite the increase and decrease in the value of its effectiveness, it shows a very effective percentage, because during these five years all tax targets are met. The percentage in 2016 reached 104.25%, then in 2017 it increased with a percentage value of 115.06%. Then in 2018 the percentage decreased by 101.87%. In 2019 there was an increase with the percentage value of 104.91%. and in 2020 there was a very large increase over 2016-2019 with a percentage value of 116.99%. If it is drawn from the classification of effectiveness criteria, then the effectiveness value for the last five years shows a very effective value for the Regional Original Revenue of the Yogyakarta Government which has succeeded in achieving its goals by realizing land and building taxes so that it can be said that its objectives have been carried out in a very effective category.

### **Analysis of Land and Building Tax Contribution to Regional Original Revenue**

The contribution of local taxes, especially Land and Building Tax to Regional Original Revenue, is a ratio used to find out how much Land and Building Tax contributes to Regional Original Revenue in Yogyakarta. The data obtained is the Regional Original Revenue for 2016-2020 as shown in table 5.

**Table 5. Realization of Regional Original Revenue of Yogyakarta in 2017-2020**

No	Year	Realization (Rp)
1	2016	55.250.865.938
2	2017	75.942.236.947
3	2018	76.403.636.198
4	2019	86.550.328.189
5	2020	96.517.233.954

**Source:** Yogyakarta Financial and Asset Management Agency 2022

To calculate the amount of Land and Building Tax Contribution the following formula is used:

$$\text{Contribution} = \frac{\text{Realization of Land and Building Tax}}{\text{Realization of Regional Original Revenue}} \times 100\%$$

Based on the data, the revenue from the Land and Building Tax Contribution to the Yogyakarta's Original Revenue can be determined by the formula. The contribution rate in 2016 was 10.22%, in 2017 was 11.56%, in 2018 was 10.45%, in 2019 was 12.60%, and the Land and Building Tax Contribution to the Yogyakarta's Original Revenue in 2020 was 17.14%.

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Table 6. Contribution of Land and Building Tax Revenue to the Yogyakarta's Original Revenue 2016-2020

Year	Realization of Land Building Tax Revenue	Realization of Regional Original Revenue	Contributin Rate	Information
2016	55.250.865.938	540.504.305.181	10,22%	Less
2017	75.942.236.947	657.049.376.703	11,56%	Less
2018	76.403.636.198	667.493.075.470	11,45%	Less
2019	86.550.328.189	689.049.725.509	12,60%	Less
2020	96.517.233.954	563.174.371.396	17,14%	Less

From the table 6, it can be seen from the contribution given by the Land and Building Tax to Regional Original Revenue (PAD) for the last five years which shows a figure that is less than 17%. Where the value of the contribution shows the presentation of Less. The presentation in 2016 the realization of Land and Building Tax (PBB) contributed 10.22%, this shows that the contribution of PBB given to the realization of PAD is categorized as Less. In the following year, 2017, the realization of PBB contributed 11.56%. It can be seen that the contribution in 2017 increased from the previous year. It can also be said that the contribution of PBB given to the realization of PAD is also categorized as less. Furthermore, in 2018 the realization of PBB contributed 11.46%. It can also be seen that the contribution in 2018 decreased from the previous year. This is also the same as in 2017 where the contribution of PBB given to the realization of PAD is categorized as less. In 2019, the realization of PBB contributed 12.60%. It can be seen that the contribution in 2019 increased compared to the previous year. However, the contribution made to PAD is still lacking. In 2020 the realization of the PBB contributed 17.14%, it can also be seen that the contribution in 2020 also increased from the previous year. Although the increase that occurred from 2016-2020 increased, the contribution given to PAD was categorized as less. If it is drawn on the clarification of the contribution criteria, the contribution value for 2016-2020 shows the category of not contributing to the Yogyakarta's Original Regional Revenue.

### DISCUSSION

Based on the analysis of the effectiveness and contribution of the Land and Building Tax to the Yogyakarta's Original Revenue, the level of effectiveness of the 2016-2020 land and building tax is said to be very effective because it reaches the targeted level with a presentation of >100%. The legal basis for implementing the Land and Building Tax (PBB) is Law Number 28 of 2009 concerning Regional Taxes and Regional Retribution where the rules are further detailed through the Regional Regulation of the Yogyakarta City Number 2 of 2011 concerning Land and Building Taxes. The increasing amount of the Land and Building Tax (PBB) Revenue for Yogyakarta every year gives a signal that compliance with tax obligations of the community is high enough to contribute to development in the region. Not only that, development can also be maintained because local tax revenues are quite good.

It is different with the contribution of Land and Building Tax to Yogyakarta's Original Revenue, although it is still considered insufficient, because the value obtained from the calculation results in a value between 10.10% - 20% or with a less percentage, but the percentage has increased in the last 5 years. It can be projected in the next few years, that if the Land and Building Tax (PBB) Revenue is consistent and exceeds the target every year, the percentage and criteria for contributions will increase. This is in accordance with the proposed analysis, the Land and Building Tax has a contribution to the Yogyakarta's Original Revenue. Although the contribution of the Land and Building Tax is not that large, the Land and Building Tax contributes to the Yogyakarta's Original Regional Revenue.

### V. CONCLUSIONS

Based on the results, it can be seen that the level of effectiveness of the Land and Building Tax has experienced a very effective growth, recorded in 2016-2020, the level of effectiveness of the Yogyakarta's Land and Building Tax has always been in the very effective category, where the realization is more basic than the targeted. Meanwhile, for the achievement of the contribution of Land and Building Tax to the Yogyakarta's Original Revenue, it is in the category of less contributing, although the realization in the last 5 years has always been above the target and the income has increased significantly.

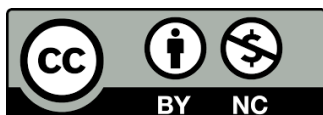
Based on the conclusions, the researcher recommends that the Yogyakarta Government should increase the target of Land and Building Tax revenue so that it will spur local tax officials to improve their performance, and it is hoped that Land and Building Tax revenue will also increase along with the increase in the target set. If the revenue increases, then of course it will increase the contribution of Land and Building Tax receipts to Regional Original Revenue. For further researchers, in addition to

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effectiveness and contribution, other ratios can also be calculated, for example the level of efficiency in the implementation of Land and Building Tax.

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## Energy Price Fluctuation and Inflation in Nigeria: A Granger Causality Analysis



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**ABSTRACT:** The Nigerian economy depends to a reasonable extent on the sale of crude oil for its expenditure. The country also depends on importation for a high level of its consumption. Given these events, this paper set out to investigate the causality effect of energy price fluctuations on inflation in Nigeria. This was done using time series data from 1985 to 2018. Oil price, gas price and exchange rate were the independent variables and inflation was the dependent variable. The result of the pairwise granger causality test shows that inflation is not caused by oil price or gas price fluctuations. The paper proposes that fiscal and monetary policy should be engaged to understand the causes of inflation in Nigeria.

### 1.0 INTRODUCTION

The Nigerian economy is highly dependent on its sale of crude oil for its revenue (Agbaeze et al 2015). Nigeria also depends on the value of energy prices to make critical decisions. For instance, the Nigerian government engages in crude oil price forecast, which it uses as its benchmark for budgeting purposes. This is important because of the size of revenue the Nigerian government receives from the sale of crude. It goes a long way to determine if the country will be able to cover its capital and recurrent expenditure.

Electricity is also important to the sustenance of the industrialization and growth of the Nigerian economy. Electricity price is determined by the gas price in Nigeria; however, gas prices are calculated in American dollars and are affected by exchange rate fluctuations. This means that individuals and firms that utilize electricity as a factor input in their production process would be observant of the gas price and the exchange rate of Nigerian naira to the American dollar movements.

The importance of energy prices to the Nigerian economy cannot be overemphasized. The movement in energy prices also has the potential to affect the price of oil and gas derivatives such as premium motor spirit (PMS), AGO and DPK. These fluctuations have the potential to affect the price level in the economy. For instance, the consumption of crude oil derivatives that facilitate the transportation sector could experience higher transportation cost because of oil price fluctuation. This increase in cost could affect the final price of the product or service being transported. In economics this instance is defined as cost-push inflation.

It is therefore important to find out if energy price fluctuations can cause inflation in Nigeria. To do this the next section will give a conceptual clarification and review literature on the relationship between energy prices and inflation in Nigeria. Then the method of analysis will be explained and the analysis on the causal relationship between inflation and energy prices will be done. The paper will conclude with an interpretation of the results and a policy prescription based on the results.

### 2.0 LITERATURE REVIEW

This section of the paper will review literature on inflation and energy prices. It will also give conceptual clarification of some of the terms that will be used in this research.

#### Conceptual Clarification

##### Energy Prices

In this paper energy price will be the energy prices for the two most important energy variables in Nigeria which are oil and gas. The oil price is the globally acceptable Brent crude price which is measured in barrels and presented in American dollars. The gas price is the prescribed petroleum industry bill gas price which is also presented in American dollars.

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### Inflation

Kpagih et al (2021) defines inflation as a key economic indicator that informs the government on the rate at which the general price level in the economy increases over time. Inflation is usually measured as the consumer price index (CPI) or the personal consumption expenditure (PCE). The method used in Nigeria is the CPI.

### Empirical Literature Review

This part of the paper is going to review the literature on the relationship between energy price and inflation in the global economy. Though all literature in this line of research would not be exhausted, it would however provide the foundational understanding necessary for this paper.

Agbo (2020) investigated the 'effect of oil price fluctuations on Nigeria's monthly inflation rate. The time series data on monthly inflation rate and Brent crude price used in this analysis covered the period of January 1997 to August 2020. The unit root analysis informed the use of the nonlinear autoregressive distributed lag framework to analyze the data. The results shows that oil price fluctuations are negatively insignificant in determining inflation rate in Nigeria. The study recommends the consideration of oil price fluctuation when making fiscal policy decision regarding inflation control.

Kpagih et al (2022) examined the impact of oil price volatility on Inflation in Nigeria. The analysis examined time series data covering the period of 1985-2018. The data was first subjected to a unit root test which showed that the data was made up of combination of series that were stationary at level and at first difference. The unit root result necessitated the use of the ARDL (Autoregressive Distributed Lagged Model) method of analysis. The data series were also seen to have long-run relationship after being subjected to a bounds test. The result of the ARDL analysis showed that in the long run energy prices do not determine inflation in Nigeria. Oil price has a negatively significant impact on inflation in the short run, while gas price has a positive impact on inflation in the short run.

Sek and Wong (2015) studied the effect of oil price changes on inflation. The study was carried out in two group of countries. These groups are called the high oil dependence group and the low oil dependence group. The analysis was done using the ARDL format using the pooled mean group method. The result shows that oil price fluctuations have a direct impact on inflation in low oil dependent countries. In high oil dependent countries, oil price fluctuations do not have a direct impact on inflation. The paper concludes by suggesting that policy makers use monetary policy to stabilize the effect of oil price fluctuation on inflation in Nigeria.

Asghar and Naveed (2015) analyzed the 'pass-through of world oil prices to inflation'. The analysis was done in Pakistan using monthly time series data from January 2000 to December 2014. The data was subjected to the Augmented Dickey-Fuller unit root test. The result informed the use of the Autoregressive Distributed Lag (ARDL) method of analysis. The result of the ARDL bounds test showed that the existence of long-run relationship among oil prices, exchange rate and inflation in Pakistan. The long-run relationship also shows that oil price has a positive relationship with inflation in Pakistan. Furthermore, the Granger Causality test reveals that there is a one-way causality that runs from oil price to inflation in Pakistan.

Abatcha (2021) empirically analyzed the impact of oil price changes on inflation in Nigeria. The analysis made use of monthly time series data from January 1991 to April 2019. The unit root test performed revealed the presence of a mixture of integrated order of stationarity which directed the researcher to make use of the Autoregressive Distributed Lag (ARDL) method of analysis. The result of the ARDL test shows that in the long run, oil price has a positive impact on inflation rate in Nigeria. In the short run, oil price also has a positive impact on the rate of inflation in Nigeria. The paper concludes by proposing that both oil price and exchange rate fluctuation be considered when making use of monetary and fiscal policy to control inflation.

Samarah and Bal (2021) used the structural vector autoregressive (VAR) framework to examine the impact of crude oil price on the inflation rate and economic growth in India. This examination was done using time series monthly data from April 1997 to July 2016. The method of analysis applied on the data is the VAR framework. The results showed that there is a positive relationship between crude oil price on inflation in India. The result also shows that crude oil price has a negative relationship with economic growth in India. The paper suggests that policy direction should be towards the reduction of crude oil production as it would protect India from the volatility of oil prices and consequently inflation. It would also help promote a greener economy in India.

Dejan and Jasmina (2018) carried out an investigation to determine how oil price changes affect inflation in Central and Eastern European countries? Monthly data for Brent Oil price and inflation rate from eleven countries in central and Eastern Europe. The data for this analysis were collected from the years 1996 to 2018. The paper used the wavelet-based Markov switching approach to analyze the data. The findings showed that the impact of oil price fluctuation on the inflation rate is relatively low in the

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central and eastern European countries ranging from 1 to 6 %. Slovakia and Bulgaria experienced the highest impact of oil price fluctuation on inflation.

Kilian and Zhou (2020) analyzed the nature of the relationships that exists among inflation, oil prices and gas prices in America between 1990 to 2013. Time series data for the different variables were analyzed using the Vector Autoregressive model (VAR). The analysis showed that gasoline price volatility accounts for approximately 39% of the variation in household inflation. Kilian and Zhou (2020) propose that more examination is needed to determine the causes of inflation in America as gas prices alone cannot give reasonable information on inflation rate volatility.

The literature reviewed above is not able to achieve a consensus on the impact of energy prices on inflation in Nigeria. This provides further reason for this analysis to be done in Nigeria to see its own independent results and to determine if energy price fluctuations should be considered when the Nigerian government is making fiscal and monetary policy decisions about inflation. The next part of this paper is going to explain the method and analyze the nature of the causal relationship that exists between energy prices and inflation in Nigeria.

### 3.0 METHODOLOGY

#### 3.1 Data

This analysis will be done using time series data spanning from 1985 to 2018. The data used for this analysis were sourced from the Nigerian National Petroleum Corporation (NNPC) and the World Bank data base.

#### 3.2 Model Specification

The causal effect between energy prices and inflation in Nigeria is modeled below:

$$INF_t = f(OILP_t, GAS_t, EXC_t) \quad (3.1)$$

The econometrics form of the equation is written as:

$$INF_t = \alpha_0 + \beta_1 OILP_{t-1} + \beta_2 GAS_{t-2} + \beta_3 EXC_{t-3} + \mu_t \quad (3.2)$$

For this analysis the log linear form of equation 3.2 will be used which is presented below:

$$\log INF_t = \log \alpha_0 + \beta_1 \log OILP_{t-1} + \beta_2 \log GAS_{t-2} + \beta_3 \log EXC_{t-3} + \mu_t \quad (3.3)$$

$$\beta_1 > 0; \beta_2 > 0; \beta_3 > 0$$

Where:

- INF is the Inflation rate
- OILP is the Oil price
- GAS is the gas price
- EXC is the exchange rate between the Nigerian naira and the American Dollar
- $\alpha_0$  is the constant
- $\beta_1$ - $\beta_3$  are the coefficients of independent variables
- $\mu_t$  is the error term

**Table 3.1: Explanation of Variables**

Variable	Measurement	Source of Data
Inflation (INF)	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.	World bank data base
Oil Price (OILP)	This is the internationally recognized brent crude oil price usually presented in American dollars.	NNPC statistical bulletin
Gas Price (GAS)	This is the internationally recognized price of natural gas which is usually recognized in American dollars.	NNPC statistical bulletin
Exchange Rate (EXC)	This is the rate at which one American dollar exchanges for the Nigerian naira.	World bank data base

**Source:** author's compilation

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The data provided for this analysis are all secondary in nature and cover the years 1985 to 2018.

### 4.0 RESULT AND DISCUSSIONS

This section presents the empirical analysis and results of the time series data.

#### 4.1 Descriptive Statistics

The nature and behavior of the data will be analyzed using descriptive statistics. It helps the researcher identify data that could possibly be problematic. It also helps to get a possible relationship between the different variables.

**Table 4.1: Descriptive Statistics of Variables in the Model**

DESCRIPTION	LOGINF	LOGOILP	LOGGASP	LOGEXH
Mean	17.34375	7.409026	6.790170	98.87916
Median	10.67683	4.789655	4.746215	114.8886
Maximum	75.40165	18.81897	16.74817	306.0837
Minimum	0.686099	2.158621	3.049654	0.893774
Std. Dev.	15.45061	5.410599	4.257874	86.41662
Skewness	1.937272	0.951191	1.187250	0.687772
Kurtosis	7.250605	2.544020	3.163881	2.902563
Jarque-Bera	46.86297	5.421554	8.025575	2.693951
Profitability	0.000000	0.066485	0.018083	0.260025
Sum	589.6875	251.9069	230.8658	3361.892
Sum Sq. Dev.	7877.810	966.0610	598.2732	246438.5
Observations	34	34	34	34

Source: E-views computer output.

Table 4.1 contains the results of the descriptive statistics of the variables in the model. There are 34 observations within the different variables within the time span of 1985 to 2018. Within this period, we see that the inflation rate (LOGINF) has a minimum of 0.68 percent and a maximum of 75.4 percent. However, it averages out at 10.68 percent.

Oil price (LOGOILP) within the period of 1985 to 2018 hovered within \$0.69 dollars per barrel of oil and \$75 dollars per barrel of oil. The oil price within this same period averaged out at \$17.34 dollars per barrel.

Gas price (LOGGASP) did not have they type of range we see in LOGOILP. The descriptive statistics shows that LOGGASP hovered around \$4.7 dollars per mmbtu and \$18 dollars per mmbtu. The gas price within this period averaged out at approximately \$6.8 dollars per mmbtu.

The American dollar exchange rate against the Nigerian naira averaged at 99.88 naira. The highest value at which the American dollar traded for the naira is 306 naira for one American dollar. While the lowest exchange rate is 0.89 naira for one American dollar. The American dollar was initially weaker than the Nigerian naira, but it has become stronger than the Nigerian Niara over time.

The result of the Pairwise granger causality test conducted is presented in the table below:

**Table 4.1: Granger Causality result on Energy Prices and Inflation**

Null Hypothesis:	Obs	F-Statistic	Prob.
OIL_PRICE does not Granger Cause INFLATION	32	2.57098	0.0950
INFLATION does not Granger Cause OIL_PRICE		0.11745	0.8896
GAS_PRICE does not Granger Cause INFLATION	32	2.18105	0.1324
INFLATION does not Granger Cause GAS_PRICE		0.05932	0.9425
EXCHANGE_RATE does not Granger Cause INFLATION	32	2.31439	0.1181

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INFLATION does not Granger Cause EXCHANGE_RATE		1.77574	0.1886
<hr/>			
GAS_PRICE does not Granger Cause OIL_PRICE	32	8.46532	0.0014
OIL_PRICE does not Granger Cause GAS_PRICE		10.2121	0.0005
<hr/>			
EXCHANGE_RATE does not Granger Cause OIL_PRICE	32	2.34997	0.1146
OIL_PRICE does not Granger Cause EXCHANGE_RATE		2.10147	0.1418
<hr/>			
EXCHANGE_RATE does not Granger Cause GAS_PRICE	32	2.29009	0.1206
GAS_PRICE does not Granger Cause EXCHANGE_RATE		2.52983	0.0984
<hr/>			

**Source:** E views output

The granger causality test was conducted with a maximum of two lags. The null hypothesis is presented in the table and is accepted or rejected based on the probability value of the F-statistics. Where the probability value is less than 0.05, the null hypothesis is rejected and vice-versa. The result shows us that oil price fluctuations do not cause inflation in Nigeria. It also shows that inflation does not cause oil price fluctuation in Nigeria.

The result in the table above also shows that gas price fluctuation does not cause inflation in Nigeria and inflation does not cause gas price fluctuation in Nigeria. This is evident in the fact that the probability values are greater than 0.05, therefore we fail to reject the null. The implication of these results is that oil price and gas price do not influence inflation in Nigeria and cannot be used to control the inflation rate.

The result however shows that oil price fluctuation can cause, gas price fluctuation and vice-versa. This is evident in the fact that the probability values for these hypotheses are less than 0.05. The result also informs us that policy decisions regarding gas prices can be inferred from studying oil price movements.

Finally, the result in the table above shows that exchange rate fluctuations does not individually cause inflation rate, oil price or gas price fluctuations in Nigeria. Also, gas price, oil price and inflation rate fluctuations, individually, do not cause exchange rate fluctuations in Nigeria. With reference to the research topic this analysis shows that energy price fluctuations do not cause movements in inflation in Nigeria.

### 5.0 CONCLUSION

The paper set out to investigate the impact of energy price fluctuations on inflation in Nigeria. The energy variables used for this analysis are oil price and gas price. The results of the granger causality test carried out shows that fluctuations in energy prices do not cause inflation rate fluctuation in Nigeria and vice-versa. This information is important for policy makers in Nigeria as they would be able to understand the causes of inflation in Nigeria go beyond energy prices. They would need to explore means such as fiscal and monetary policy to control inflation.

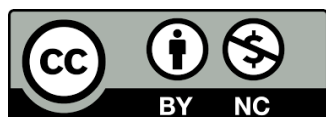
This result also somewhat justifies the assertion of the world bank that removing petroleum subsidy in the oil and gas sector would not cause inflation in Nigeria. However, deeper research into the impact of oil derivative price fluctuation on inflation in Nigeria would give room for better justification. This paper has provided a foundation for such research.

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## Strategic Orientation, Innovation and Competitive Advantage of SMEs: A Case Study of Creative Industry in Central Java



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**ABSTRACT:** This study aims to examine the relationship between strategic orientation, innovation, and competitive advantage in SMEs in Central Java. During the pandemic, market conditions were not stable enough but still urged SMEs to grow and develop through competitive advantage. This study wants to see how strategic orientation affects the innovation process of SMEs to create a competitive advantage. Respondents were 78 SMEs spread across Central Java. Data analysis used validity test, reliability test, correlation, multiple regression, T-test, F test, and coefficient of determination test. Tests were conducted between strategic orientation towards innovation and strategic orientation to competitive advantage. The strategic orientation carried out during the pandemic is quite difficult to increase innovation and competitive advantage.

**KEYWORDS:** Strategic Orientation, Innovation, Competitive Advantage

### INTRODUCTION

To deal with the *turbulence* due to the COVID-19 pandemic, companies are faced with their strategic capabilities to survive. Strategy can also provide a framework that enables organizations to take advantage of their assets, to identify opportunities to provide valuable products and services to customers and to deliver those products and services for a higher profit in the market (Al-Ansaari et al., 2015). Various literature has emphasized the benefits associated with adopting a market orientation, however, companies need to pursue a complementary strategic orientation because market orientation alone may not be comprehensive enough to achieve competitive advantage (Theodosiou et al., 2012) especially in today's changing environment.

Strategic orientation is seen as "the overall strategic direction of the company and the need to design new initiatives" (Okumus, 2001). Ho (2014), states that strategic orientation is a unique resource and is an element to build a competitive advantage that can improve company performance. The orientation reflects the strategic direction applied by the company to create appropriate behaviors that lead to superior performance (Gatignon & Xuereb, 1997; Slater, Olson, & Hult, 2006), and encourage the creation of innovation (Grawe et al., 2009; Laforet, 2009). , 2009; Theodosiou et al., 2012). It is explained that strategic orientation is an antecedent of innovation (Balodi, 2014), meaning that the utilization of intangible resources is the focus of research on strategic orientation (Barney, 2001).

Strategic orientation research in marketing studies is mainly focused on market orientation (Noble et al., 2002). Subsequent developments support the adoption of alternative strategic orientations including *innovation orientation*, *technology orientation*, *entrepreneurial orientation*, *quality orientation*, and *productivity orientation* (Gatignon & Xuereb, 1997; Hurley & Hult, 1998; Marinova et al., 2008; Voss & Voss, 2000; Zhou et al. al., 2005). There are not many studies that examine the orientation from the point of view of knowledge (Hakala, 2011). For this reason, this study tries to complement another important strategic orientation in the context of knowledge to increase competitive advantage (Sinkula et al., 1997), namely *learning orientation*. According to Huber (1991), *learning orientation* can be considered as the acquisition of new knowledge that has the potential to influence behavior; a more rigorous view assumes that learning results in a new behavior or value creation (Argyris and Schön 1978).

The novelty of this study is to include the dimension of learning orientation as part of a knowledge-based company's strategic orientation. To complement the previous research, the conceptual framework developed is to develop competitive advantage through strategic orientation for the creation of innovation in the creative industry in Central Java. The results of the 2020 survey, 98 percent of creative industry players were affected by COVID-19, 67 percent of sales declines, 58 percent of project cancellations, but 8 percent of the increased turnover (Cahyono, 2021). For this reason, the main contribution of this research is

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aimed at exploring the strategic orientation of the creative industry to increase competitive advantage through the creation of innovation.

## THEORETICAL OVERVIEW

### Strategic orientation

Various studies have been carried out by taking one dimension or a combination of various dimensions that are tested for their influence on both innovation and competitive advantage (Avci et al., 2011; Balodi, 2014; Grawe et al., 2009; Hakala, 2011; Narver & Slater, 1990). ; Obeidat, 2016; Sahi et al., 2020). Research conducted by Obeidat (2016) confirms that strategic orientation has an important role in the creation of innovation. Through strategic orientation, the company uses its resources to create unique value that is different from its competitors.

Strategic orientation is one source of competitive advantage. The nature of orientation is a matter of debate, and different schools of literature have developed diverse concepts. Strategic orientation refers to how a firm adapts to its external environment (Avci et al., 2011). Strategic orientation focuses on the use of resources to achieve the desired results (Grawe et al., 2009). This is supported by (Balodi, 2014) who states that strategic orientation is embodied in corporate culture and serves as an antecedent for organizational practices and decisions related to resource allocation and pursuing opportunities. Hakala (2011) mentions four strategic orientations that exist in organizations, namely *market orientation*, *entrepreneurial orientation*, *technology orientation*, and *learning orientation*. In this study, the focus of orientation studies is only on three dimensions, namely *market orientation*, *entrepreneurial orientation*, and *learning orientation*.

#### 1. Market Orientation

Kohli and Jaworski (1990) define market orientation from a behavioral perspective as a concerted effort of all organizational components to generate market knowledge related to current and future customer needs, disseminate knowledge results across departments, and respond to these knowledge results. Narver and Slater (1990) determined that market orientation consists of three behavioral components, namely (*customer orientation*), competitor orientation (*competitor orientation*), and *inter-functional coordination*

#### 2. Entrepreneurial Orientation

In general, entrepreneurial orientation refers to the tendency of companies to seek new market opportunities (Lumpkin & Dess, 1996; Matsuno et al., 2002). Thus entrepreneurship manifests itself through the firm's tendency to accept innovation, risk-taking, proactiveness, competitive aggressiveness, and autonomy. (Lumpkin & Dess, 1996). Therefore, entrepreneurial orientation connotes an orientation looking for opportunities, involving processes, exploring markets that offer future benefits for the company (Wiklund & Shepherd, 2003).

#### 3. Learning Orientation

*Learning orientation* refers to the activities of the entire organization creating and using knowledge to increase competitive advantage. It includes obtaining and sharing information about customer needs, market changes, and competitor actions, as well as the development of new technologies to create new products that are superior to the competition (Hurley and Hult, 1998; Moorman and Miner, 1998; Mone et al., 1998; Calantone et al., 2002). The four components of *learning orientation* are *committed to learning*, *shared vision*, *open-mindedness* (Sinkula et al., 1997), and *intra-organizational knowledge sharing* (Moorman & Miner, 1998).

### Innovation

Innovation enables organizations to move forward in line with evolving changes in their environment. Innovation is a strategic key in responding to new challenges from an environment full of uncertainty (Montes et al., 2005). The best way to assess an innovation success of a company is to compare how well it performs against its competitors (Guimaraes et al., 2010). Companies with poor innovation and limited product research and development rely heavily on competitor knowledge to maintain their technological capacity. For an organization, innovation will indicate the generation or adoption of new ideas or behaviors (Liao et al., 2008).

Innovation can also improve performance by increasing the company's ability to innovate. By improving the capabilities of the products processed is possible to develop new product ranges, and new organizational practices can increase the company's ability to acquire and create new knowledge uses to develops other innovations (Oslo Guide Manual, 2005). An innovation defines as the application of new ideas that generate value. This generic description refers to various types of innovations such as product development, deployment of new technological processes, as well as management practices. According to Schumpeter (1934), there are five manifestations of innovation (Oslo Guide Manual, 2005), namely (1) creation of new products or qualitative



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improvements in existing products (2) use of new industrial processes (3) opening of new markets (4) development of material sources new standards or other new inputs (5) new forms of industrial organization.

The Oslo Guide (2005) has provided a definition of innovation and the types of innovation. There are four types of innovation discussed, namely product innovation, process innovation, marketing innovation, and organizational innovation. (1) Product innovation includes the presentation of new products and services to the market and a further improvement in the functional characteristics or users of existing goods and services. (2) Process innovation is the application of new or better production or delivery methods. This includes significant changes in techniques, equipment, and/or software, including major changes in methods, equipment, and/or *software*. (3) Marketing innovation, is the novelty of the approach adopted by the company to enter and exploit the targeted market by emphasizing the novelty of the market-oriented approach (Ali, Krampf, and Labahn, 1995). The opening of new markets or finding the company's products in the market in new ways, new sales techniques, new financial methods can also be seen as marketing innovations (Oslo Guide Manual, 2005). (4) Organizational innovation can be defined as the application of new organizational methods in commercial practice, workplace organization, or external relations in a company. Organizational innovation in commercial practice involves the realization of new methods in organizational routines and procedures for carrying out work (Oslo Guide Manual, 2005).

### Competitive Advantage

The term competitive advantage was first proposed by Porter in 1980 when they published his classic book entitled "*The Competitive Advantage of Nations*", which explains "how a company can create and maintain a competitive advantage in the industry". *Sustain* is the keyword. Porter claims that "there are three generic strategies for gaining competitive advantage: *cost leadership, differentiation, and focus*" (Porter, 1998).

Companies that have a competitive advantage, according to Barney, are companies that have resources with several characteristics which are better known as VRIO (Jugdev, 2005). *Valuable*, meaning that the resources owned by the company can exploit opportunities and neutralize threats that exist in the company. A valuable resource that will bring higher profits to the company, but the resources are valuable not necessarily bring competitive advantage. If only valuable then the resource only raises *competitive parity*. *Rareness*, if the resources obtained are only owned by a few competitors, it can be said that the resources owned by the company are scarce. *Inimitability* is a resource that is difficult for other companies to imitate in the long run. *Organizational Focus*, company activities (routines, leadership, formal processes, and management functions) enable companies to protect their assets through their business practices (Jugdev, 2005).

Porter's (1998) generic strategy is competitive as a defensive or offensive action to create a defensible position in an industry. There are 3 strategies in the generic strategy, namely; First, *cost leadership* requires aggressive construction of efficient-scale facilities, such as tight cost and overhead control, cost minimization in areas such as R&D, service, salesforce, advertising, and so on. Second, *differentiation* is a strategy in creating a product or service that is different and is considered unique. The third *focus*, this strategy is used to build a competitive advantage in a narrower market segment. This type of strategy is intended to serve the needs of consumers who are relatively small in number and in making their decision to buy are relatively not influenced by price.

### HYPOTHESIS

Strategic orientation is the principle that directs and influences the company's activities and builds behavior that is directed to ensure business success and performance (Gatingnon and Xuereb, 1997). It is stated that strategic orientation can increase competitive advantage and business performance (Cadogan et al., 2009; Ruokonen and Saarenketo, 2009). Various studies have been conducted to measure the effect of strategic orientation on competitive advantage. *Market orientation* is often studied and almost universally recognized as one of the main contributors to competitive advantage and firm performance (Cano et al. 2004; Grinstein 2008; Hunt and Lambe 2000; Kirca et al. 2005; Shoham et al. 2005). Other orientations such as *entrepreneurial orientation, learning orientation, and technology orientation* are also organizational orientations that can increase competitive advantage (Baker and Sinkula 1999a, b; Covin and Slevin 1989; Gatignou and Xuereb 1997; Hult et al. 2004; Sinkula et al. 1997; Wiklund 1999; Wiklund and Shepherd 2005), and a positive relationship has been found between orientation and competitive advantage (Kiiru, 2015; Puspita et al., 2020). Based on the theory and previous empirical studies, the hypotheses built from this relationship are:

**H1a/b/c: Strategic Orientation (market, entrepreneurial and learning orientation) has a significant effect on Competitive Advantage**

**H2: Strategic Orientation has a significant effect on Competitive Advantage**

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The strategic orientation consisting of *market orientation*, *entrepreneurial orientation* and *learning orientation* has a positive influence on innovation (Alegre & Chiva, 2013; Calantone et al., 2004; Huang & Wang, 2011a, 2011b; Hurley & Hult, 1998a, 1998b; Jimenéz-jimenéz et al., 2013; Kumar et al., 2020; Mahmoud et al., 2016; Pardi et al., 2014; Pratono et al., 2013; Suyanto, 2014; Tid et al., 2005).

Kohli & Jaworski (1990), stated that the essence of knowledge about markets- *market orientation* - is basically how to create a new or unique product/service. Competitor orientation is an organizational culture that emphasizes an understanding of the short-term strengths and weaknesses as well as the long-term capabilities and strategies of current and potential major competitors (Deshpande et al., 1993; Narver and Slater, 1990). Firms that adopt a competitor orientation develop in-depth assessments of targeted and potential competitors and use the resulting knowledge to match or exceed competitors' strengths (Kohli and Jaworski, 1990; Olson et al., 2005).

*Entrepreneurial orientation* is one of the important factors for innovation (Wu, Chang, & Chen, 2008). Entrepreneurial orientation refers to trends, processes, and behaviors that lead companies to enter new or existing markets with existing or new products (Lumpkin & Dess, 1996). According to Miller, a company with an entrepreneurial orientation is one that engages in market innovation, undertakes somewhat risky ventures, is the first to do so with proactive innovation, and beats competitors (Miller & Friesen, 1982).

Previous research has shown that *learning orientation* is closely related to the innovative activities of an organization (Calantone et al., 2002; Rhee et al., 2010; Sheng and Chien, 2016). The learning process aligns the organization with the internal and external environment (Abdulai Mahmoud and Yusif, 2012) and also plays a major role in adapting the organization to a rapidly changing and complex environment (Huang and Li, 2017). This process assists the organization in gathering, interpreting, and sharing related information and knowledge; therefore, it can lead to the development of capabilities such as innovation, strategic decisions, and product development (D'Angelo and Presutti, 2018). Based on the theory and previous empirical studies, the hypotheses built from this relationship are:

### H3: Strategic orientation has a significant effect on innovation

Innovation can distinguish one company from another (Supriyadi, 2014; Kalkan *et al.*, 2014). Studies conducted by Hitt, Ireland, Camp, & Sexton (2001) and Tidd (2001), mention that innovation is a way to unlock competitive advantages both globally and internationally through providing the market with new or unique products/services (Akgün et al., 2009). Innovation itself will generate many benefits because these resources are rare, difficult to imitate, and non-substitutable (Hoffman et al., 2006). If the position of the resource is difficult for competitors to imitate then it means that the organization has succeeded in adding longevity qualities to the resource. The ultimate goal of performance measurement is to create sustainable profitability. Another goal to be achieved is to manage business operations and strategic activities. The most significant variable in this scope is to develop innovations that make a difference in a competitive market and attract customers (Nadia *et al.*, 2016). Based on the theory and previous empirical studies, the hypotheses built from this relationship are:

### H4 = Innovation has a significant effect on Competitive Advantage

## RESEARCH METHOD

This type of research is quantitative with a survey method. The survey method was carried out on creative industry owners/managers in 16 craft sub-sectors. The selected creative industries are spread across Central Java Province, centered in Jepara, Kudus, and Solo. The owner/manager of the craft sub-sector is considered a researcher who can represent the organization and understand strategies and policies related to strategic orientation, innovation, and competitive advantage.

### Population and Sample

The population of this study is the creative industry with craft sub-sectors in Central Java. The reason for taking the sub-sector is because it is one of the sub-sectors in Central Java that dominates and contributes to GDP (Kumoro, 2017). The total population of the craft sub-sector in Central Java is not known for certain. Especially with the Covid-19 pandemic. The number of samples used was 78 SMEs in Central Java with a judgment sampling system with the following criteria: (1). Craft sub-sector that still exists (2) Has a workforce of at least 3 people.

### Measures

The strategic orientation dimension refers to the research of Ho (2014) and Hakala (2011), namely market orientation, entrepreneurial orientation, and learning orientation. The 25 questions owned using the Likert scale show the value of the validity test (> 0.440) and the reliability test of each dimension (0.712; 0.790; 0.927), which means that the variable is valid and reliable.

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Innovation includes 3 indicators adopted from research by Kalkan *et al* (2014) namely product innovation, process innovation, and marketing innovation. This variable uses a 5-point Likert scale. The results of the validity test showed the results ( $> 0.727$ ) with a reliability value of 0.830. So it can be said that the innovation variable is valid and reliable.

The competitive advantage consists of 3 indicators including *cost of leadership*, *differentiation*, *focus* (Porter, 1998). 5 points on the Likert scale were used to measure 3 questions on the competitive advantage variable. The value obtained in the validity test is ( $> 0.624$ ) and the reliability test is (0.646).

### Data analysis

Data analysis was carried out after getting answers from questionnaires distributed to respondents. Analysis of the questionnaire using Microsoft Excel and SPSS version 25. To see the relationship between variables using Pearson correlation. The analysis uses several tests, namely the correlation coefficient test, the coefficient of determination test, the simple linear regression test, the multiple linear regression test, the T-test, the F test.

## RESULT

**Table 1 Correlation Results of Strategic orientation to Competitive Advantage**

Variable	Market Orientation	Entrepreneurial Orientation	Learning Orientation	Competitive Advantage
Market Orientation	1			
Entrepreneurial Orientation	-0,103**	1		
Learning Orientation	0,097**	-0,109**	1	
Competitive Advantage	0,019**	0,606**	-0,048**	1

Source: processed primary data, 2021

The correlation coefficient value between *market orientation* and competitive advantage is 0.019 which is included in the very weak category because it is in the 0.00-0.199 interval. The relationship between *entrepreneurial orientation* to competitive advantage scores 0.606. This relationship can be said to be strong because it is included in the interval 0.60-0.799. Learning orientation towards competitive advantage gets a coefficient value of -0.048 which is negative or opposite.

**Table 2 Results of Multiple Regression Test of Strategic orientation towards Competitive Advantage**

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,040	1,971		,528	,599
	market orientation	,031	,035	,081	,873	,385
	entrepreneurial orientation	,406	,061	,615	6,619	,000
	learning orientation	,003	,022	,011	,122	,903

a. Dependent Variable: competitive advantage

Source: processed primary data, 2021

Based on table 2 shows a positive influence between the three dimensions of strategic orientation on competitive advantage. The constant value in these results is 1.040 and is positive which means that if all dimensions are constant, the competitive advantage reaches 1.040 times. *Market orientation*, getting a positive value of 0.031 which means that every time there is an increase in one unit of *market orientation*, it increases competitive advantage by 0.031 times. *Entrepreneurial orientation* shows a value of 0.406 which is positive. This means that each increase in one unit of *entrepreneurial orientation* causes an increase in the competitive advantage of 0.406. *Learning orientation* has a positive regression coefficient of 0.003. This means that every one unit increase in *learning orientation* can increase competitive advantage by 0.003 times.

### T-test

Referring to table 2, the relationship between market orientation and competitive advantage shows a significance value of 0.358, which is  $> 0.05$  (more than 0.05). And the value of t arithmetic obtained is 0.873 where  $< t$  table 1.6652. So it can be concluded

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that the influence of market orientation *is* not significant on competitive advantage. The second test, the t-count obtained between entrepreneurial orientation to competitive advantage is  $6.619 > 1.6652$ . Both the significance value obtained is  $0.000 < 0.05$ . So it can be concluded that entrepreneurial orientation has a significant effect on competitive advantage. In the third test, based on table 2.4, it can be seen that learning orientation has a significance value of 0.903 which is greater than 0.05. In addition, the t count shows the number  $0.122 < t$  table 1.6652. So it can be said that learning orientation *has* no significant effect on competitive advantage.

**Table 3. Results of the F Test of Strategic orientation towards Innovation**

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71,561	3	23,854	14,717	,000 <sup>b</sup>
	Residual	119,939	74	1,621		
	Total	191,500	77			

a. Dependent Variable: competitive advantage

b. Predictors: (Constant), learning orientation, market orientation, entrepreneurial orientation

Source: processed primary data, 2021

Table 3 shows that *market orientation, entrepreneurial orientation, and learning orientation* simultaneously get a significant value of 0.000 where the number is less than 0.05 ( $0.000 < 0.05$ ). The relationship between these variables has a t-count value of 14.717  $>$  t-table 2.727. So it can be concluded that the three dimensions of strategic orientation simultaneously or jointly have a significant effect on competitive advantage.

**Table 4. Coefficient Test of Strategic Orientation Determination of Competitive Advantage**

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,611 <sup>a</sup>	,374	,348	1,273

a. Predictors: (Constant), learning orientation, market orientation, entrepreneurial orientation

Source: processed primary data, 2021

Based on table 4 R Square obtained in this study of 0.374 or 37.4%. It can be said that *market orientation, entrepreneurial orientation, and learning orientation* are 37.4%. These three dimensions have a large enough influence on competitive advantage. While the remaining 62.6% is influenced by other variables outside of this study.

**Table 5. Correlation Results of Strategic orientation to Innovation**

Variable	Market Orientation	Entrepreneurial Orientation	Learning Orientation	Innovation
Market Orientation	1			
Entrepreneurial Orientation	-0,103**	1		
Learning Orientation	0,097**	-0,109**	1	
Innovation	0,036**	-0,237**	0,661**	1

Source: processed primary data, 2021

The correlation results show the relationship formed between market-orientation, entrepreneurial orientation, and learning orientation towards innovation. The relationship between market-orientation to innovation gets a value of 0.036 which is in the very weak category because it is in the 0.00-0.199 interval. Both entrepreneurial orientations scored -0.237, which means that the influence of entrepreneurship on innovation is negative or opposite. Then learning orientation has a correlation coefficient of 0.661 towards innovation. This means that the two variables have a strong relationship because they fall into the interval 0.60-0.799.

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**Table 6. Multiple Regression Test Results of Strategic orientation towards Innovation**

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,986	2,711		2,577	,012
	market orientation	-,025	,048	-,044	-,512	,610
	entrepreneurial orientation	-,168	,084	-,171	-1,988	,050
	learning orientation	,231	,031	,647	7,540	,000

a. Dependent Variable: innovation

Source: processed primary data, 2021

The regression test carried out showed a constant positive result of 6.986, which means that if the market orientation, entrepreneurial orientation, and learning orientation are constant, individual performance will reach 6.986 times. Market orientation, getting a negative value of -0.025 with the meaning that every one unit increase in market orientation makes innovation decrease by 0.025 times and vice versa. Entrepreneurial orientation shows a value of -0.168 which is negative. This means that each increase in one unit of entrepreneurial orientation causes a decrease in innovation by 0.186 and in the opposite direction. Learning orientation has a positive regression coefficient of 0.231. This means that every time there is an increase of one unit in learning orientation, it can increase innovation by 0.231 times.

### T-test

Based on table 6, the relationship between market orientation and innovation has a significance value of 0.610, which is >0.05. Therefore, it can be concluded that the influence of market orientation is not significant on innovation. The second test shows the significant value between entrepreneurial orientation to innovation is 0.050, which means it is significant. It can be concluded that entrepreneurial orientation has a significant effect on innovation. In the third test, based on table 2, it can be seen that learning orientation has a significance value of 0.000. This value is smaller than 0.05 so it can be said that learning orientation has a significant effect on innovation.

**Table 7. Results of the F Test of Strategic orientation towards Innovation**

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	198,188	3	66,063	21,550	,000 <sup>b</sup>
	Residual	226,851	74	3,066		
	Total	425,038	77			

a. Dependent Variable: innovation

b. Predictors: (Constant), learning orientation, market orientation, entrepreneurial orientation

Source: processed primary data, 2021

Table 7 shows that *market orientation*, *entrepreneurial orientation*, and *learning orientation* simultaneously get a significant value of 0.000 where the number is less than 0.05 ( $0.000 < 0.05$ ). And the t arithmetic obtained is 21.550 which is > t table 2.727. So it can be concluded that the three dimensions of strategic orientation have a significant effect on innovation simultaneously or together.

**Table 8. Coefficient Test of Strategic orientation Determination of Innovation**

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,683 <sup>a</sup>	,466	,445	1,751

a. Predictors: (Constant), learning orientation, market orientation, entrepreneurial orientation

Source: processed primary data, 2021

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Table 8 shows the results of *R square* or the value of the coefficient of determination in this study is 0.466 or 46.6%. It can be assumed that 46.6% of innovations are influenced by *market orientation*, *entrepreneurial orientation*, and *learning orientation*. These three variables when linked will have a major influence on innovation. While the remaining 53.4% is influenced by other variables outside of this study.

### DISCUSSION AND IMPLICATION

The results of this study contribute to the literature on the effect of strategic orientation on innovation and competitive advantage. The data comes from 78 respondents who own SMEs in Central Java. This research has produced several findings. The first test was conducted on the strategic orientation variable with the dimensions of *market orientation*, *entrepreneurial orientation*, *learning orientation* towards competitive advantage. Ho (2014), states that strategic orientation is a unique resource and is an element to build a competitive advantage that can improve company performance.

*The first* finding shows that *market orientation* has no significant positive effect on competitive advantage. The results of the regression coefficient are positive with a value of 0.031. The significant value obtained is  $0.385 > 0.05$ , which means that the relationship between the two is not significant. *Market orientation* is often studied and almost universally recognized as one of the main contributors to competitive advantage and firm performance (Cano et al. 2004; Grinstein 2008; Hunt and Lambe 2000; Kirca et al. 2005; Shoham et al. 2005). Companies that can assess market wants and needs can project the right strategy to achieve competitive advantage. It's just that this research involves SMEs during the pandemic, in which the community is in difficult circumstances, which has made it difficult for SMEs to read the market for the last 2 years. This insignificant relationship leads to a *market orientation* variable that does not have a big impact on competitive advantage, so hypothesis H1a is rejected.

*The second* finding is between entrepreneurial orientation to competitive advantage. Based on the calculation of the regression coefficient value obtained is 0.406 with a significance value of  $0.000 < 0.05$ , which means that entrepreneurial orientation has a positive and significant effect on competitive advantage. Entrepreneurial orientation includes exploratory activities with a high level of entrepreneurial orientation, proficiency in creating new organizational forms and industrial configurations, and being able to shape market settings to their advantage (Baker & Sinkula, 2009). SMEs that are opportunity-oriented, involved in the process and exploring the market (Wiklund & Shepherd, 2003) have a great opportunity to excel in the market. SMEs that can move quickly according to market needs can retain customers and make renewals. Therefore hypothesis H1b is accepted.

*The third* finding is that learning orientation has no significant positive effect on competitive advantage. Through multiple regression tests, the value of the regression coefficient of this relationship is 0.003, which is positive. On the other hand, the significant value shows the number  $0.903 > 0.05$ , which means it is not significant. Learning orientation refers to the activities of the entire organization in creating and using knowledge to increase competitive advantage. This includes activities to obtain and share information on customers, suppliers and competitors, technology development, and others (Hurley and Hult, 1998; Moorman and Miner, 1998; Mone et al., 1998; Calantone et al., 2002). The better SMEs in obtaining external information and aligning it with employees can encourage SMEs to move with the right strategies to achieve competitive advantage. So that this insignificant relationship leads to a *learning orientation* variable that does not have a big impact on competitive advantage,

The second test was carried out on the strategic orientation variable with the dimensions of market orientation, entrepreneurial orientation, learning orientation to innovation. Strategic orientation reflects the direction applied by the company to create appropriate behaviors that lead to superior performance (Gatignon & Xuereb, 1997; Slater, Olson, & Hult, 2006), and encourage the creation of innovation (Grawe et al., 2009; Laforet, 2009). , 2009; Theodosiou et al., 2012).

*The fourth* finding shows that market orientation has a negative and insignificant effect on innovation. Based on the calculation leads to the results of the regression coefficient of  $-0.025$  which is negative. And the significant value obtained is  $0.610 > 0.05$ , which means that it is not significant. It can be assumed that if market orientation increases, it causes innovation to decrease. Kohli and Jaworski (1990) define market orientation from a behavioral perspective, namely as a joint effort of all organizational components to generate market knowledge related to current and future customer needs. During the pandemic, market conditions were not stable enough because most people tended to need food, while the respondents of this study focused on clothing-based SMEs such as batik and clothing. Therefore, when SMEs see and receive market information during a pandemic, they reduce their performance in innovation because the current market situation is not stable enough.

*The fifth* finding is that entrepreneurial orientation has a significant negative effect on innovation. Multiple regression test shows the regression coefficient of  $-0.168$  which is negative. On the other hand, the significant value is  $0.050 < 0.05$  which can be assumed to be significant. This negative relationship leads to an increase in entrepreneurial orientation which leads to a decrease in innovation or vice versa. During the pandemic, MSEs that carry out an entrepreneurial orientation cannot increase innovation.

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The sixth finding is that learning orientation has a significant positive effect on innovation. Previous research has shown that learning orientation is closely related to the innovative activities of an organization (Calantone et al., 2002; Rhee et al., 2010; Sheng and Chien, 2016). This is supported by the results of a regression coefficient of 0.231 and a significant value of 0.000 <0.05 which is declared significant. Learning orientation is tasked with aligning the organization with the internal and external environment (Abdulai Mahmoud and Yusif, 2012) and also plays a major role in adapting the organization to rapid and complex environmental changes (Huang and Li, 2017). The higher or the amount of information obtained and then developed internally in SMEs, the better innovative ideas emerge and the faster the development of new products.

### CONCLUSION

This research focuses on the relationship between strategic orientation, innovation, competitive advantage. The conclusion that can be drawn in this study is that market orientation has a positive and insignificant effect on competitive advantage. Entrepreneurial orientation has a positive and significant impact on competitive advantage. Learning orientation has no significant positive effect on competitive advantage. Market orientation has a negative and insignificant effect on innovation. Entrepreneurial orientation has a significant negative effect on innovation. Learning orientation has a significant positive effect on innovation. Suggestions that can be given based on the results of the study are (1) During the pandemic, SMEs need to always maintain old customers so that income remains stable and can survive in difficult conditions. (2). Requires additional variables to find out what factors can increase the innovation and competitive advantage of SMEs during the pandemic.

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## Priorities Development of Food Crops and Horticulture Agribusiness in Mojokerto Regency



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**ABSTRACT:** Mojokerto Regency is one of the regencies in East Java with a good agricultural growth rate with a variety of superior commodities in the food and horticulture sectors. Therefore, it is necessary to know the opinion of stakeholders regarding any alternative decision-making through the priority of developing these superior commodity agribusinesses. The research objective is to determine the priority of agribusiness development in the food crop and horticulture sector (rice, corn, shallots, and chilies) in the Mojokerto Regency. The AHP analysis research sample used the opinions of experts consisting of farmers, agricultural extension workers, and the Section Head of the Mojokerto Regency Agriculture Service with a total of 10 people per commodity. Decision-making on the priority of agribusiness development in the agricultural sector of food crops and horticulture (Rice plants, corn, shallots, and chilies) in Mojokerto Regency is carried out using the Analytical Hierarchy Process (AHP) technique. The results of the study conclude that the priority of agribusiness development in the agricultural sector of food crops and horticulture in Mojokerto Regency is an illustration of the rice commodity emphasizing the cultivation aspect, the corn commodity is marketing, the chili commodity is processing, while the shallot commodity is the procurement and distribution of inputs.

**KEYWORDS:** Agribusiness, AHP, Food Crops and Horticulture.

### I. INTRODUCTION

Regional development is basically done by optimizing natural resources through local economic development that relies on basic economic activities in an area (Hermanuadi et al., 2018). Pradigda (2016) added that not only as an integral part of national development, but regional development is also recognized as having succeeded in increasing equity, stability, growth, and community welfare as the main actors of development. According to Sirojuzilam & Mahalli (2010), in the theory of the economic base, the growth and development of a region depend on the existence of external demand for the production of the region. On the other hand, population growth encourages the need for a greater food supply so that agricultural production must be increased. Increased agricultural production is achieved by increasing productivity due to increasingly limited land and time (Akhmad & Antara, 2019).

Mojokerto Regency is one of the regencies in East Java with a good agricultural growth rate with a variety of superior commodities in the food and horticulture sectors. The agricultural sector is one of the drivers of the economy (the engine of growth) in Mojokerto Regency. The GRDP value of Mojokerto Regency on the basis of current prices in 2019 reached IDR 82,391,833.5 million. GRDP is the total value of final goods and services produced by various production units within a region at a certain time. GRDP is composed of production values for each commodity in a sub-system, therefore in the calculation of leading commodities, the data used is the production value data for each commodity. Meanwhile, superior commodities are commodities that have a major role in driving the economy and play a role in improving people's welfare (Novitasari & Ayuningtyas, 2018). Mulyani (2019), in her research, concluded that at the level of development of the Karo Regency agricultural sector in the economic constellation of the North Sumatra Highlands Region, it was classified as advanced but depressed (developed sector). The main commodities in the agricultural sector of Karo Regency for food crops are corn, for vegetables are garlic, leeks, cabbage, Chinese cabbage, carrots, radish tomatoes, pumpkins, and fruit crops are avocados, oranges, and marquisa. The relationship between the amount of superior vegetable crop production and the contribution of the agricultural sector to the economy of Karo Regency is strong and real, Pradigda (2016), this study aims to determine the priority superior

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products of Blitar Regency and their development strategies. The methods used in this research are Shift Share and Analytical Hierarchy Process (AHP), and then use SWOT analysis. The result of this research is that the main commodity of Blitar Regency is coconut shell craft and the priority development strategy for coconut shell craft based on the SWOT matrix is the Strength-Opportunity (SO) strategy.

Referring to the research of Lubis et al., (2013), there are four criteria for agribusiness development according to the Regulation of the Minister of Agriculture of the Republic of Indonesia No. 06/Permentan/ OT.140/2/2015 Year 2015, namely the development of agribusiness based on: (1) Aspects of providing production facilities, (2) Aspects of production, (3) Aspects of marketing and processing, and (4) Aspects of supporting institutions. Furthermore, there are 5 alternative strategies, which are obtained based on the results of the identification of internal factors and external factors as well as a grand strategy matrix, which is determined directly by the experts, including increased supervision of production facilities; development production through quality improvement, both from production facilities and production outputs, as well as production quantity; make processing industry; addition of auction market gathering points; and development of the auction market with digital technology. Aspects and criteria that are taken into consideration for the development of the agribusiness sub-sector using the Analytic Hierarchy Process (AHP) method according to Oelviani (2015), are aspects of input procurement and distribution, cultivation aspects, post-harvest processing aspects, marketing aspects, and institutional aspects. AHP is basically designed to rationally capture people's perceptions that are closely related to certain problems through procedures designed to arrive at a preference scale among various alternatives. AHP is also widely used in decisions for many criteria, planning, resource allocation, and prioritization of strategies that players have in conflict situations (saaty, 1994). In the context of agribusiness development in the Mojokerto Regency, it is known that rice, corn, shallots, and chilies are the leading commodities. Therefore, it is necessary to know the opinion of stakeholders regarding any alternative decision-making through the priority of developing these superior commodity agribusinesses. The research objective is to determine the priority of agribusiness development in the food crop and horticulture sector (rice, corn, shallots, and chilies) in the Mojokerto Regency.

## II. REVIEW LITERATUR

### A. Agribusiness Development

Agribusiness development is the development of industry and agriculture as well as services that are carried out simultaneously, carried out simultaneously and harmoniously. The industry that we often get so far is the processing industry (Agroindustry) developing in Indonesia, but the raw materials are imported. On the other hand, the increase in agricultural production was not followed by the development of the processing industry (Building an industry based on domestic/local resources). So it is necessary to develop Vertical Agribusiness (Arya et al.,2019).

Building Agribusiness is building a competitive advantage over a comparative advantage. In the sense that building the competitiveness of agribusiness products through the transformation of comparative advantage into a competitive advantage, namely by 1) Developing upstream subsystems (nursery, agro-automotive, agro-chemical) and downstream subsystem development, namely deepening the processing industry further downstream and building networks marketing internationally, so that at this stage the final product produced by the agribusiness system is dominated by advanced products or is capital and skill labor-intensive. 2) Development of an agribusiness system that is driven by the power of innovation. Thus, the main product of the agribusiness system at this stage is a technology-intensive and knowledge-based product. 3) Need a new orientation in management (Harinta et al.,2018).

### B. Food Crops

Food is anything that comes from biological sources and water, both processed and unprocessed, which is intended as food or drink for human consumption. This includes food additives, food raw materials and other materials used in the process of preparing, processing, or manufacturing food or beverages (Fithriyyah et al.,2020).

Food commodities must contain nutrients consisting of carbohydrates, fats, vitamins, and minerals that are beneficial for human growth and health. Limitations for this commodity include groups of food plants, non-ornamental horticultural plants, and other groups of plants that produce raw materials for products that meet food restrictions (Jufriyanto, 2019).

In Indonesia, in general, people prefer rice as their daily staple food, so the existing rice fields are filled with rice commodities. The image that food is only symbolized by rice is the crux of the problem.

Meanwhile, efforts to increase rice production are faced with major threats, namely: 1) stagnation and decline in productivity due to technological constraints and production inputs, 2) production instability due to pest attacks and climate stress, 3)

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decreased productivity due to land and water resource degradation and decreased productivity. environmental quality, and 4) shrinkage of land, especially irrigated rice fields due to conversion to non-agricultural land (Lumbantobing et al.,2020).

### C. Horticulture

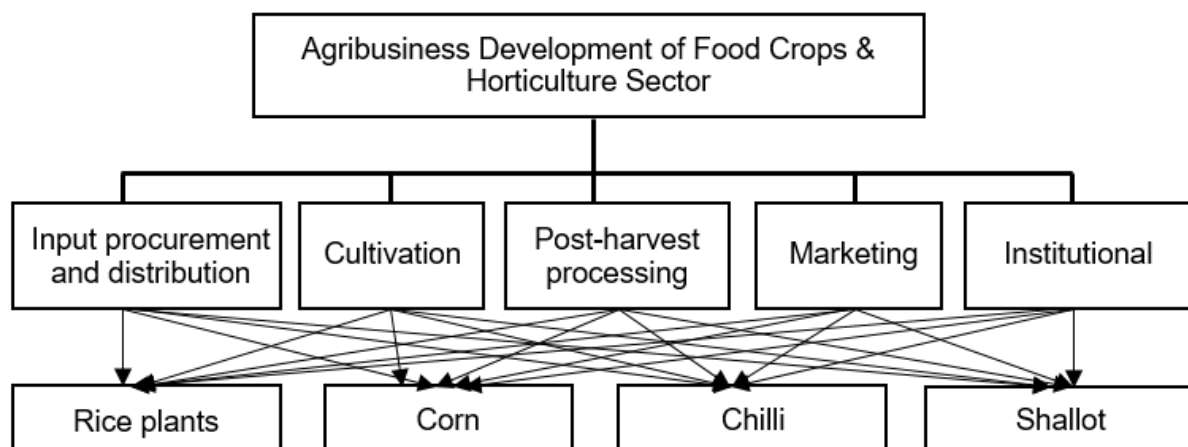
Horticulture comes from Latin, namely Hortus (garden) and colere (to grow). Literally, horticulture means the study of garden cultivation. Horticulture is a branch of agriculture that deals with the intensive cultivation of plants proposed for human food, medicine, and fulfillment of satisfaction (Zulkarnain, 2009). Horticulture is a combination of science, art, and technology in managing vegetables, fruit, ornaments, spices, and medicinal plants. Horticulture is the cultivation of vegetables, fruits, and various ornamental plants, horticulture is currently a profitable commodity because economic growth is increasing, so people's incomes are also increasing. The increase in horticultural consumption is due to the structure of food consumption tends to shift to non-food ingredients. People's consumption today has a tendency to avoid foods with high cholesterol, such as food products of animal origin (Kasuba et al.,2017).

Horticulture also plays a role as a source of community nutrition, providing employment opportunities, and supporting agro-tourism and agro-industry activities. This shows that the development of horticulture is related to a broader aspect that includes techno-economic with socio-cultural farmers. Judging from the production time process, the short growing season allows faster capital turnover and can minimize uncertainty due to natural factors (Anggrawati & Suwarnata,2020).

### III. RESEARCH METHODS

The research location was carried out by taking samples based on the consideration that this area has great potential in rice, corn, red onions, and chilies which can make a high contribution to increasing regional economic growth in Mojokerto Regency (Harinta et al., 2018). The AHP analysis research sample used the opinions of experts consisting of farmers, agricultural extension workers, and the Section Head of the Mojokerto Regency Agriculture Service with a total of 10 people per commodity. The selection of respondents was carried out intentionally (purposive sampling) with the consideration that respondents knew and could provide information about farming conditions well, especially regarding the production of rice, corn, chilies, and shallots so that appropriate strategies for increasing competitiveness for superior commodities in the Regency can be determined. Mojokerto. Decision-making on the priority of agribusiness development in the agricultural sector of food crops and horticulture (Rice plants, corn, shallots, and chilies) in Mojokerto Regency is carried out using the Analytical Hierarchy Process (AHP) technique. According to Saaty (1990), for various problems, a scale of 1 to 9 is the best scale for expressing opinions. Questionnaires were distributed to find out respondents' opinions regarding the development of superior commodities in Mojokerto Regency; the answers to the questionnaire were processed using the Expert Choice program. The hierarchical model that has been formed is as follow.

Figure 1: Hierarchical Structure of Priority Selection of Agribusiness Development of Food Crops and Horticulture in Mojokerto Regency



### IV. RESULT AND DISCUSSION

#### A. Priority Analysis

Priority analysis of competitiveness improvement is measured through five indicators, namely procurement & distribution of inputs, cultivation, post-harvest processing, marketing, and institutions (Oelviani, 2015). Several alternatives to the five indicators include:

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**Table 2: Priority Analysis and Alternative Strategy**

No	Indicators	Alternative
1	Procurement & Distribution of Input	1) Factors of Production subsidy 2) Private investment in the provision of factors of production 3) Provision of production factors continuously: on time, quantity, price, and quality; and affordable
2	Cultivation	1) Assistance in the application of appropriate cultivation technology 2) Counseling on proper fertilizer management 3) Counseling on quality and proper seeds
3	Post - Harvest Processing	1) Appeal to store the harvest in a dry and open place 2) Counseling and education on effective post - harvest handling 3) Doing sorting after harvest
4	Marketing	1) Call for partnerships /contracts with traders so that the selling price of the product is stable 2) Forming a farmer cooperative to avoid the bondage system 3) The role of the government in increasing access to and information on credit for government programs to farmers
5	Institutional	1) Forming farmer group partnerships with wholesalers 2) Incentives for active farmer organizations 3) Revitalization of KUD and extension institutions

The five indicators were then analyzed using AHP (Analytical Hierarchy Process) analysis with the following scoring provisions:

**Table 3: Analytical Hierarchy Process Measurement Scale**

Scale	Deskription
1	Equally important than others
3	Moderate importance with others
5	Strong in importance compared to others
7	Very strong in importance than others
9	Extreme importance than others
2,4,6 and 8	The value between two adjacent ratings

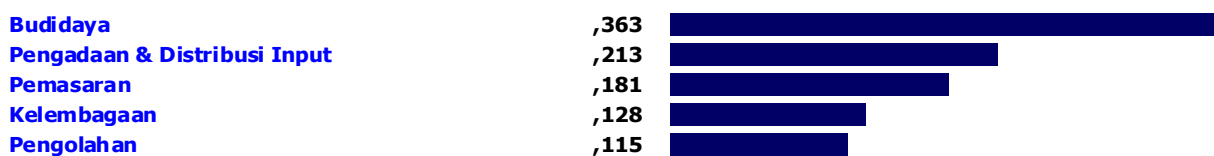
Source: Saaty (1994)

### B. Rice Commodities

**Figure 2: Results of AHP Priority for Rice Agribusiness Development**

Model Name: AHP\_ Padi

**Priorities with respect to:  
Prioritas Peningkatan Daya Saing Tanaman Padi**



Inconsistency = 0,05  
with 0 missing judgments.

## Priorities Development of Food Crops and Horticulture Agribusiness in Mojokerto Regency

Based on the AHP results, it is known that the main priority of the choice of experts to develop rice agribusiness is cultivation. This is because Mojokerto Regency is known as the rice granary of East Java Province, meaning that Mojokerto Regency has a large wetland area and is suitable for planting rice. Cultivation development can be carried out in several ways, namely, assistance with appropriate cultivation technology, counseling on proper fertilizer management, and counseling on quality seeds. The application of the principle of integrated pest control is certainly the right step for the development of agribusiness in the long term. The development of production technology must also be considered, if production technology at the farmer level does not develop, it does not deny that the yield of rice production will decrease, such as the use of seeds that are not of superior quality and the handling of pests and diseases is less effective and efficient. The application of a direct seed planting system using a table paralon tool can be recommended as an alternative in anticipating a shortage of labor or farm laborers in a moving planting system, so as to reduce production costs, especially farm labor rentals, and increase farmers' income by 37.82 percent (Witjaksono, 2018).

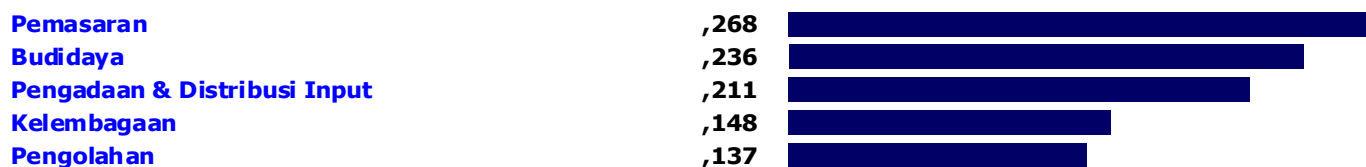
Input Procurement & Distribution is the second priority and Marketing is the third priority in increasing competitiveness. Procurement & distribution of inputs is important in increasing competitiveness because if the procurement of fertilizers, seeds, pesticides, and herbicides is available in the right amount and time according to the needs of the farmers' growing season, as well as easy access for farmers to procure inputs, it will reduce the cost of procuring inputs issued by farmers, so that farmers can maximize their profits. The priority AHP model for increasing the competitiveness of rice plants is considered valid because it has an inconsistent value of  $0.05 < 0.10$ .

### C. Corn Commodities

Figure 3: AHP Results AHP Results Maize Agribusiness Development Priorities

Model Name: AHP\_ Jagung

**Priorities with respect to:  
Prioritas Peningkatan Daya Saing Tanaman Jagung**



**Inconsistency = 0,09**

**with 0 missing judgments.**

Based on Figure 3. Shows that the main priority of the choice of experts in developing corn agribusiness is marketing. While the second and third priorities are Cultivation Procurement & Distribution of Inputs. Corn marketing is a top priority because this commodity market is considered very promising and sustainable until now from the demands of the animal feed industries. Kurniawan (2011), the need for animal feed in Tanah Laut Regency, South Kalimantan has reached 6,000 tons per month or 72,000 tons per year, while production only reached 52,000 tons per year.

Not only as animal feed, but corn can also be processed into various food and industrial products, including starch, sweetener, oil, beverage, glue, industrial alcohol, and fuel ethanol. In the last 10 years, the use of maize for fuel production has increased significantly, accounting for approximately 40% of maize production in the United States (Ranum et al., 2014). The ethanol industry absorbs most of the corn production so that the selling price of corn becomes higher and increases the demand for competition. As a result, the price of corn for animal and human consumption is also affected.

In addition, cultivation is also considered to be a consideration when efforts to develop corn plants can be increased. The priority AHP model for increasing the competitiveness of maize is considered valid because it has an inconsistent value below 0.10 ( $0.09 < 0.10$ ).

## Priorities Development of Food Crops and Horticulture Agribusiness in Mojokerto Regency

### D. Chili Commodities

#### E. Figure 4: Results of AHP Priority for Chili Agribusiness Development

Model Name: AHP\_Cabai

Priorities with respect to:  
Prioritas Peningkatan Daya Saing Tanaman Cabai

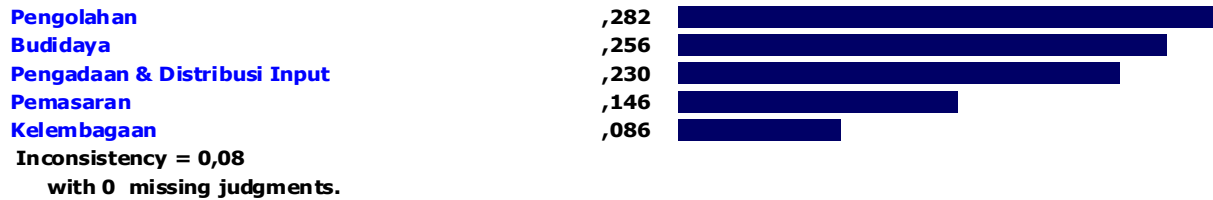


Figure 4. shows that the main priority of the choice of experts in developing chili agribusiness is processing. Meanwhile, Cultivation and Procurement & Distribution of Inputs are the second and third priorities. Chili is one of the horticultural products that is prone to damage, so it cannot last long if it is stored in fresh form. In addition to chili plants that require intensive care during the production process, the selling price of chili until now is very dependent on the harvest season. Therefore, it is very necessary to process the results as an effort to provide added value with high economic value and extend the shelf life, such as the process of drying fresh chilies using sunlight or the oven into chili simplicia, freezing to produce chili paste products, processing to produce chili sauce and oil, and various other preparations (Suyanti. 2004). Postharvest technology used to process chili can increase competitiveness, maintain chili quality, facilitate marketing, increase shelf life, and maintain the availability of horticultural products in the market. Increasing the competitiveness of horticultural products does not stop at processing. Processed products also need to be packaged properly and attractively in order to increase added value and product sales. Increasing the competitiveness of chili plants can also be done by improving cultivation techniques, for example improving and expanding irrigation networks, using weather modifications to mitigate climate change and increasing the capacity of human resources in the agricultural sector. The priority AHP model for increasing competitiveness in chili plants is considered valid because it has an inconsistency value of  $0.08 < 0.10$ .

### F. Shallot Commodities

Based on Figure 5. shows that the main priority of the choice of experts in developing Shallot agribusiness is the Procurement & Distribution of Inputs. Meanwhile, cultivation and processing are the second and third priorities. Increases in input prices such as seeds and fertilizers, productivity, and output prices affect competitive advantage. Increasing product competitiveness can be done through increasing productivity, namely by utilizing superior seeds and using fertilizers in the right dose and time. The less than optimal use of production inputs will result in the production of shallots being low and not optimal.

#### Figure 5: Results of Priority AHP for Onion Agribusiness Development

Model Name: AHP\_Bawang Merah

Priorities with respect to:  
Prioritas Peningkatan Daya Saing Tanaman Jagung Bawang Merah



## Priorities Development of Food Crops and Horticulture Agribusiness in Mojokerto Regency

The inputs for shallot production include land, labor, seeds, fertilizers, and pesticides. Production costs can change every growing season. These changes can be affected by inflation, increases in production input prices, use of technology, and government subsidies. In addition to inflation and rising production input prices, the use of technology will also change production costs. The use of technology will cut production costs in farming. Through the use of effective and efficient technology, it can replace some production inputs such as the use of labor.

The main obstacle to increasing the productivity of shallots, among others, is that there is no guarantee of the availability of quality seeds or tubers with high yields and low cost. If the input price is high, the competitiveness of shallots in the Mojokerto Regency will be below. The priority AHP model for increasing competitiveness in chili plants is considered valid because it has an inconsistent value of  $0.07 < 0.10$ .

### V. CONCLUSION

The priority of agribusiness development in the agricultural sector of food crops and horticulture in Mojokerto Regency shows that the rice commodity emphasizes the cultivation aspect, the corn commodity is marketing, the chili commodity is processing, while the shallot commodity is the procurement and distribution of inputs. All the results of the AHP model of priority for agribusiness development on the four types of plants are considered valid because they have an inconsistent value of less than 0.10 ( $< 0.10$ ). Some results are still an interesting discussion when the rice commodity with its development priority is cultivation so that to increase production in the area such as the use of superior varieties of seeds, the application of integrated pest control, and the application of a direct seed planting system using a paralon table tool to reduce production costs. Likewise, the shallot commodity requires an increase in production through the selection of superior variety seeds or the holding of counseling related to independent seeding by farmers, so that farmers do not need to buy very expensive seeds in each growing season.

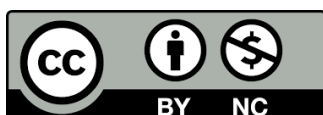
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## The Extent of Basel Accord implementation on Islamic Banks in Palestine the case of Palestine Islamic Bank



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**ABSTRACT:** The primary goal of this study is to examine how the Basel II agreement is being implemented in Islamic banks in Palestine (a case study of Palestine Islamic Bank). To attain the purpose of the research, a descriptive-analytical approach was used, and a questionnaire was distributed to the employees of Palestine Islamic Bank (145) in all branches of Palestine. The study's main result is the implementation of the Basel II Agreement in the Islamic Bank of Palestine. Based on the findings, the researcher has some suggestions, the most essential of which are: empowering and strengthening human resources to monitor different threats. Banks should develop capabilities, develop instruments and systems for measuring risk according to internal assessment methods and adhere to Islamic regulations and rules in Islamic banks to maintain the level of competition with traditional banks in the market.

### INTRODUCTION

The banking system generally includes a variety of risks that require precautionary measures and appropriate procedures to manage and control these risks in accordance with international best practices to mitigate or avoid potential exposures. Due to the increasingly severe financial crisis in various countries around the world, many famous international banking institutions have collapsed, resulting from insufficient risk management and control. In this context, Basel II was launched in 2006 as a risk management framework that considered an early warning system, allowing regulators to focus on problem of Islamic banks rather than all banks. Despite the significant differences in the nature of capital between Islamic and conventional banks, Islamic banks must meet the requirements of international banking standards and give a secure and viable banking foundation (Bohaidar, Roukia; Lalabh, & Moloud 2010).

Therefore, it is not entirely clear if the opening of capital requirements can reduce the intention to participate in taking a risk. It is exceptionally difficult, if not unachievable, for supervisors and regulators to set capital norms that are similar to those demanded by well informed, exact private sellers and buyers. For example, banks can also increase their risk exposure in response to regulatory pressure. Furthermore, actual capital requirements can lead to an increase in risk-taking. Thakor (1996) makes a cautious assessment, concluding that risk-based capital requirements raise the circumstances for credit restriction, which negatively impacts overall economic growth. Thakor and Wilson (1995) further suggest that higher capital needs can encourage borrowers to turn to capital markets, impairing capital allocation in the process, whereas Gorton and Winton (1999) demonstrate that more increased the need for additional capital raise the cost of capital. As a result, the theory makes contradictory expectations regarding whether capital requirements will harm or help banks improve their performance and stability. At the end of 1974, the central bank governors of the Group of Ten nations came together to form the Basel Committee on Banking Supervision in the wake of widespread upheaval in the international monetary and banking markets. When Swan (2009) conducted the initial meeting, there have been regular meetings three or four times a year since February 1975.

The Islamic Financial Services Board (IFSB) of Malaysia which is regarded as the frame of reference for most Arab central banks with institutional approval is not included in the Basel Committee's International Banking Supervision Standards published in their first and second editions. It has published standards and instructions on Islamic banks providing unique criteria for Islamic banks in capital adequacy, good governance norms, and transparency; however, the crisis has proven the need to have appropriate

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venture capital as required by the Basel revision. However, Islamic banks' dependence on Islamic economic and moral principles does not decrease the significance of institutional governance in managing larger risks than commercial banks. The subjective causes are based on the Islamic economy's principles and practices. When it comes to investing tools, the objective explanation for this is that Islamic banks' institutional, legal, and regulatory framework has not been completed yet. This is compounded by market flaws such as information asymmetry, which cause moral hazard and adverse selection. A good risk management framework is required to cope with challenges such as moral hazard (borrowers using loans to fund dangerous firms), adverse selection (as most underlying business needs loans and funding), and agency problems (as most underlying organizations demand loans). According to the World Bank, Islamic banks face not only typical banking risks but also "new and distinct risks resulting from their different asset and liability structures." Khan and Ahmed demonstrated that introducing these new forms of hazards is a direct outcome of their commitment to Islamic principles.

### PROBLEM STATEMENT

The development of a risk management framework for Islamic banks is a prerequisite and a sufficient condition for the continued existence of a powerful, transparent, and safe Islamic financial sector. When it comes to the external environment, objective concerns are essential, but subjective considerations are more important in the banking environment. Therefore, researchers want to understand the impact of the Basel Accord on The degree of implementation of the Palestinian Islamic Bank, taking the Palestinian Islamic Bank as an example.

#### Subjective consideration:

1. Islamic banks must take into account concerns relating to the balance sheet and assets of both parties to the transaction, as well as considerations relating to Islamic banking principles, which consist of the sharing of profits and losses, the need for transparent controls to safeguard the interests of deposit holders who have established relationships with banks based on customer acceptance Absolute confidence in profit and loss, investors hold "bank" risk is one of the fundamentals of Islamic banking based on the rules of "Algonmbel Gorm," resulting from the saying of "Alkheragbel Daman." hence, there is no investing strategy A guaranteed bank gets returns without incurring any risks, and Shar3an prohibits any contract comprising a promise of capital investment or profit contracts. However, risk mitigation and avoidance can only be done in compliance with applicable legislation. ' Due to the wide range of Islamic investment and financing vehicles available, including debt instruments as well as asset instruments, Islamic banks face the same risks as traditional banks because of their distinctiveness and diversity. In terms of liabilities, in terms of assets, the use of funds is private, making it different from traditional banks. They are not based on debt like conventional banks on equity and assets.

**In terms of liabilities, the bank's liability for capital and deposits is "limited liability," Unlike traditional banks, the bank's liability for capital and deposits is unlimited. Whether or not a bank is profitable, depositors are obligated to receive interest.**

2. Recent experience of Islamic banks compared to conventional banks
3. The structure and model of traditional banks are incomplete.
4. The vast experience of Islamic banks and what they have achieved relatively quickly requires great quality efforts to protect them.

#### Objective considerations:

1. There is a lack of one unified supervisory organization for Islamic banks and many supervisory bodies to manage Islamic banks' activity, which has resulted in a weakening of Islamic Bank Links. To understand Islamic finance's power, integrity, and resilience, one must know how it impacts the real economy.
2. Cash risk management in Islamic banks is very sensitive to the difficulties of getting liquidity (fund liquidity risk) or the liquidation of assets (asset liquidity risk). Banks' liquidity risk due to one exporter's inability to provide the requisite funds is critical because Islamic banks may face significant liquidity risk difficulties due to the following:
3. Constraints originating from conformity with Islamic law restrict the securitization of bank assets for liquidity purposes and tend to be of a debt type, resulting in a high level of restriction (debt-based assets).
4. Since there is no overnight or interbank lending between banks, which is a significant source of liquidity for banks in the short term, this problem has become more severe and urgent due to a lack of interbank lending between Islamic banks.
5. Due to the restriction of Islamic banks, regular banks rely primarily on the Lender of Last Resorence as a doorway to the liquidity of Islamic banks, which do not have this option. Suppose a bank's liquidity risk management needs to be more transparent and clear to avoid jeopardizing the institution's long-term viability in the market. In that case, this will necessitate greater transparency and clarity in the banking industry as a whole.

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6. In Islamic banking, privacy and personalization are available in various ways. The depositor's rights must be protected by a high degree of disclosure. The petitioner has used the concept of participation profit and loss to his advantage. This is the Bank's Commitment to the Owner's Handbook, limited to a prudent investment of available funds. In contrast to traditional banks, where is the bank's commitment to the depositor and the owner? With their unlimited nature and long-term viability, Islamic bank deposits are a great illustration of Islamic finance. This is due to the structure of the funds and the fact that a large number of the bank's sources of funding form a positive relationship between the deposit account and the owner, as well as the fact that investment funds are placed on a loss -and- profit basis, to the extent that certain law schools, tend to Named Savers Silent Partners.

7. Sensitivity of Islamic banking work to ensure that the public is a sufficient and necessary condition to maintain an efficient, effective, safe, and sound Islamic banking sector capable of fulfilling Economic and Social Council considerations, including the ethical and religious dimensions of such banks.

### **QUESTIONS & HYPOTHESES**

This research seeks to analyze the practical application of Basel International Standards to the regulation of Islamic banks in general and the Islamic Bank of Palestine (IBP) in particular, with a specific focus on the Islamic Bank of Palestine (IBP). Our research team examined the content of IBP's annual report and conducted interviews with a senior banking executive, as well as the heads of compliance and risk management, to explore the extent to which IBP banks are implementing international Basel II standards, as well as identify problems and provide answers to the following questions:

#### **The 1<sup>st</sup> question**

**What is the extent to which the Basel Accord is being implemented in Palestine about Islamic banks?**

And the following sub-questions emerged from this question.

1. Are the Risk Principles for Islamic Bank Exposures being implemented to the extent that they should be done?
2. What is the current degree of implementation of Islamic banks' risk management responsibilities?
3. What are the risk measures and minimum capital level required by Basel II for Islamic banks?
4. What is the level of regulatory scrutiny that Islamic banks are subjected to under the Basel II framework?
5. How well-regulated are Islamic banks under Basel II?
6. What is the status of Basel III adoption in Islamic banking?

#### **The second question**

**Based on variables (gender, job title, education, years of work, age), are there differences in the extent to which the Basel Accords are implemented in Palestinian Islamic Banks?**

To implement this question, the following assumptions will be answered:

1. First hypothesis: "There is no statistically significant difference in the significance level ( $0.05 \geq \alpha$ ) of the degree of Basel Accord implementation on the Palestinian Islamic Bank due to the gender variable."
2. Second Hypothesis: "There is no statistically significant difference in the degree of implementation of the Basel Accords on the Palestinian Islamic Bank at the significance level ( $0.05 \geq \alpha$ ) because of the job title variable."
3. Third hypothesis: "There is no statistically significant difference in the significance level ( $0.05 \geq \alpha$ ) of the implementation of the Basel Accords on the Palestinian Islamic Bank Due to the educational variable."
4. Fourth hypothesis: "There is no statistically significant difference in the significance level ( $0.05 \geq \alpha$ ) of the implementation of the Basel Accords on the Palestinian Islamic Bank due to years of experience variables."
5. Fifth hypothesis: "There is no statistically significant difference at the significance level ( $0.05 \geq \alpha$ ) on the age variable of the Palestinian Islamic Bank between the degrees of Basel Accord implementation."

### **LITERATURE REVIEW**

Habib Ahmed (2014) stated in his paper that risk management is more than just identifying and mitigating risks; it also entails the establishment of an effective risk management system that includes the establishment of a suitable risk management environment, the maintenance of efficient risk management processes, and the establishment of effective external auditing procedures.

Monzer and Kahf (2012) found in their study Basel II: Implications for Islam Banking that Islamic banks and conventional banks have similar credit risks. As a result, the process of calculating the min equity obligation for credit risk exposure should be the same as the approach developed for traditional banks, according to Monzer and Kahf (2012). Therefore, the Islamic banking sector is free to embrace the Basel II proposed agreement's section on Islamic finance; nonetheless, regulators will reasonably compel

## **The Extent of Basel Accord implementation on Islamic Banks in Palestine the case of Palestine Islamic Bank**

them to comply with the guidelines. In Islamic banking, the equity should be construed to include owners' and shareholders' equity of unlimited deposits, as the latter bear their share of the risk of loss under the Mudhaarab contract. Equity considerations must be considered when allocating losses and equity expenses between shareholders and owners of unrestricted deposits. Islamic banks charge shareholders significantly lower minimum capital charges for operational risk than their conventional counterparts. The reason for this is because Mudarabah Contracts does not charge Mudarabah for damages that are not the result of carelessness, fraud, or breach of contract on the part of the contractor (including violation of usual and customary professional standard practice). Operational risk trade-offs and minimum equity calculation rules may be the same for Islamic banks and traditional ones. But there should be less of a burden on shareholders than there would be for conventional banks.

Mohammad Bitar (2014) attempts to determine whether banking regulation affects the stability and efficiency of Islamic banks in the same way as it does conventional banks. When comparing Islamic banks to traditional banks, we can use Basel III guidelines to study the influence of bank leverage, capital, and liquidity, requirements on the stability and efficiency of the Islamic financial system. Islamic banks have better capital, liquidity, and profitability levels than conventional banks, according to the findings of the first exploratory study, which was conducted using principal component analysis (PCA), logit and profit techniques, and ordinal logistic regression. Through conditional quantile regression, the second research investigates the stability of Islamic banks, concluding that Islamic financial banking institutions are less stable.

The following question is posed by Adam Ja'far (2015) in his work: Is it possible to decrease the impact of risk exposure by using suitable capital adequacy criteria in compliance with Islamic Financial Services Board standards? Is it capable of protecting, maintaining, and stabilizing deposits? Is it possible to obtain banking security due to the banking risks when applying? The research descriptive and analytical approaches, as well as some statistical methods, were used to arrive at a set of overarching findings, which were as follows: With the application of standard capital adequacy ratios that have been updated following the Islamic Financial Services Standards Board, the identification and control of funds awarded were achieved. As a result of the study, several recommendations were made. Among them were addressing some of Dah's negative aspects of standard capital adequacy, for instance, the presentation of competition principles to developing country governments in a discriminatory manner and allowing new credit rating agencies to enter the market.

This humble quest is nothing more than a human endeavor, free of error and forgetfulness, based on the perfection and unity of God, as well as the infallibility of his prophets, and we meet any scientific discussion with a purpose, as well as any effort to improve research methods. We hope that the recommendations in this study, whether they are deletions, additions, or adjustments, will facilitate a broader debate of the main issues of Islamic banks' capital adequacy calculation techniques in the future.

### **RESULTS OF STUDY QUESTIONS**

#### **What is the extent to which the Basel Accord is being implemented regarding Islamic banks in Palestine?**

This issue was answered by computing the arithmetic mean and standard deviation of the study sample persons who answered a questionnaire field that represented the extent to which Basel had implemented the Islamic Bank of Palestine (IBP).

Basel II had the highest average score for supervisory review (4.519), followed by the market discipline area with mean of (4.482), then the Islamic risk management mandate area mean was (4.477), followed by the banking sector Islamic Banking Risk Management Principles score mean was (4.47), followed by the mean score mean was (4.399) in the Risk Measurement and Minimum Capital Approach areas in Basel II, and then the mean score in the Islamic Banking Risk Management mandate area was (4.396).

#### **\*What is the level of implementation of Risk principles in Islamic banks?**

According to the study sample results, the researchers estimated the arithmetic mean and standard deviation of the responses to questionnaire paragraphs reflecting the domains of Islamic Banking Risk Management Principles.

The result shows that the occurrence of all sentences is high. "Risk management aiming at stable profits" had the highest arithmetic mean (4.70), followed by "appointing officials with banking experience for various major risks" with an average of (4.64). "There is an independent committee called the 'Risk Management Committee' that sets the overall policy" with the lowest mathematical mean was (4.01), followed by the statement emphasizing that "the board is responsible for risk management," with a mean of (4.32).

#### **What is the extent to which Islamic banks have implemented risk management tasks?**

The researchers computed arithmetic mean and standard deviation of replies from participants in the study sample to questionnaire paragraphs representing a task area related to risk management at the Islamic Bank.

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The results show that the occurrence of all sentences is high. The paragraph "Internal Risk Management Policy" had the highest average score (4.80), followed by the statement emphasizing that "Prepare and submit risk reports to the board and stakeholders" with mean of (4.77). The paragraph "Cultural awareness of risk management within Islamic banks" had the lowest arithmetic mean (4.05), followed by the section "The approach to risk management is risk financing (through hedging or shifting)" with mean of (4.40).

### \* What are the minimum capital and risk measurement procedures in Islamic banks that comply with Basel II standards?

Following Basel II, the researchers estimated the mean and standard deviation of replies from persons in the study sample to questionnaire paragraphs describing the regions of minimum capital and risk measuring methodologies, respectively, using statistical methods.

The results also show in table number (4.4) that all sentences have a high degree. The highest arithmetic means of "Minimum capital adequacy ratio of 8%" (4.66), followed by the paragraph "Measuring credit risk, using key internal rating methods," had an average score of (4.63). The section "Measuring credit risk, using standard methods" had the lowest arithmetic mean (4.00) and the paragraph "Measuring market risk, we rely on standard methods" had the lowest arithmetic mean (4.27).

### \* What is Basel II supervisory review level in Islamic banks, and how is it implemented?

The researchers considered the arithmetic mean and SD of individual study sample responses to questionnaire paragraphs expressing the supervised review domain according to Basel 2.

The results in Table No (4.5) show that the occurrence of all sentences is high. As well as the highest arithmetic mean (4.80) for "The method used by the regulator to review the assessment of capital adequacy ratios used by Islamic banks regulated by it," followed by the average score for "The regulator should enter to prevent any reduction or reduction in required capital" (4.63), followed by "Ensure Islamic Banks are committed to maintaining an interest rate of 8%", the arithmetic mean (4.12).

### \* What is the level of Market discipline following Basel II in Islamic Banks?

The researchers calculated the arithmetic mean and standard deviation of individual research sample responses to questionnaire paragraphs expressing the market subject area according to Basel 2.

The results are shown in Table (4.6); all sentences have high occurrence. The arithmetic means of "Islamic banks disclose the structure and size of their private funds" was the highest (4.77), followed by the mean score of "Disclosure of capital adequacy ratio according to the magnitude of potential risk" (4.68), and followed by the paragraph "Disclosure of risk assessment," Arithmetic mean was (3.99).

### \* What is the level of Implementation Basel III in Islamic Banks?

The researchers calculated the individual study sample's arithmetic mean and standard deviation across questionnaire paragraphs expressing Basel 3 implementation areas.

The results show that the occurrence of all sentences is high. And "Islamic banks can increase capital adequacy ratio to 10.5%" has the highest arithmetic mean (4.64), followed by "Islamic banks must maintain liquidity ratios to meet short-term interests" with average score (4.61). And "Islamic banks will introduce a leverage ratio of 3%" had the lowest with arithmetic mean (3.93), followed by "Islamic banks should maintain liquidity ratios for medium to long-term interests" with an arithmetic average (4.41).

## Results regarding the 2<sup>nd</sup> question

### Is there a variation in Basel Accord execution on Islamic banks in Palestine based on characteristics such as educational qualification, age, gender, years of experience, and job title?

To respond to this question, the following assumptions are made:

**H1: "The extent to which the Basel Accords were implemented in the Palestinian Islamic Bank did not differ statistically at the significance level ( $0.05 \geq \alpha$ ) due to the gender variable."**

The H1 was investigated by calculating the "T" test results and the mean of the responses of the research sample members in the Basel Accords implementation range of the Palestinian Islamic Bank, according to gender.

The value of the total degree "T" (2.911), the level of significance (0.004), the degree to which the Basel Accords implemented the Palestinian Islamic Banks differed by gender variables and the risk management tasks of the Islamic Banks and the implementation of the Basel Accords 3 Fields outside the field where differences favor women. Therefore the first hypothesis is rejected.

**H2: This study shows that the job title variable does not affect how much the Basle Agreement is being implemented in Palestinian Islamic banks. The significance level for this difference is set at 0.05.**

The second hypothesis was tested test results shows that due to the job title variable; the arithmetic means of the responses of individuals in the study sample to the extent to which the Palestinian Islamic Bank implemented the Basel Accords was calculated.

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Due to the Job title variable, there are apparent differences in The Extent of Basel Accord Implementation on Islamic Banks in Palestine, and one way ANOVA was performed to determine the significance of the differences.

In addition, it should be noted that the value of P for the overall score (1.426) and the level of significance (0.238) are both more than the level of significance (0.05), indicating that there are no statistically significant differences in The Extent of Basel Accord Implementation on Islamic Banks in Palestine related to the Job title variable, as well as the fields. As a result, the second hypothesis has been accepted.

**H3: "There are no statistically significant differences at the level of significance (0.05 %) in the extent of Basel Accord implementation on Islamic banks in Palestine as a function of the Educational qualifications variable."**

H3. Due to the educational qualification variable, the arithmetic means of the responses of the individuals in the study sample to the extent to which the Palestinian Islamic Bank implemented the Basel Accords was calculated.

Mainly, there were significant differences in the scope of Basel implementation in the Palestinian Islamic Bank due to educational qualification variables. An analysis of variance approach was used to understand the significance of the differences.

Similarly, the P values for the total score (0.997) and the significance level (0.372) were greater than the significance level ( $\alpha \geq 0.05$ ), implying that there was no statistically significant difference in the range of the Basel agreement due to education Eligibility Variables and Fields, Implementation of Islamic Banking in Palestine. Therefore the third hypothesis is accepted.

**H4: "There are no statistically significant differences at the level of significance (0.05  $\geq \alpha$ ) in The Extent of Basel Accord implementation on Islamic Banks in Palestine due to the Years of experience variable."**

H4 was tested. The arithmetic means of the responses of individuals in the study sample to the extent to which the Palestinian Islamic Bank implemented the Basel Accords was calculated due to years of experience variables.

Especially, due to years of observed variables, there are significant differences in the scope of Basel implementation in the Palestinian Islamic Bank, and to understand the significance of the differences, an analysis of variance method was used.

Note that the P values for the total score (0.561) and the significance level (0.572) are more than the significance level ( $\alpha \geq 0.05$ ), implying that there is no significant difference in the range of the Basel agreement due to years of observed variables As well as the field, the implementation of the Islamic Bank in Palestine. Therefore, the H4 is accepted.

**H5: "There are no statistically significant differences in the extent of Basel Accord implementation on Islamic banks in Palestine due to the age variable at the level of significance (0.05 %) in The Extent of Basel Accord implementation on Islamic banks in Palestine due to the age variable."**

H5: To account for age differences in the replies of persons in the study sample, the arithmetic means of those individuals' responses about whether the Palestinian Islamic Bank has thoroughly followed the Basel Accords was calculated.

Especially, there were significant differences in the level of Basel implementation in the Palestinian Islamic Bank based on the age variable, and an analysis of variance approach was utilized to determine the significance of the discrepancies.

It should be noted that the P values for the total score (2.553) and the significance level (0.081) are higher than the significance level (0.05), indicating that there is no statistically significant difference in the range of the Basel agreement due to the age variable, as well as the Basel in areas other than the areas of minimum capital and risk measurement methods of the Seoul Agreement II, implemented in the Palestinian Islamic Bank, where the difference is between (less than 0.05) and the significance level (0.05) (30-40 years). As a result, the fifth hypothesis is considered valid.

## **CONCLUSIONS**

1. Islamic banks comply with the standards set out in Basel II
2. Palestine Islamic Bank complies with the CAR under Basel II and PMA.
3. Due to the different types of risks and the complexity of the CAR calculation, the Palestinian Islamic Bank has been increasing its reserves above the prescribed limit.
- 4 In general, the importance of Basel II in Islamic banks and Palestinian Islamic banks, in particular, is the need to meet and protect shareholders and customers from expected and unexpected losses.
5. Especially Islamic banks, a type of bank that relies on dividend distribution and PLS, if any risk occurs to the bank and causes losses and does not comply with the Basel Accords, shareholders will not be willing to bear the resulting lost time.
6. All employees demonstrate the importance of Basel II regulations on a personal and administrative level.
7. The PMA's regulation of the Palestinian Islamic Bank CAR is not only adequate but needs to be adjusted to include the bank's different Islamic transactions.

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### RECOMMENDATIONS

1. For the reasons described previously, all financial companies must be ready to cooperate with the Basel Accords and implement them.
2. Islamic banks have a distinct financial nature than conventional banks; the Palestinian Monetary Authority must examine developing new capital adequacy ratios for companies.
3. Researches must focus on further research on evaluating capital adequacy ratios in models proposed by Islamic banks; b. Quantify the impact of various banking risks faced by Palestinian Islamic banks.
4. Islamic banks must imply the importance of clear accounting policies between capital adequacy ratios, the risks imposed on them, and their percentages impact.
5. Islamic supervisory bodies and external reference bodies need to follow up on the capital adequacy of Islamic banks to achieve solvency so that accounting and auditing professions are practical tools to serve their users and society.
6. Strengthened and qualified HR need to monitor various development and risks their competencies in the field.
7. Collaborating among Islamic banks need to adhere to the formula established by the Islamic Financial Services Council to arrive at a consistent procedure for use in the application.
8. To take advantage of this technique by Islamic banks, banks need to develop risk assessment instruments and systems following internal assessment methods.
9. Islamic banks should effectively comply with Islamic rules against conventional banks, as compliance with Islamic laws is an essential competitive advantage for them to compete with traditional banks.

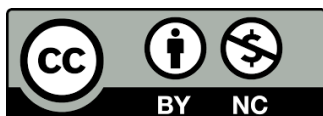
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## Merchant Perspective of Innovative Vouchers

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**ABSTRACT:** Not only the value creation process, but also different areas of everyday life, such as voucher sales, are influenced by digitization. Newly developed methods such as big data take an increasingly important position. The outdated sales of vouchers can also benefit from a digital turnaround by making it more flexible, faster and fitter for the future. In this paper, the digitization potential in voucher sales at Austrian companies from the perspective of participating retailers (merchants) is studied. The subject areas of digitization and digital transformation of business models are defined through a literature search. On this basis, the digitization potential is recorded using a collection of empirical data gathered by an online survey. The resulting findings are then evaluated and analyzed. They serve to determine an actual situation, which is then compared with the future situation. The evaluation shows that the current sales system has high deficits that can be remedied by the new, central system.

**KEYWORDS:** digitization, business model, voucher, works council, merchant

### 1 INTRODUCTION

How integrated is digitization in everyone's life? If you look at your own everyday life, you can quickly see that a world without digital networking is no longer imaginable. From waking up with a digital alarm clock to news from all over the world via a digital platform to permanent accessibility and availability via smartphone. Society is already in contact with various digital devices, such as tablets, smartphones and the like, from kindergarten age.

Technological change has resulted in a significant change in habits and needs, which has a strong influence on how we deal with films, music and culture, but also on communication with one another. There was also a change in working, shopping and media consumption [1].

At least since the beginning of the corona pandemic, people have become aware of how quickly the digitization process is progressing. In many places, everyday work had to take place from the home office in order to reduce contact with each other. Ways and means had to be found to cope with the day-to-day work. Within a very short time, online platforms were being used more than ever, for example to hold video conferences, offer online shops and delivery services, or educate children and students.

Every possible branch is digitized step by step. So far, one area has been excluded from this – discounted voucher sales in Austria. Vouchers are explicitly discussed here, which can be purchased by works councils from selected dealers and then sold to company employees [2]. These vouchers, today, can only be obtained in plastics and in paper format. When selling a certain number of vouchers, retailers refund a certain discount. The works councils can then sell or give away the purchased vouchers to employees. This current voucher distribution system involves a very high cost and risk factor for all parties involved, which makes this system appear unfavorable.

A trading platform by the name "Voucher 4.0" is to be set up in order to avoid the risks. The aim of "Voucher 4.0" is the digitization of vouchers, more specifically value vouchers, for sales in Austria. With the help of the digital platform, employees are granted continuous access in order to be able to purchase a voucher [2].

The perspective of the works councils towards "Voucher 4.0" was already discussed elsewhere [2]. On this basis, the current paper highlights the perspective of the merchants to complement the picture.

#### 1.1 Initial situation

In many companies in Austria it is common for the works council to offer vouchers to employees. Companies sell these vouchers at a discount to the works councils, which then sell them on to the employees. The works councils are currently looking for dealers who are willing to sell vouchers. If a retailer sells vouchers to many works councils of different companies, this creates a lot of

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administrative work. The same applies to works councils who buy vouchers from numerous different dealers. For the works councils, the sale of vouchers to the employees also results in administrative work, which could even be the limiting factor in the number of vouchers sold. By providing a platform, which is the interface between the three groups involved, dealers, works council and employees, the administrative effort could be reduced or outsourced. On this platform, the vouchers offered by the dealers are sold directly to the employees of a company. For the works council, the administrative effort is reduced to releasing the registration of the employees on the platform. With this platform, the dealers only have one central contact person for the sale of vouchers via the works councils.

### 1.2 Objective

The aim of this paper is to create a process model for the future voucher distribution system and to derive a business model from it using digitization. The perspective of the traders as participants in the system is considered. In addition, answering the following research questions:

- What motivates companies to offer discounted vouchers to Austrian works councils?
- What problems do companies have with regard to the current voucher distribution systems?
- What are the current processes in the companies with regard to the sales of (discounted) vouchers via works councils? How do these processes have to be changed if the vouchers are sold centrally?
- What are the advantages for companies through the central processing of voucher sales via "Voucher 4.0" and on what terms?

### 1.3 Digitally transformed business models

In contrast to the innovation of the business model, in which individual elements or the business model itself are changed, in the digital business model transformation within a business model, enablers are used to build a digital value network to create digital customer experience and potential. The business model transformation builds on existing business models by changing or creating new elements that already exist. Technologies such as big data can act as enablers, through the use of which a new range of services can be created [4].

It is crucial to treat the technologies as drivers and to focus on the benefits for one's own business model or the creative and commercial potential for the transformation of it [6]

Both individual elements and the business model as a whole, as well as its value chain with the players in the value network are affected by the digital transformation [4].

Accordingly, the components already mentioned in the digital transformation of business models are considered as follows:

The following target dimensions are affected:

- Time (e.g. reduction of administrative effort)
- Financial (e.g. margin optimization, cost reduction)
- space (e.g. automation)
- Quality (e.g. product or process quality)

How does the process of digital transformation take place:

- Processual (putting the processes in a logical or temporal relationship)
- Use of technologies (for new services, applications, etc.)
- Data (Winning, Analysis and Use of Data)

Intensity of transformation:

- Fundamental/ radical
- Minor/ Incremental

The transformation is new for the following reference unit:

- Own company
- customers
- competitor
- corporate partner
- industry

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The following objects are transformed:

- Core parts of the business model
- Entire business model
- value chain
- value network

### 1.4 Business model canvas

Osterwalder and Pigneur have developed a procedure with which a business model can be broken down into the decisive components for the analysis of the value chain. This enables the documentation of the business models, their visualization, control and also the planning of the further development [3], [5]. In the meantime, this framework has been established both in the literature and in practice [8], [9].

The business model is presented in the Business Model Canvas (BMC) in nine basic building blocks, which then map four main areas [customers, offerings, infrastructure and financial viability] of a company [5].

It is essential not to consider the elements individually and instead to consider their interdependence. The promise of value to the customer is the central building block of the business model, and thus in the middle of the canvas. The right-hand side represents the sales channels, customer segments and relationships, how the value proposition is made available to the customers and thereby the revenue streams, how the earnings flow back into the company.

On the left-hand side, the building blocks of key partners, activities and resources represent the area that is required to fulfill the value proposition [central] and that is where the cost structure is also based.

The individual building blocks are explained in detail in the next section.

#### Value proposition

This element defines the package of offers that consists of products and/or services that add value to specific customer segments. The value proposition is decisive for the customer decision in order to decide explicitly for one company and against another. In doing so, certain deficits of the customers have to be solved or concrete needs have to be satisfied [5].

A value proposition is thus a representation of a specific set of parts, each of which deals with a certain aspect of the needs or problems of the target customer group and can acquire a special character in its entirety through the expression of these uniquely included elements.

#### Key resources

This building block describes which assets are the most important ones necessary for running the business according to the Canvas [value proposition delivery, market service, relationship management, revenue generation]. These can either be owned by the company, owned by partners or even just leased [5].

#### Key activities

Certain activities are necessary from a company to maintain the defined business model and successful market activity, *“since only through these can a value proposition be created, markets reached, revenues generated and customer relationships established and maintained”*. These can be classified into one of the following three categories [5]

- Manufacturing: with manufacturing activity as the dominant factor in the BMC
- Problem Solving: Creating new solutions to customer problems
- Network/ Platform: Network-related key activities relate to platform management and/or service offering

#### Key partners

A company needs a network of partners and suppliers for the success of the business model. There are four types of such partnerships [5]:

- Strategic alliances between non-competing companies
- Strategic alliance between competitors (Coopetition)
- Joint ventures to successfully create new business areas
- Partnership between supplier and buyer to secure the supply chain

The business relationship with such companies can serve to [5]:

- Risk minimization (e.g. strategic alliance to introduce a standard)
- Acquisition of resources

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- Business model optimization (e.g. Cost reduction or volume advantages through strategic buyer-supplier relationships)

### Cost structure

As described in the building blocks, maintaining the business model causes costs that must be determined and analyzed in terms of amount and structure after the parameters of the required resources, activities and partnerships have been defined. Depending on whether the envisaged business model or the business model to be analyzed is value-oriented [high service level, luxury-oriented, etc.] or cost-oriented [focus on low-priced value offers], the individual factors have the appropriate importance [5].

### Customer segments

This building block is used to define the customer segments that the company is trying to reach and serve with the help of the individual value proposition. Revenue can only be generated and companies survive through sales to profitable customers, so these customers are also the focus of the business model. The customer segments that are targeted must be defined by the company to build on this to gain an understanding of customer needs work out [5].

Under the following conditions, customer groups represent various customer segments [5]

- Need different types of relationships
- The needs of these groups require and justify individual offers
- They can only be reached via different sales channels
- Different aspects of the offer provide them with added value for which they are willing to pay.

### Communication and sales channels

The company must agree which sales, distribution and communication channels should be used to address, reach and serve the customer segments. As so-called customer touch points, the channels are of particular importance in their various functions, which also represent the five phases of the channels at the same time [5]

- Directing the attention of the targeted customer segment to the value proposition offered
- Assist the customer segment in evaluating the value proposition
- Enable the customer group to purchase the product and service offering
- To offer the value proposition to the customer segment
- Care and support of the customer segment with after-sales services even after the completion of the purchase

### Customer relationship

A clear strategy must be defined by the company as to how the relationships with customers are to be managed for the purpose of acquisition, customer care and sales increase. This can happen from individual personal support through self-service to complete automation or participation. An assessment must be made of what type of relationship the customer segment or individual customers expect from the company, how intensive the cost structure on which this relationship is based is and how this type of relationship management is integrated into the surrounding business model [5].

### Sources of income

In this block, an analysis is carried out as to what income can be created by the individual customer segment and what profit can be drawn from it. First of all, the question must be answered as to what actual value from the value proposition the respective customer segment is actually willing to pay for. As a result, one or more sources of income can be generated, on which specific price mechanisms are based. These can then be differentiated in two ways – recurring income or one-off payments [5].

### 1.5 Environment, limitation and development of the business model

The business model canvas (BMC) [7] is a suitable instrument due to the visual and structured representation, especially with the increased and still increasing complexity of digital business models or digital transformation. However, the boundaries must also be clearly defined. Among other things, the very dynamic framework conditions cannot be mapped directly, but only indirectly via the customer representation, for example [9].

Osterwalder and Pigneur propose to consider the following factors that affect the business model as additional dimensions with additional tools and to map them in the course of a BMC expansion [5]:

#### Macroeconomic Forces:

- Global market conditions: current status description and development of GDP, unemployment rate, etc.
- Capital markets: availability of which funds at what cost?

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- Assets and Other Resources: Emphasizing current pricing structures and trends of critical assets and resources required by the business model
- Economic infrastructure of the relevant market

### Key trends:

- Legal requirements that affect your own business model
- Technological trends that affect the business model, endanger it or enable it to be developed or improved
- Socio-economic trends that influence your own business model
- Cultural and social trends that can be identified that have an impact on your own business model

### Market forces:

- Market Aspects: Key factors influencing the customer landscape
- Market Segments: Which segments are there and how attractive are they?
- Requirements and desires: What are the market requirements and how well and in what form are they satisfied?
- Switching costs: Which direct or indirect switching costs prevent customers from switching providers?
- Sales attractiveness and price strength: Where can the highest margins be achieved or how much are customers actually willing to pay?

### Industry Forces:

- Competitors: Identification of [leading] competitors and their relative strength
- Newcomers ["rebels"]: Identification of new competitors and their proximity to your own business model
- Substitute Products and Services
- Suppliers and other actors in the value chain
- Stakeholders: Which actors have an influence on the business model and the organization?

As a result, additional tools are needed for vulnerability, industry and market, environmental and competitive analysis [4], [9].

## 2 EXPERIMENTAL

### 2.1 Comparison of the existing [analogue] business model in voucher sales with the future [digitized] model

As can be seen in Figure 1, the current voucher distribution system consists of three key partners [dealers, works council and employees] who have to interact in order to purchase a discounted voucher.

The employee expresses his wish for a voucher to the works council. Companies sell these vouchers at a discount to the works councils, which then sell them on to the employees. The works councils are currently looking for dealers who are willing to sell vouchers. If a dealer sells vouchers to many works councils of different companies, this creates a lot of administrative work [indicated by red arrows]. The same applies to works councils who buy vouchers from numerous different dealers. For the works councils, the sale of vouchers to the employees also results in administrative work, which could even be the limiting factor in the number of vouchers sold.

By providing a platform ["Voucher 4.0"], which is the interface between the three groups involved: dealers, works council and employees, the administrative effort could be reduced or outsourced. On this platform, the vouchers offered by the dealers are sold directly to the employees of a company. For the works council, the administrative effort is reduced to releasing the registration of the employees on the platform. With this platform, the dealers only have one central contact person for the sale of vouchers via the works councils.

## Merchant Perspective of Innovative Vouchers

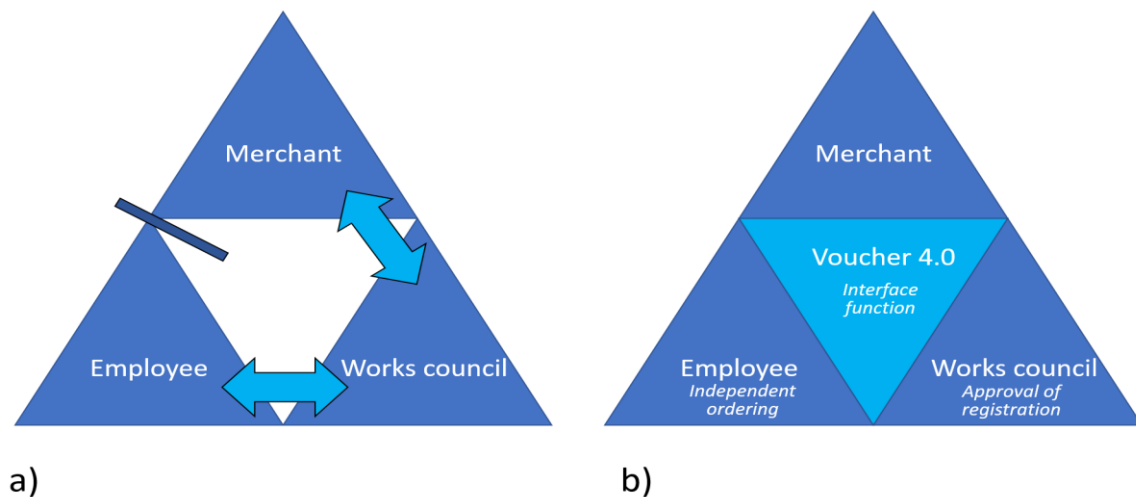


Figure 1 a) current [analogue] business model in voucher sales b) future [digitized]

### 2.2 Assessing the digitization potential in voucher sales

In many areas and for many companies, digitization and Industry 4.0 mean a radical change.

While the terminology of digitization and the business models were explained in the theoretical part, the empirical part of the work deals with the current state of digitization of vouchers, whereby the comparison of the process flows was already presented in the previous section.

In this part, the focus is on the motives and the motivation, whether and why vouchers are offered to employees, the voucher distribution system itself, etc. The concept of data collection is also explained here.

### 2.3 Data collection process and study design

The study design is a description of the methodological approach of a study. The distinction lies between nine different classification criteria, with the criteria being presented below. The listing includes only the core variants of the different designs. In order to find the ideal study design, the respective classification criteria will be discussed in a further section

The assignment to an epistemological approach is one of the essential characteristics for scientific investigations, whereby studies are based on qualitative or quantitative research strategies. The better contribution to solving the research problem is chosen for the scientific investigation, whereby a mixed form of both strategies can also be used [10].

Humanities form the basis of the qualitative research approach and systematically interpret protocols [observations], transcripts [surveys] or observations. Due to the rarely existing or not at all structured procedure, which is typical for this approach, unexpected results can often result. The comprehensive and detailed analysis and interpretation are special features of the qualitative research approach. In doing so, open questions are asked in order to allow a more flexible interpretation space for theory building [10], [11].

In contrast, the development of the quantitative research approach comes from the natural sciences. Variables are measured and then a statistical evaluation follows. The main characteristic of the quantitative study is the systematic analysis of numerous cases, as well as experimental laboratory tests. This approach aims to test hypotheses. Work is also carried out with standardized data collection instruments, as well as with structured processes for the further development of theories.

#### 2.3.1 Data collection methodology

In an empirical study, data collection plays an important role. The details of each investigation are different, although the same or similar steps may also be present [12]. Different data collection methods can be used depending on the information content, effort or procedure. On the one hand, oral or written surveys, such as interviews or questionnaires, are available. On the other hand, the data can also be determined with observations, measurements or document analyses [10] The research type results from the research questions, as well as from a theoretical justification [13]

The choice for this work fell on the online survey because on the one hand it is the specification of the client and the decision can be understood by comparing the advantages and disadvantages.

In contrast to telephone, personal-oral and written-postal surveys, the online survey has significant advantages. The mere fact that an online survey is independent of time and place reinforces the decision, as it is much easier to contact a large number of

## Merchant Perspective of Innovative Vouchers

people over long distances. In the online survey, no interviewers are used in comparison to the other survey types. Accordingly, the interviewer effects such as influencing the interviewees or controlling the interview situation are also eliminated [13]

A well-known impairment of online surveys is the reach, because although many people can take part in them, the selected target group must also be accessible online and also motivated to participate [13]. Due to the mass emails that every person receives these days, the surveys sent often end up in the trash because they are not taken seriously. So the result is a low participation rate [14]. It is possible to motivate the participants with some tools, such as a letter of announcement, a personal telephone call or appearance [15].

### 2.3.2 Method

After the appropriate selection of the survey type, establishing contact with the selected participants is extremely important in order to persuade them to take part in the survey. Contact was made via email or telephone to announce the survey. A letter was written that briefly summarized what the survey or master's thesis is about, so that the interest of the respondents is aroused. The risk of an online survey is that the participants do not even take part in the survey because it may have ended up in the spam folder or their interest was not sufficient.

In order to increase the number of participants, a QR code with the link to the survey was generated and made it easier for the participants to take part when they visited the branch in person. This ensured that the survey was completed in attendance.

With this approach, questions from the participants about the survey could also be answered on site, thus avoiding a premature termination. On the other hand, the disadvantage was the high expenditure of time, which was enormous despite an online survey, since the personal presence is equivalent to a personal interview.

Using a smartphone or other digital device that can read a QR code, the QR code was scanned and the digital device took them to the online survey.

The questionnaire was created using the "Survey Online" platform and was available for a period of one month.

## 3 RESULTS AND DISCUSSION

The structure of the survey is based on three paths, whereby the respondents had to enter general company information at the beginning, such as company size, number of locations, etc. The general section ended with the question "Do you offer discounted vouchers for employees of other companies?", The question answered in the affirmative or could be denied. Depending on which answer was ticked, the forwarding to the matching path.

The logical sequence of the individual paths could be set up using the platform and was carried out automatically depending on the answers to the questions. In this way, the direction of the survey could be controlled and the necessary content could be requested.

### 3.1 General

A total of 70 people from various Austrian trading companies took part in the survey. The initial question was how to determine the number of employees, with the following representation (Fig. 1) showing the distribution of the answers.

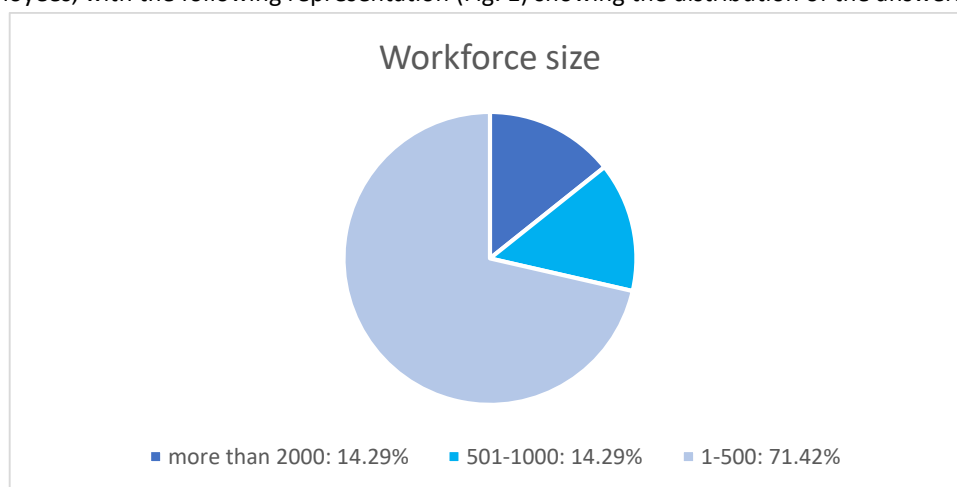


Figure 2. Number of employees [with 70 answers]

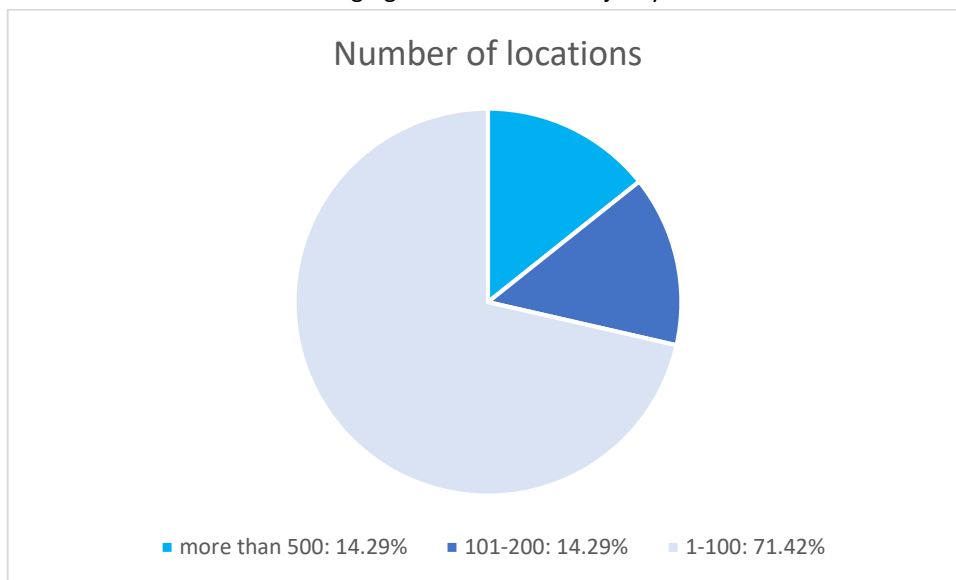


## Merchant Perspective of Innovative Vouchers

The subsequent question about the number of locations includes the following possible answers:

- 1-100
- 101-200
- 201-300
- 301-400
- 401-500
- more than 500

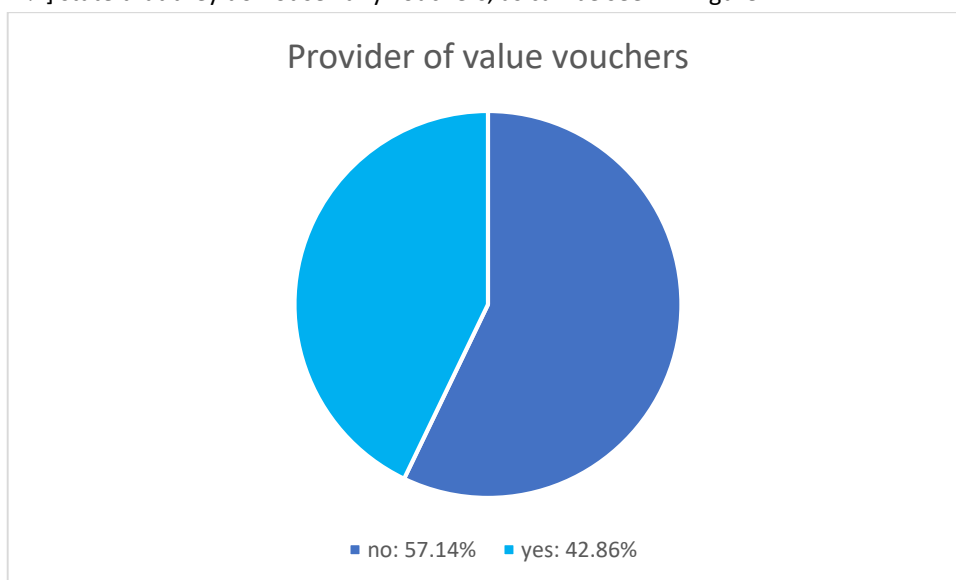
The response evaluation can be seen in the following figure 2. The clear majority ticked 1-100.



**Figure 3. Number of locations [with 70 participants]**

The general part ends with the question "Do you offer discounted vouchers for employees of other companies?", with all 70 respondents answering the question as follows:

More than half [57.14%] state that they do not sell any vouchers, as can be seen in Figure 4.



**Figure 4. Provider of value vouchers [with 70 respondents]**

As already described, from this section onwards, the respondents are forwarded to two different paths, depending on how they answered the question. This reduces the number of participants in the following evaluations.

## Merchant Perspective of Innovative Vouchers

### 3.2 Companies without a voucher distribution system

The retailers surveyed who stated that they did not have a value voucher distribution system were asked about the reasons. The following answer options were available:

- Too much financial effort
- Too high risks in processing
- Too much time wasted
- Too much administrative effort
- Other

The question was answered by 40 participants as follows:

50% stated that it took too much time, while the other half opted for " too much administrative effort ". The other possible answers were therefore not ticked by anyone.

It was then recorded whether there was general interest in the implementation of an in-house voucher distribution system, with the evaluation yielding the following results (Figure 5):

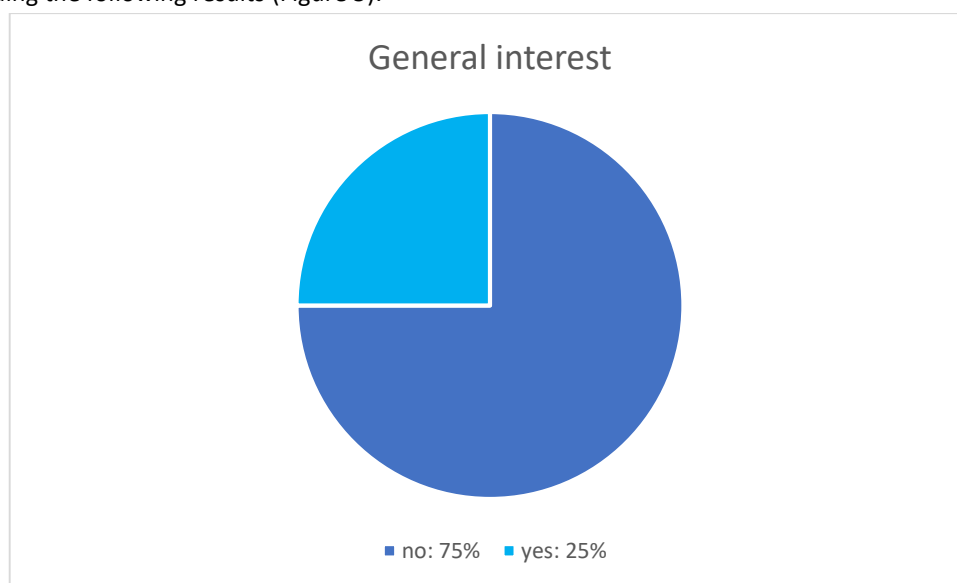


Figure 5 - General Interest

A quarter stated that there was general interest in an introduction, while 75% said no to this question.

- In justifying their answer, the following reasons were given:
- Too much time and administrative effort
- Use of tax-free alternatives such as Sodexo vouchers, prepaid cards such as Edenred, shopping center vouchers, etc.
- Offer numerous discounts from unions
- No free resources
- No existing interest from other companies [insufficient demand]
- Voucher distribution has never been considered

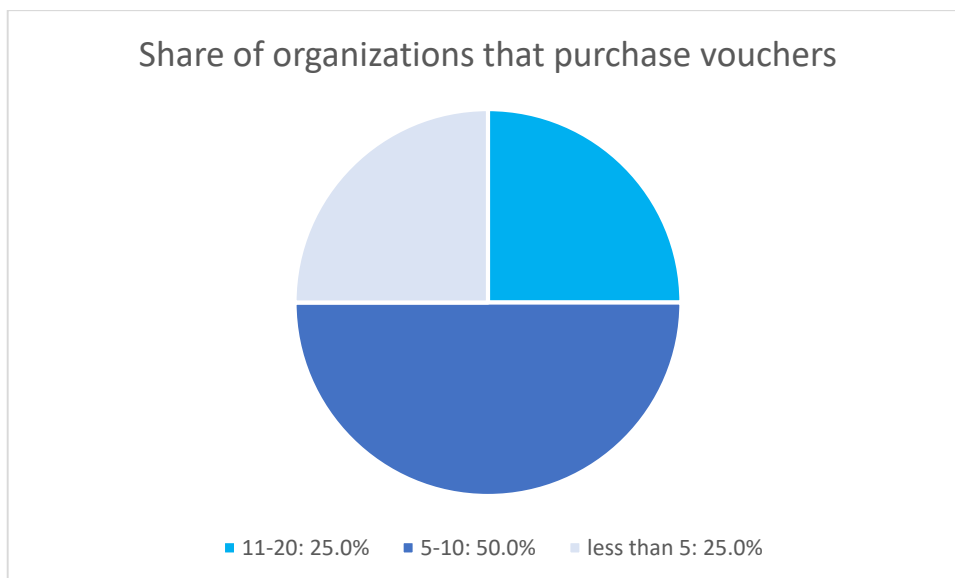
Those who are interested in the introduction were asked about central processing. Accordingly, all participants stated that this would be advantageous for them - due to the reduction in administrative effort, as the evaluation determined.

### 3.3 Companies with a voucher distribution system

The interviewed retailers who have a voucher distribution system were asked about their relationships with the works councils. On the one hand it was about the individual companies that purchase the vouchers and on the other hand the conditions of these business relationships.

When asked "How many companies are currently purchasing vouchers from your company?", the evaluation yielded the following data (**Error! Reference source not found.**):

## Merchant Perspective of Innovative Vouchers



**Figure 6. Percentage of companies purchasing vouchers. The majority of 50% of the respondents indicated 5-10 companies, whereby the highest possible answer of "more than 30" was not given by any company.**

When asked about the conditions, all those questioned abstained from answering [the reason given was mostly data protection reasons].

It was then determined whether the vouchers were issued in advance or depending on the order, with the distribution being half in each case. This question is important because voucher distribution systems are linked to high investment costs

The respondents were also able to state the annual number of discounted vouchers sold. The evaluation showed an average of between 100 and 300 sold pieces per year per dealer.

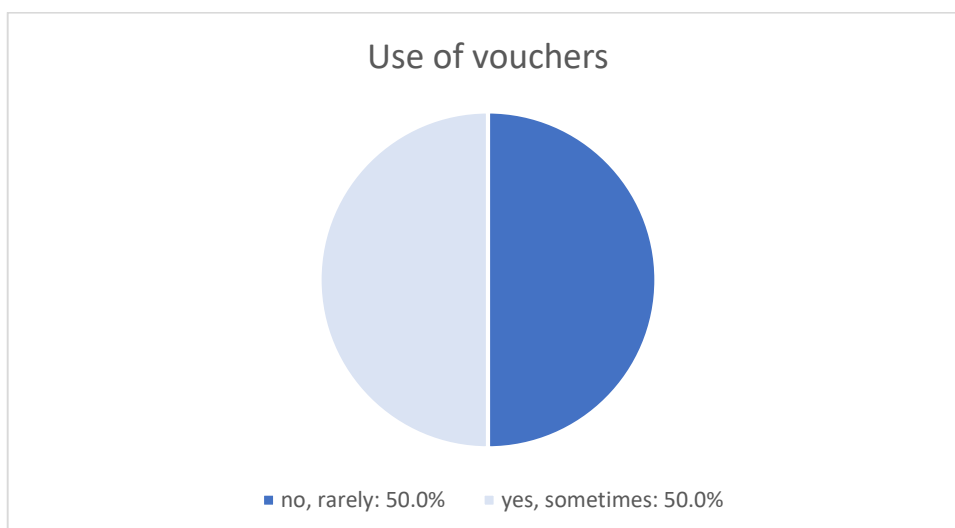
The average annual amount of discounted vouchers sold is around EUR 80,000.

### Reasons for purchasing discounted vouchers

The participants in the survey were asked about the reasons why they offer discounted vouchers at all. The majority stated in the open field "because the works councils want it", "usual Christmas present" or no other information was given.

The following evaluation shows how often the works councils make use of the vouchers offered, based on a selection of the following answer options (7):

- Yes, regularly
- Yes from time to time
- No, very rarely
- no



**Figure 7. Use of vouchers**

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None of the participating dealers [out of 20 participating companies] ticked a clear "yes" or "no", thus no convincing disapproval or support can be recorded.

Many works councils that receive vouchers have several locations, so the accessibility [in percent] of the locations was also asked. There were many different answers, ranging from 0% to 75%.

### Satisfaction with the current voucher distribution system

The final section of the survey addressed merchant satisfaction and impressions of the current voucher distribution system. The question was "How satisfied are you with your current voucher sales system?", with the following answer options being available (Figure ):

- Completely satisfied
- Satisfied enough
- Barely satisfied
- Unsatisfied



**Figure 8. Satisfaction with the current voucher distribution system**

The evaluation shows that no participating retailer is completely satisfied with the current voucher distribution system. As a result, even half are not satisfied. Arguments supporting the statement could then be given.

The following arguments were recorded:

- Tedious handling
- A lot of time
- Too scarce resources
- Cost-benefit factor does not fit
- Too complicated process

Ultimately, it was also determined how the process is defined in order to purchase a voucher. It was usually stated that the vouchers can be purchased in each individual branch. The respective works council must therefore go directly to one of the many locations in person and pay for the vouchers ordered there [usually in cash] and collect them. These are handed out in paper or card format. Furthermore, vouchers are also available in voucher offices that offer them, subject to certain conditions.

The purchased vouchers are then distributed to the employees by the works councils.

The retailers surveyed were asked to point out the deficits in the current voucher distribution system. The following answers were received:

- not enough staff to handle it
- no uniform process flow
- Special requests cannot be fulfilled
- expenditure of time too high
- Administrative effort too high

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- Insufficient stock if the order is too high
- Lack of contact persons for works councils

The survey also offered the possibility of specifying the man-hours per year for the effort incurred, whereby the evaluation resulted in the following average [with a number of participants of 10 respondents]:

- Administration: 40 person-hours per year
- Administration: 20 person-hours per year
- Sales processing: 20 person-hours per year

### Suggestions for improvement

The improvement suggestions form the conclusion of the survey. A focus of this work is the determination of the desired suggestions for improvement of the current voucher distribution system, as well as the associated expectations of the participating dealers.

The focus of the suggestions for improvement is the availability of customers and the constant demand as to how and where it is possible to purchase a voucher. A central place where all available offers can be listed would be an advantage. Many works councils often do not know what actions they are missing because the dealers are not available as desired.

Another wish is the possibility of being able to offer online vouchers instead of the previous paper and check card vouchers. This could save on material costs.

In general, retailers expect the following improvements:

- Reduction of time expenditure
- Reduction of the administrative burden
- increase in demand

### 3.4 Interpretation

The overall company disclosures show that there is a correlation, the larger the company, the more likely it is that the company will offer discounted vouchers.

This section was filled out by all participants, so that a high level of complexity of the questions can be ruled out. In the following sections, participation in the survey was cancelled or omitted for specific questions.

The platform makes it possible to quickly determine which questions caused the termination. This happened mostly with open questions that take more time and are therefore not easy to answer immediately.

Furthermore, there may be a lack of interest in the topic, which is why the participants preferred to stop after a certain number of questions. Accordingly, it can be deduced that there is no interest in the voucher distribution system. This is also evident from the evaluation.

When it comes to company-specific information, such as conditions or income, the participants are reluctant, even though the survey is anonymous.

The terms "time expenditure" and "administrative effort" were often in the foreground, which is why it can be said that these are the main criteria of the voucher distribution system. If these deficits are abolished, nothing stands in the way of introducing a central voucher distribution system.

Existing alternative vouchers [such as trade union cards and other providers] mean that there is competition that is taking over the market more and more quickly, thus reducing interest in offering discounted value vouchers.

## 4 SUMMARY

The aim of this work is to determine the digitization potential in voucher sales from the point of view of participating retailers. With the help of an empirical facts, this was done with the help of an online survey to determine the current situation.

The research questions could then be specified using the data obtained.

### What motivates companies to sell discounted vouchers to works councils?

There is a demand from the works councils, so they are following the demand.

## Merchant Perspective of Innovative Vouchers

### What problems do companies have with the existing voucher distribution systems?

The following list summarizes the respective answers:

- not enough staff to handle it
- no uniform process flow
- Special requests cannot be fulfilled
- expenditure of time too high
- Administrative effort too high
- Insufficient stock if the order is too high
- Lack of contact persons for works councils

### What are the current processes in the company in connection with the sale of vouchers via works councils? How do these processes have to be changed if the vouchers are sold centrally?

To put it simply, the discounted vouchers are purchased personally on site by the works council [usually in cash] at the individual locations. These are then distributed by the works councils in the company.

This operation requires resources to complete the process, which takes a lot of time and administration.

The processes must be changed insofar as a central platform is integrated on which the dealers can offer their vouchers directly to the employees. This means that the works council would only have to give approval for registration, which means that the high costs are eliminated.

### What are the advantages for companies through the central processing of voucher sales via "Voucher 4.0" and on what terms?

The elimination of existing high costs is the most frequently cited advantage, which means that the new system also arouses interest in introducing it. The expenses are of a temporal, administrative and sales nature. Furthermore, there is no risk in the event of insolvency occurring on the customer side.

The implementation of "Voucher 4.0" will optimize and simplify all processes - from ordering to receiving the voucher. The seller no longer has to spend an average of around 50 to 60 hours a year [in addition to their main job] to process the voucher sale, as the effort is reduced to a third of the previous time. This saved time can be invested elsewhere.

The existing alternatives, such as all union cards, represent a competitor, but membership must be applied for, which entails subscription costs, so that the advantages and discounts may be used.

With the new trading platform "Voucher 4.0" only an authorization of the employees is necessary, therefore no costs are due.

The previous voucher sales system has a very high digitization potential, as even half of those surveyed stated that they were dissatisfied with the previous system. Another promising potential is also shown by the proportion of companies that have not yet implemented a voucher system.

A large part of the currently existing deficits can be eliminated by "Voucher 4.0". In particular, the frequently criticized disadvantages, due to which the previous voucher sales system is not satisfactory, can be compensated for by the upswing in digitization.

The elimination of the high administrative effort and the administration effort are a significant encouragement for the company to set up a value voucher sales system for the first time.

The high demand for fee-based union cards reflects that such offers are very popular within the employee society. If a company is able to provide its and external employees with such advantages free of charge, this has an impact on customer loyalty as well as on its own staff.

At a time when all areas of infrastructure and everyday life are being digitized, it makes sense to optimize this section as well. In an age of more and more comprehensive online shops, the appropriate measures must also be taken to adjust the vouchers accordingly.

The simple handling of the new trading platform "Voucher 4.0" will lead to the fact that the use of such offers by the employees will be increased in the future, and accordingly an optimization of the processes and offers can take place.

Ultimately, the new voucher distribution system also focuses on climate friendliness, because paper and plastic vouchers are dispensed with in the interest of the environment.

## Merchant Perspective of Innovative Vouchers

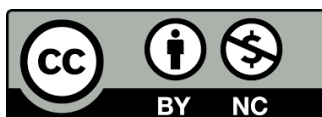
No precise data on conditions could be determined through this investigation, since company-specific data could not be recorded in this context.

As a result, it can be stated that the current system no longer does justice to the circumstances of the ever faster digitization of all areas. According to this, the introduction of a central voucher distribution system is undisputed, but it must become more attractive to compete with the alternatives in place.

To substantiate the identified digitization potential, the new voucher distribution system can initially only be implemented at large corporations, such as REWE, in order to test the system in a test period of one year. In this way, any deficits that may occur can be identified and the processes can be optimized. After a successful test, the implementation can take place at the other trading companies.

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## Independent of Auditors and Ethical Behaviours in Corporate Financial Reports of Listed Companies in Nigeria



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**ABSTRACT:** Acceptance of corporate financial reports has greatly reduced, and financial statement users doubt the credibility and usefulness of the information contents of corporate financial reports. Existing studies had reported inconsistencies and evidenced inconclusiveness of possible effect of independent of auditors and ethical behaviour in enhancing reliability and relevance of corporate financial reports. Consequently, in extending the frontiers, the effect of independent of auditors and ethical behaviours on corporate financial reports of listed companies in Nigeria is investigated by this study. Survey research design, using self-structured questionnaire was employed by this study. The population of the study consist of all the 66 manufacturing companies, while sample size of 414 was obtained using Yaro Yamane (1976) formula. A total of 356 valid questionnaires were retrieved from the online respondents, reflecting 86% of the expected respondents. Cronbach Alpha reliability analysis. The study found that independent of auditors and ethical behaviours had a positive significant effect on corporate financial reports ( $AdjR^2 = 0.019$ ;  $F_{(3, 341)} = 3.340$ ;  $p\text{-value} = 0.019$ ). The study concluded that independence of auditors and ethical behaviours had a positive effect on corporate financial report of listed in Nigeria. The study recommended that auditors should exercise professional independence, competence and avoid unethical practices to enhance corporate financial reports.

**KEYWORDS:** Audit independence, corporate financial reports, Ethical behaviours, Faithful representation, Relevance, Reliability

### 1. INTRODUCTION

Globally, the quality and reliability of corporate financial reports are being doubted and financial statement users seem sceptical and apprehensively unsure of the reliability and credibility relying on corporate financial reports in making economic and useful decisions. Reported incidents of financial scandals in some corporate organization apparently ignited the anxieties and concerns of the public of the trustworthiness of corporate financial reports and industry experts' reaction to Arthurs Andersen and Enron scandals had remained a reference point of financial users' discontentment over the years (Aliu, Okpanachi & Mahammed, 2018; Alnodel, 2018). While Enron and Arthur Anderson case had triggered the emergence of Sarbanes-Oxley Act of 2002, the level of dissatisfaction of the public and ability of the analysts to rely on corporate financial reports in making predictive analysis have not resolved (Amidu, Coffie & Acquah, 2019). Previous studies have documented frustrations and loss of investors' confidence resulting from the collapse of high-profile corporate organizations, the likes of WorldCom, Olympus in Japan, the cases of Parmalat, Xerox, HealthSouth, Toshiba Corporation, Lucent, Adelphia, Tyco, Maxwell pension scandals, Satyam, Reebok and recently the indictment of the big-4 in various recklessness and unethical practices (Shiyanbola, Adegbe & Salawu, 2020; Aguguom & Olanipekun, 2021; Key & Kim, 2020).

Unfortunately, despite the dust raised, risks and the lessons learnt from the highly celebrated and reported financial scandals, the incidents financial scandals are still prevalent in the corporate organizations in various parts of the world. In the recent times, the cases Folli Follie in Greece, Shipbuiding and Marine Engineering in South Korea, Steinhoff of South Africa, Carillion in United Kingdom (Hao, Sun & Yin, 2019; Oroud, Islam, Ahmad & Ghazalat, 2019). In the recent cases of 2020, among the big-4, PwC was associated with unethical behaviour of an allegation of potential conflict of interest in one of its audit jobs functions in Sonangol as it was discovered that both the auditor and consultancy roles were carried out by the same PwC (Hrazdil & 2019). Furthermore, in year 2020, Deloitte was fined \$19.4 million for failing to apply adequate professional competence in its audit exercise carried out in the years of 2009 to 2011 financial statement prior to its acquisition by Hewlett-Packard.

The list is endless the recklessness auditor's ethical behaviour and extent of professional abuse of trust and unethical practices that have plugged the image of the auditing profession to a regrettable disrepute and fragility and chronicles of unexhausted.



## **Independent of Auditors and Ethical Behaviours in Corporate Financial Reports of Listed Companies in Nigeria**

According to Ozili and Outa (2019), some unethical practices of few bad eggs among the auditors have given the auditing profession bad image that will take a long time and efforts of the good ones to redeem. The public desires true and fairness in corporate financial reporting, and this could be possible where there a fair play, and honest reporting. According to Okezie and Egeolu (2019), true and fairness can only strive where independent of auditors and ethical behaviours or the practising auditors are respected.

From the Nigerian perspective, studies have documented case of financial scandals where auditors were implicated. The case of Cadbury Nigeria, Stanbic-IBTC, Oceanic Bank, Intercontinental Bank, Skye Bank, Diamond Bank and the recent Skye Bank that gave rise to Polarise Bank (Ozili & Outa, 2019). According to Aliu, Okpanachi and Mohammed (2018), when the auditors compromise the audit independence and due care and skill, the quality of corporate financial reporting will be decreased and the economic usefulness of the financial statement users will no longer be guaranteed. The reported cases of unethical practices and corruption cases have been attributed to weak corporate governance and inadequate board monitoring and slack in its oversight functions (Akeju & Babatunde, 2017; Abdul, Rahman, Benjamine & Olayinka, 2017).

The level of acceptance and reliance on corporate financial report in making useful decision has drastically reduced to such low extent that investors are apprehensively scared in making investment decisions relying believing that the accounting information contents are credible and relevance (Okolie, 2014; Surbakti, Shaari & Bamahros, 2017). Majority of corporate financial reports no longer possess minimum qualitative characteristics of relevance, faithful representation consequent to auditors incapable of exercising adequate independence and ethical behaviours (Nkanbia-Davis, Gberegbe, Ofurum & Egbe, 2016). Reported case of financial scandals and fraud incidents have heightened the apprehensiveness and absence of confidence in the use of financial statements by the public and interested stakeholders, who are already biased of the possible compromising and credulity posture of the auditors who can no longer be trusted as an umpire professionals (Yakubu & Williams, 2020; Zayol & Kukeng, 2017).

While some studies have documented that independence of auditors and ethical behaviours are golden and capable of rebuilding the auditing profession when the auditors are seen not to have compromises their professional independence, competence, and ethical behaviours in inducting auditing services (Abdul-Rahman, Benjamine & Olayinka, 2017; Adebisi, 2017). Akeju & Babtunde (2017) have documented track records showing that some auditors have displayed unethical practice and recklessness attitude towards audit services by subverting procedures and inability to prove to the financial statement user reasons to trust their opinions of the corporate organizations' financial activities. The extent of relevance and reliability of the reported corporate financial statements are inadequate lacking substance and credibility (Asthana, Khurana & Raman, 2018). Some studies have revealed that independence of auditors and ethical behaviours had a positive significant effect (Eyenubo, Mohammed & Ali, 2017; Hassan, Omar, 2016). However, others Hope, Thomas and Vyas (2017); Majiyabo, Okpanachi, Nyor, Yahaya and Mohammed (2018) reported that independence of auditors and ethical behaviors had a negative effect on corporate financial reports among the companies listed in Nigeria.

While there have been studies that have studied independent of auditors, ethical behaviours and corporate financial reports, there are dearth of studies that have utilized similar variables identified in this study to have attempted the problem of corporate financial reports. Besides, divergent opinions and inconclusiveness still subsists, creating gaps in literature that required further research. In closing the gaps and extending the research studies, this study offered the following research objective, question, and hypothesis.

**Research Objective:** *Examine the effect of independent of auditors and ethical behaviours on corporate financial reports of listed companies in Nigeria*

**Research Question:** *How do independent of auditors and ethical behaviours affect corporate financial reports of listed companies in Nigeria?*

**Research Hypothesis:** *Independent of auditors and ethical behaviours have no significant effect on corporate financial reports of listed companies in Nigeria.*

The other part of the study is configured in this approach: Section 2 considered literature review and theoretical development. In section 3, methodology was presented and in section, data analysis, results and discussion of findings were considered, and section 5 considered the conclusion, recommendations, and contribution to knowledge.

### **2. 1 CONCEPTUAL REVIEW**

**Quality of Financial Report:** The financial report quality is essentially significant to every financial statement user in making useful decisions. The financial report quality is concerned with the ability of the accounting information content of financial reports of companies to reveal a true and fair view of the financial position of the companies. Quality of financial reports is highly desirable and required for business decision purposes. Credibility and financial health condition of companies ought to be reflected in the

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financial statements of any company (Ndubuisi & Ezechukwu, 2017). According to, Eriabie and Debor (2017), investors, lenders and all other stakeholders are desirous of credibility, and reliable financial statement as a guide in making investment decisions. Herath and Albarqi (2017) documented that for an financial statement of any organization to attain to being quality in all respect, it must possess some essential properties of qualitative characteristics of relevance, faith representation, and at the same time has the ability to enhance the qualitative characteristics, these include, comparability, accuracy, understandability, understandability and timeliness.

**Relevance:** Relevance of financial reports implies that the financial statement is appropriately capable to be useful for the purpose intended. The accounting information must be relevant for economic and investment purposes, it must be misleading or contain false information capable of misinforming potential users of the financial report. It should possess predictive value and at the same time confirmatory value and absence of misstatements or errors that will mislead an innocent public users or the stakeholders at large (Agugom & Olanipekun, 2021; Yakubu & Williams, 2020).

**Faithful Representation:** In line with the regulatory fundamental framework of qualitative characteristics, faithful representation entails that the financial report must be complete, neutral and free from errors in meeting qualitative requirements. According to Mechelli, Cimini and Mazzocchetti (2017) accounting information is complete when its material contents include all relevant information needed by the user to understand and useful for the intended purpose. In addition, a neutral representation is significant in quality of financial reports, believing that the information content is free from manipulation and predetermined result, and discretionary outcome.

**Verifiability and Accuracy:** Financial reports are said to possess quality if one of the attributes include verifiability and also accuracy. In other words, an information is considered to be verifiable if different independent users acknowledge the same understanding and agree that the information contents are true and fair, providing faithful representation. According to Kusnadi, Leong, Suwardy & Wang (2016), two or more users of financial statement should confirm same information using different evaluation and assessment method. Accuracy is an ability of the financial reporting to be free from errors and fraud intentions. When financial reports are contain misstatements and misrepresentations of facts, it is considered inaccurate and tend to misinform users (Kwom, 2018; Maali & Al-Attar, 2017).

**Comparability:** Ability to compare the financial reports is one of the enhancing qualitative characteristics that enables financial statement users compare information about the company for a reporting period with similar information about other companies in the category and same industry. Consistency is improved when there are evidence of comparability of the financial report of the companies using the same accounting rules and principles under the same accounting treatment. International Accounting Standards Board (IASB) posited that using dissimilar accounting rules and treatment will result to diminishing of accounting quality and reduces comparability ability.

**Understandability:** The usefulness of accounting information is possible when the users of such financial statement understand the information contents, hence ambiguity and uncertainty should not be associated with quality of financial reports (Ozili & Outa, 2019; Leuz & Wysocki, 2016). The understandability of financial reports are improved when they are classified and dully presented in clear language and concisely. When vital information are not omitted and ability to remove complexities making the financial statement difficult to understand. The conceptual framework documented that financial statement should be prepared in such a manner that people with reasonable knowledge of business and economic activities should understand the information contents.

**Timeliness:** Accounting information is relevant when obtained at the time it is required. Timely presentation of financial information when it capable of influencing their economic usefulness and not when not required. Delayed information and not making available of information when they are needed could be frustrating and irrelevant and useful when eventually they are provided when its usefulness had elapsed. In Nigeria companies are required to present and publish their audited financial statement at least three months after the end of the accounting period.

**Audit Fees and Audit Incentives:** The audit fees and incentives available to the auditors are motivating factor in the quality of audit services and audit independent. It is obvious that the big-4 auditing firms are not cheap and when the clients are not able to afford the services and high audit fees, it could result to other auditing firms outside the big-4 (Asthana, Khurana & Raman, 2018). Incidentally, when the audit is not carried out by any of the big-4, the public tend to underrate the audit quality, and such perception are strong in insinuating that non-big-4 lack credibility and lack the strong will to observe independence and shunning interference by the clients in the audit exercise and expression of opinions. According to Babatolu *et al.*, (2016), the quantum of audit fees can significantly influence the quality of audit report, and quality of being free from biased and persuasions mentally and financially.

**Audit Tenure and Clients' Size:** Audit tenure is closely related to negotiating independence of auditors and ethical behaviours in producing a credible and quality financial reports. According to Abdul-Malik and Ahmad (2016), audit tenure in concerned with

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the length of audit-client relationship, positing that the longer years of relationship between the auditors and the clients, the possibility of auditors become too familiar with the clients in influencing its audit decisions. There are likelihood of conflict of interest and compromising of audit independence, when the audit firm has over stayed in the services of a particular client (Aliu, Okpanachi & Mohammed, 2018).

**Auditors Status (Big-4 or otherwise):** The category and strength of the audit firm have much influence on the quality of audit and ability of the audit firm to exercise strong will of not being influence in exercising audit independence. Majiyebo et al., (2018) posited that audit size, big-4 or otherwise can influence the independence of auditors. Ezuwore-Obodoekwe (2020); Yakubu and Williams (2020) documented that auditor's independence had a positive significant effect on audit quality and quality of financial reports. In the audit and accounting firms, the big-4 are associated with higher audit fees and higher audit quality because of the expertise and professional expertise acquired by the big 4 over the years, giving them edge and big advantage of being preferred by the majority of clients (Surbakti, Shaari & Banahros, 2017; Oroud, Islam, Ahmad & Ghazalat, 2019).

### **2.1 THEORETICAL FRAMEWORK**

**Agency Theory:** This theory was propounded by Berlin and Means in the year 1932 but was made popular by Jensen and Meckling, who hypothesized that the principal (shareholders) delegated the obligation with authority to agents (managers) to manage their resources, with the believe that the agents (managers) will be faithful and manage the resources to the best interest of the owners. Incidentally, the case of conflict of interest arose, as the managers acted in their own interest against the interest of the shareholders. The managers are expected to maximize returns and minimize costs (Abdul-Malik & Ahmad, 2016). The agency theory further suggested that the need for auditor services benefits both agents (management) and the principals (shareholders). Hence auditors are appointed for the mutual benefits of management and the shareholders including the other third parties who have an interest in the affairs of the company (Hassan & Omar, 2016).

#### **Lending Credibility Theory**

Lending credibility theory as proposed by Limpery in 1920, is concerned with the need for audit services (Maali & Al-Attar, 2017). The theory suggested that the essence of audit service is to add value and credibility to the financial statement prepared by the management who at the same time the agent who carried out the running and the operation of the company. The existence of conflict of interest between the principal and the agents necessitated the need for a third umpire to carry out an independent assessment of the financial reports prepared by the managers for the shareholders (Marshall, 2015). Naturally, it is imperative that a third part be engaged to exercise an unbiased assessment and certify the financial statement whether it reflect the true and fair view of the financial transaction of the company for the period under consideration (Mechelli, Cimini & Mazzocchetti, 2017). According to Kusnadi, Leong, Suwardy and Wang (2016), the public tends to rely on the professional expertise of the auditors in lending confidence and trustworthiness on the accounting information contents of the financial statement, in making investment and other useful decisions.

#### **Theory of Inspired Confidence**

The theory of inspired confidence was developed by the renowned Dutch professor, Theodore Limperg in 1920s (Marshall, 2015). The theory suggested that conflict of interest between the principal and the agents had ignited the need for confidence stimulant arousal in relying on reports prepared by the agents for the principal (Minick, 1975). It is natural and expected that the managers could influence the quality and information contents of the financial statement in their favor, since the managers are being accused of pursuing personal interest. According to Onuoha and Imene (2016), the agency theory has created clear understanding of the subsisting conflict of interest between the business owners and the agents (managers), that while the shareholders expect the managers to pursue shareholders wealth maximization, the managers may seem to be maximizing corporate economic values, but are instead pursuing personal benefits by increasing corporate earnings that will in turn give rise to higher remunerations and bonuses (Unuagbon & Oziegbe, 2016). The shareholders and the other stakeholders aware of these irregularities and anomalies, consequent reported cases of financial scandals, require the services of the auditors to inspired reliance of the financial statement, based on the auditors' certification and unbiased report that the financial reports are true reflection of the health condition of the company, to be reliable, useful and relevance for the purpose intended.

### **2.3 EMPIRICAL REVIEW**

Yakubu and Williams (2020) studied the effect of independent of auditors on corporate financial reports quality. The study employed expo facto research design, using audit committee and nonexecutive directors as members to measure audit independence. Audit fees and audit tenure were also employed as proxies to measure audit independence. The analysis shown that independence of auditors had a positive effect on corporate financial reports. Furthermore, the study discovered that auditors

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tenure and Auditors' status had a negative effect on quality of corporate financial reports. The study recommended that auditors should strive to exercise independence while carrying out their professional audit duties.

Olaoye, Agugom, Safiriyu and Abiola (2019) investigated the effect of statutory auditors' independence on the relevance and reliability of financial statements of a selected manufacturing companies in Nigeria. A survey research design was adopted in the study using 150 questionnaires administered to 137 randomly selected respondents from the manufacturing companies. Also, the study employed Cronbach alpha test in testing the reliability and validity of the study. Descriptive statistics and inferential analyses were employed in the data analyses and the result of the regression shown that independent of auditors has a positive effect on reliability of financial statements. Also, the study discovered that audit tenure and audit fees has a positive effect on relevance and comparability of financial statements of the manufacturing companies examined.

Okezie and Egeolu (2019) studied the impact of independent of auditors and ethics practice on the reliability and credibility of corporate financial reports of companies in the banking sector. The study employed *expo facto* research design for a period of 5 years covering 2014 to 2018. The regression analysis carried out using multi-regression revealed that independent of auditors and evidence of ethical practices has a positive significant effect on reliability and relevance of corporate financial reports of companies operating in the banking sector in Nigeria.

Aliu, Okpanachi and Mohammed (2018) investigate the effect of auditor's independence on audit quality of listed oil and gas companies in Nigeria for a period of 10 years covering 2007 to 2016. The study employed expo facto research design, using secondary data obtained from 9 companies' financial statements. The study used a panel data and logit regression analyses for the data and the result of the analysis revealed that audit independence has a positive significant effect on quality of the company's financial statements investigated in the study.

Zayol and Kukeng (2017) studied the impact of independent of auditors on corporate financial reports quality. Expo facto research design was adopted, as secondary data was employed in data sourcing from documented sources and internet documents. The study carried out regression analysis and the result found that independent of auditors had a positive effect on corporate financial report. Als the study reported that audit fees had a negative influence on corporate financial reports.

Similarly, the study of Abdul-Malik, and Ahmad (2016) investigated of the effect of audit independence and audit fees on the quality of financial reporting in Nigeria. The study employed expo facto research design, using data sourced from the financial statements of 89 selected companies listed on the Nigeria Stock Exchange for a period of 8 years covering 2008 to 2013. The analysis revealed that audit fees had a negative significant effect on discretionary accruals and on the credibility of the financial statements.

Babatolu, Aigienohuwa and Uniamikogbo (2016) studied the effect of independent of auditors on quality of corporate financial reports of deposit money banks. The population comprised of 20 listed deposit money banks while, a sample of 7 banks were selected for a period of 5 years covering 2009 to 2013. Descriptive statistics, correlation analysis and ordinary least square were adopted. The study found that audit rotation and audit fees had a positive effect on quality of corporate financial reports. Also, the study found that audit tenure had a negative effect on corporate financial reports quality.

Consequent to mixed results and different opinions are highlighted, inconclusiveness subsists, creating gaps in literature. Besides, there is dearth of studies that have considered ethical behaviours of the auditors in corporate financial reporting in the emerging literature in Nigeria. In contributing to knowledge and filling gaps in literature, this study extents the frontiers and created a novelty in this area, and examined the effect of independent of auditors and ethical behaviours on corporate financial reporting of listed companies in Nigeria.

### 3 METHODOLOGY

**3.1 Method:** This study investigated the effect of independent of auditors and ethical behaviours on corporate financial reports of listed companies in Nigeria. In addressing the problem of corporate financial reports, the study used survey research design, using self-structured questionnaire. The population of the study consisted of all the 66 manufacturing companies, while sample size of 414 was obtained using Yaro Yamane (1976) formula. A total of 356 valid questionnaire were retrieved from the online respondents, reflecting 86% of the expected respondents.

**3.2 Sample Size:** The four hundred and forty-four (414) staff used were selected using Yaro Yamane's (1967) formula was adopted to arrive at the sample size.

$$n = \frac{N}{1+n(\alpha)^2}$$

Where:

n = sample size

N = Population size

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$\alpha$  = level of significance

$$n = \frac{3,204}{1+3,204(0.05)^2}$$

$$n = \frac{3,204}{1+8.00}$$

$$n = 356 \approx 356 \text{ Respondents}$$

### 3.3 Reliability and Validity of Instrument

The validity of the questionnaire in the study was measured with its clarity and relevance to the study. The questionnaire was presented to professional accountants at different levels with experience in auditing and accounting. The experts in statistical technique and research were not left out. The presentation of the questionnaire to these experts was to prompt their comments on the wordings, relevance, and structure of the questionnaire. The reliability of the questionnaire was tested using “Cronbach Alpha Reliability Analysis with the aid of the Statistical Package for Science Solutions (SPSS) version 23. The reliability of the instrument was assured after administering few of the questionnaires on the pilot sample and the coefficient alpha of the data collected was computed. Table 3.1 shows the result as well.

**Table 3.1: Results of the Reliability Test**

Constructs	No of Items	Cronbach's Alpha
<b>Dependent Variable</b> <i>(Qualitative Characteristics)</i>		
Relevance	5	0.881
Faithful Representation	5	0.801
Verifiability and Accuracy	5	0.895
Comparability	5	0.958
Understandability	5	0.884
Timeliness	5	0.907
<b>Independent Variables</b> <i>(Independent of Auditors and Ethical Behaviors)</i>		
Audit Fees and Audit Incentives	5	0.884
Audit Tenure and Clients Size	5	0.824
Auditors' status (Big-4 or otherwise)	5	0.901

### 3.4 Model Specification

$$Y_i = f(X)$$

$$QLTYCFR = f(INDPAE)$$

#### Functional Relationship

$$QLTYCFR = f(ADFAI + ADTCS + ADSTS)$$

#### Model

$$QLTYCFR_i = \alpha_0 + \beta_1 ADFAI_i + \beta_2 ADTCS_i + \beta_3 ADSTS_i + \mu_i$$

Where:

QLTYCFR = Qualitative Characteristics Corporate Financial Reports, INDPAE = Independent of auditors and ethical behaviour; ADFAI = Audit Fees and Audit Incentives; ADTCS = Audit Tenure and Clients' Size, and ADSTS = Auditors Status

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### 4. DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

In this subsection, the responses to the questions that seek the opinion of the participants about effect of independent of auditors and ethical behaviours which are subdivided into Audit fees and audit incentives (ADFAI), Audit tenure and client's size (ADTCS) and Auditors' status (ADSTS). These questions were 5– points Likert scale where “Strongly Disagree” and “Strongly Agree” are coded ‘1’ and ‘5’ respectively with “Agree” and “Strongly Agree” been collapsed to measure the percentage of total Agree. The major statistical tool used are frequency, percentage, mean and standard deviation.

General overview of participants' perceptions on questions that cover effect of independent of auditors Tax Revenue Generation as Tax Compliance Indicators is presented below in Table 4.1.

**Table: 4.1: Distribution of Independent of auditors and ethical behaviours and Corporate Financial Reports**

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total	% of Total Agree	Mean (Std.)	Rank
Audit fees and audit incentive improves relevance of corporate financial reports of listed companies in Nigeria.	0 [0.0]	0 [0.0]	12 [3.4]	171 [48.0]	173 [48.6]	356 [100]	344 [96.63]	4.45 (0.56)	5
Audit tenure and client's size enhances the faithful representation of corporate financial reports of listed companies in Nigeria.	0 [0.0]	0 [0.0]	10 [2.8]	96 [27.0]	250 [70.2]	356 [100]	346 [97.19]	4.67 (0.53)	1
The companies are audited by any of the big-4 audit firms and improves verifiability and accuracy of corporate financial reports of listed companies in Nigeria.	1 [0.3]	1 [0.3]	12 [3.4]	91 [25.6]	251 [70.5]	356 [100]	342 [96.07]	4.66 (0.59)	2
Comparability of corporate financial reports are enhanced when the audit fees are high.	1 [0.3]	2 [0.6]	22 [6.2]	82 [23.0]	249 [69.9]	356 [100]	331 [92.98]	4.62 (0.65)	3
Understand ability of corporate financial report is enhanced when there is clear evidence of Auditors professional attitude and audit independence.	2 [0.6]	3 [0.8]	14 [3.9]	111 [31.2]	226 [63.5]	356 [100]	337 [94.66]	4.56 (0.67)	4

**Source:** Researcher's (2022).

From Table 4.1, it's obvious that the statement with the percentage of total agree equal 97.19% is Audit fees and audit incentive improves relevance of corporate financial reports of listed companies in Nigeria {Average Score = 4.67; SD = 0.53} and stands to be the most supported statement, follow by the statement that says, “Audit tenure and client's size enhances the faithful representation of corporate financial reports of listed companies in Nigeria.” {Average Score = 4.66; SD = 0.59} with 96.07%

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percentage of Agree. “The companies are audited by any of the big-4 audit firms and improves verifiability and accuracy of financial reports of listed companies in Nigeria.” {Average Score = 4.62; SD = 0.65} has 92.98% of total percentage of Agree while that of “Comparability of corporate financial reports are enhanced when the audit fees are high.” {Average Score = 4.56; SD = 0.67} with 94.66% percentage of total Agree. The least supported statement reads as “understandability of corporate financial report is enhanced when there is clear evidence of audit independence.” {Average Score = 4.45; SD = 0.56} is 96.63% percentage of total Agree.

### 4.2 Descriptive Statistics

This describes the two grouped indicators under this subsection by showing that they are derived from 356 numbers of observation in terms of minimum, maximum, mean and standard deviation.

**Table 4.2: Dependent Variable Summary Statistics**

Variables	Obs.	Minimum	Maximum	Mean	Std. Deviation
QLTYCFR	356	3.20	5.00	4.425	0.391

**Source:** Author’s Computation (2022). **Note:** QLTYCFR = Qualitative characteristics of corporate financial reports.

In this Table 4.2, average value of the dependent variable qualitative characteristics of corporate financial reports to be 4.425, having 0.391 standard deviation obtained from range of variables that span from 3.20 to 5.00. These imply that responses gotten from the participants in relation to qualitative characteristics of corporate financial reports is 4.425 on the average. The number of considered observation remains 356.

**Table 4.3: Independent Variable Summary Statistics**

Variables	Obs.	Minimum	Maximum	Mean	Std. Deviation
ADFAI	356	1.80	5.00	4.493	0.631
ADTCS	356	2.00	5.00	4.342	0.508
ADSTS	356	3.00	5.00	4.593	0.397

**Source:** Author’s Computation (2022). **Note:** ADFAI = Audit fees and incentives, ADTCS = Audit tenure and client’s size and ADSTS = Auditor’s status.

#### Audit fees and incentives (ADFAI)

Table 4.3 shows that on average the first independent variable Audit fees and incentives (ADFAI) is 4.493 with standard deviation of 0.631, showing that the values widely spread out from the average value. The lowest and highest values from which average value and the standard deviation are obtained from are 1.80 and 5.00 respectively; with number of considered observations being 356.

#### Audit tenure and client’s size (ADTCS)

Also, from this above-mentioned table [Table 4.3], the second independent variable Audit tenure and client’s size (ADTCS) is found to have 4.342 as an average value with 0.508 standard deviation obtained from range of values that are spread out between 2.00 to 5.00; observation number remains 356.

#### Auditors’ status (ADSTS)

Auditors’ status ADSTS having its values spreading out between 3.00 and 5.00, has 4.593 as an average value and standard deviation of 0.397 as been shown in Table 4.3: the rate of variation in this variable values wide as observed from the standard deviation.

#### 4.2.1 Correlation Matrix

Correlation matrix is to establish if there is bivariate relationship between dependent and independent variables. Correlation matrix is considered in this study to ensure that independent variables are not high to the extent of causing multicollinearity problem. The result is presented below:

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**Table 4.4: Correlation Matrix**

Variables	QLTYCFR	ADFAI	ADTCS	ADSTS
QLTYCFR	1			
ADFAI	0.218	1		
ADTCS	0.137	0.071	1	
ADSTS	0.180	0.304	0.120	1

**Source:** Author's Computation (2022). **Note:** QLTFCFR = Qualitative characteristics of corporate financial reports, ADFAI = Audit fees and incentives, ADTCS = Audit tenure and client's size and ADSTS = Auditor's status.

From Table 4.4 above, the correlation coefficient among the two presented indicators of corporate financial reports (Qualitative characteristics of corporate financial reports – QLTFCFR), and independent of auditors and ethical behaviours indicators [Audit fees and incentives ADFAI, Audit tenure and client's size ADTCS and Auditors status ADSTS] lie between 0.218, 0.137 and 0.180 respectively. The Association between dependent variables QLTFCFR explanatory variables ADFAI & ADTCS are all positive. In addition, the less strong correlation that exists among some of the explanatory variables shows that possibility of having multicollinearity problem is zero. To further confirm if this is true, the study estimated Variance Inflation Factor (VIF) and the results can be found with the regression results tables.

### Inferential Statistics

In Table 4.5, Model Summary and ANOVA are presented; the predictors are Audit fees and incentives ADFAI, Audit tenure and client's size ADTCS and Auditors status ADSTS and the dependent variable considered is Qualitative characteristics of corporate financial reports QLTFCFR.

**Table 4.5: Model Summary and ANOVA**

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
0.166	0.028	0.019	0.67779		
ANOVA					
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.603	3	1.534	3.340	0.019
Residual	161.709	353	0.459		
Total	166.312	356			

**Source:** Author's Computation, 2022; underlying data from Field Survey. **Note:** Predictors are (Constant), ADFAI = Audit fees and incentives, ADTCS = Audit tenure and client's size and ADSTS = Auditor's status. Dependent variable is QLTFCFR = Qualitative characteristics of corporate financial reports.

In Table 4.5 above, the F-statistics value is 3.340; Sig. = 0.019. This being significant at 0.01 of significance means that the combine effects of Independent of auditors and ethical behaviours proxies {Audit fees and incentives ADFAI, Audit tenure and client's size ADTCS and Auditors status ADSTS} on Qualitative characteristics of corporate financial reports QLTFCFR are significant. The adjusted R-square is 0.019 which connotes the 1.9 percent of variation in Qualitative characteristics of corporate financial reports QLTFCFR are being collectively caused by the Independent of auditors and ethical behaviours proxies {Audit fees and incentives ADFAI, Audit tenure and client's size ADTCS and Auditors status ADSTS}.

The summary of the estimated regression model that investigates the effect of independent of auditors and ethical behaviours on corporate financial reports of listed companies in Nigeria is presented below in an empirical form.

**Table 4.6: Regression Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.987**	0.508		5.885	0.000		



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ADFAI	0.134**	0.059	0.123	2.250	0.025	0.919	1.088
ADTCS	0.067	0.071	0.050	0.934	0.351	0.981	1.019
ADSTS	0.109	0.095	0.063	1.140	0.255	0.907	1.102

**Source:** Author's Computation, 2022; underlying data from Field Survey. Note: Predictors are (Constant), ADFAI = Audit fees and incentives, ADTCS = Audit tenure and client's size and ADSTS = Auditor's status. Dependent variable is QLYCFR = Qualitative characteristics of corporate financial reports. Note: \*\* represent 5% significance level.

$$QLYCFR_i = \alpha_0 + \beta_1 ADFAI_i + \beta_2 ADTCS_i + \beta_3 ADSTS_i + \mu_i$$

$$QLYCFR_i = 2.987 + 0.134 * ADFAI_i + 0.067 * ADTCS_i + 0.109 * ADSTS_i + \mu_i$$

### Interpretation

In Table 4.6, ( $QLYCFR_i = 2.989 + 0.134ADFAI_i + 0.067ADTCS_i + 0.109ADSTS_i + \mu_i$ ), the result from the study revealed that each of the coefficients of audit fee and incentives, audit tenure and client size and auditors' status were positive and in tandem with the study expectations ( $\beta_1 = 0.134$ ;  $\beta_2 = 0.067$ ;  $\beta_3 = 0.109$ )  $> 0$ . This inferred that a unit change in audit fee and incentives, audit tenure and client size and Auditors' status will bring about an increase of 0.1134, 0.067 and 0.109 respectively on Qualitative characteristics of corporate financial reports in Nigeria.

As observed from the Table 4.6 above, the coefficients of the estimated regression model used to investigate the relationship between Independent of auditors and ethical behaviours TADTINV and Qualitative characteristics of corporate financial reports QLYCFR show that the unstandardized coefficient of Audit fees and incentives ADFAI is positive and significant at 0.05 level of significance  $\{\beta = 0.134$ ;  $p\text{-value} = 0.025\}$ , which implies that Audit fees and incentives ADFAI had a positive and significant effect on Qualitative characteristics of corporate financial reports QLYCFR, thus this means that, for every unit increase in Audit fees and incentives ADFAI, the Qualitative characteristics of corporate financial reports QLYCFR increases by 0.134 unit. The unstandardized coefficient of Audit tenure and client's size ADTCS is positive but statistically not significant  $\{\beta = 0.067$ ;  $p\text{-value} = 0.351\}$  indicating that Audit tenure and client's size ADTCS greatly does not significantly influence the Qualitative characteristics of corporate financial reports QLYCFR. In addition to these, the unstandardized coefficient of Auditors status ADSTS is also positive but statistically insignificant  $\{\beta = 0.109$ ;  $p\text{-value} = 0.255\}$ , which means that the effect of Auditors status ADSTS on Qualitative characteristics of corporate financial reports QLYCFR is positive and insignificant. Hence, Audit fees and incentives ADFAI is the only explanatory variable that is a determinant of the Qualitative characteristics of corporate financial reports QLYCFR.

The Collinearity Statistics columns found in Table 4.6 shows no detrimental effect of multicollinearity in the estimated model having the VIF values that are less than 3  $\{VIF < 3\}$  with their corresponding tolerance values (i.e., VIF reciprocals) that are above 0.10.

At a level significance of 0.05,  $F\text{-Statistic}$  is 9.1233.340, while the  $p\text{-value}$  of the  $F\text{-Statistics}$  is 0.000, which is less than 0.05. Null hypothesis is rejected, and alternative hypothesis accepted by the study. This implies that independent of auditors and ethical behaviours have significant effect on corporate financial reports of listed companies in Nigeria.

### Discussion of Findings

The independent of auditors and ethical behaviors on corporate financial reports was investigated and found mixed results: First, Audit fees and audit incentives (ADFAI) had a positive significant effect on qualitative characteristics of corporate financial reports (QLYCFR); Second, audit tenure and client's size (ADTCS) had a positive but insignificant effect, while thirdly, the Auditors status (ADSTS) exhibited a positive but insignificant effect on (QLYCFR). However, the joint result based on the F-Statistics revealed that independent of auditors and ethical behaviors had a positive significant effect on corporate financial reports of listed companies in Nigeria. These results were found to be consistent with the results obtained in the studies of Olaoye, Agugom, Safiriju & Abiola, 2019; Okezie & Egeolu, 2019; Aliu, Okanachi & Mohammed, 2018; Babatolu, Aigienohuwa & Uniamikogbo, 2016). However, on the contrary, some studies have documented contradictory results (Yakubu & Williams, 2020; Zayol & Kukeng, 2017; Abdul-Malik & Ahmed, 2016) who were found to have reported negative effects.

## 5. CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION TO KNOWLEDGE

**5.1 Conclusion:** The study investigated the effect of independent of auditors and ethical behaviors on corporate financial reports of listed companies in Nigeria. In addressing the problem of corporate financial reports, survey research design was adopted using structured questionnaires administered to selected respondents. Based on the result of the analysis of the descriptive statistics, the study found that the statement with the percentage of total agree equal 97.19% is Audit fees and audit incentive improves relevance of corporate financial reports of listed companies in Nigeria."  $\{\text{Average Score} = 4.67$ ;  $SD = 0.53\}$  and it stood to be the

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most supported statement, the least supported statement reads as “Understandability of corporate financial report is enhanced when there is clear evidence of audit independence.” {Average Score = 4.45; SD = 0.56} is 96.63% percentage of total Agree. From the inferential analysis, the result revealed that audit fees and incentives had a positive effect, while audit tenure and clients size exhibited positive insignificant, and auditors’ status showed positive and insignificant. However, the joint result based on the result of the F-statistics revealed that independent of auditors and ethical behaviours had a positive effect on qualitative characteristics of corporate financial report. The study then concluded that independent of auditors if affective followed has the potency to effect corporate financial report of listed companies in Nigeria.

**5.2 Recommendations:** Based on the result of the descriptive statistics, the auditors should improve on the understandability of corporate financial reports. Auditors should consider the users in wording the financial reports and avoid ambiguities, but rather should go extra miles in simplifying the accounting information contents of corporate financial reports for easy understanding. Management of companies should ensure that all the qualitative characteristics framework are strictly adhered to when reporting their financial activities. Auditing and accounting professional bodies should ensure that members in practice respect professional ethics in conducts and practice.

**5.3 Contribution to Knowledge:** The study has considered the possibilities of independent of auditors and ethical behaviors affecting corporate financial report. This study will be useful to researchers and auditors as the empirical results and evidence obtained in this study will improve the few existing pool of data for future references.

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## The Effect of Work Environment and Work Pressure on Job Satisfaction and the Impact on Employees Performance of West Jakarta DJP Regional Office



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**ABSTRACT:** This study aims to determine the effect of work environment and work pressure on employee performance, the effect of the work environment on employee performance, the effect of job pressure on employee performance, the effect of job satisfaction on employee performance, the influence of the work environment on employee performance through job satisfaction variables, the effect of job pressure on employee performance through job satisfaction variables. The study was conducted on employees of the West Jakarta DJP Regional Office. The sampling technique used the saturated sample method involving 86 people. Data analysis using path analysis.

The results of the study indicate that the work environment and work pressure variables affect employee performance. The calculated F value is 32.598 and the significance is 0.05. This value is smaller than 0.05. The r-squared value of 44.0% means that the work environment and work pressure variables affect employee performance by 44.0% while the rest is influenced by other variables that are not included in the equation model. Work environment variables affect employee performance partially. The t value is 7,310. The significance value is 0.00. This significance value is smaller than 0.05. The value of r squared is 38.9%. This means that the effect of work environment variables on employee performance is 38.9% and the rest is influenced by other variables that are not included in the equation model. The work pressure variable partially affects employee performance. The t value is 2.055. The significance value is 0.043. This significance value is smaller than 0.05. The value of r squared is 0.048. This means that the influence of the work pressure variable on employee performance is 4.8% and the rest is influenced by other variables that are not included in the equation model. Job satisfaction variable affects employee performance partially. The t value is 5,610. The significance value is 0.00. This significance value is smaller than 0.05. The value of r squared is 0.273. This means that the influence of the satisfaction variable on employee performance is 27.3% and the rest is influenced by other variables that are not included in the equation model. The effect of the work environment on employee satisfaction is 0.624. The effect of the work environment on employee satisfaction through job satisfaction is  $0.385 \times 0.522 = 0.201$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable. The direct effect of work pressure on employee satisfaction is 0.219. While the effect of work pressure on employee performance through job satisfaction is  $0.164 \times 0.522 = 0.086$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable.

**KEYWORDS:** work environment, job pressure, job satisfaction, employee performance

### INTRODUCTION

In the development of globalization, many companies are required to maximize employee performance. This means that the company must be able to analyze the factors that can affect employee performance. In overcoming this, human resources (HR) are the most important development that must be considered because good and professional human resources will be very helpful in maximizing performance in a company. With good human resources, the resulting performance will affect the progress of the company and vice versa if the performance of a company is not good it will hamper the progress of the company. Performance is the result of work in quality and quantity achieved by an employee in carrying out his duties in accordance with the responsibilities given to him (Mangkunegara, 2001).

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Every organization expects employees who work in the organization to have good performance. Human resource activities will be reflected in the form of employee performance. Employee performance is the level of success of employees in carrying out the duties and responsibilities assigned to them and achieving the goals set, indicated by their abilities, ways of behaving, and the results of their duties. From several indicators put forward by experts, basically have the same view, that to achieve organizational goals, it is necessary to have a good level of performance from employees, both individually and organizationally.

Several studies have revealed that employee performance is influenced by factors including the work environment. The work environment is the social, psychological, and physical life in the company that affects workers in carrying out their duties. Human life is inseparable from the various circumstances of the surrounding environment, between humans and the environment there is a very close relationship. In this case, humans will always try to adapt to various circumstances in the surrounding environment. Previous research has stated that the work environment affects employee performance. The better the work environment applied by the organization, the greater the employee's performance (Kristianto, et al, 2017).

Another factor that affects employee performance is the work environment. This is indicated by the uncomfortable working space. A safe and comfortable work environment will improve employee work performance, so that they will also be able to work better, so the results desired by the company will be achieved properly.

Employees as human beings cannot be separated from the various circumstances around where they work, namely the work environment. During their work, each employee will interact with various conditions in the work environment. The better the work environment, the better the employee's performance is expected.

Another factor that affects employee performance is the work pressure faced by personnel. Work pressure is a feeling of an individual who has experienced external pressure that has arisen caused by time, tasks and prolonged boredom situations and the individual is unable to cope with it. Often stress is defined by only looking at the stimulus or response experienced by a person. The definition of stress from a stimulus focuses on events in the environment such as natural disasters, hazardous conditions, illness, or quitting work. This definition involves the assumption that such situations are very stressful but do not take into account individual differences in evaluating events. While the definition of stress from response refers to a state of stress, a person's reaction to stress, or being under stress (Lazarus & Folkman, 1984).

Work pressure or stress can be experienced by anyone. Stress knows no socioeconomic level, age or gender. Stress can attack everyone as long as the individual is not able to adjust to the demands he faces. All kinds of stress are basically caused by the lack of human understanding of their own limitations. The inability to fight these limitations will lead to frustration, conflict, anxiety and guilt.

Another factor that needs to be considered in developing employee performance is employee satisfaction. Job satisfaction is a condition of being satisfied or dissatisfied with employees in doing their jobs. Satisfaction has an impact on improving personnel performance. Personnel or employees who have a high level of satisfaction will have an impact on improving the performance of these personnel (Pushpakumari, 2014).

### **LITERATURE REVIEW**

#### **1. Work Environment**

The work environment is the social, psychological, and physical life in the company that affects workers in carrying out their duties. Human life is inseparable from the various circumstances of the surrounding environment, between humans and the environment there is a very close relationship. In this case, humans will always try to adapt to various circumstances in the surrounding environment.

Likewise, when doing work, employees as humans cannot be separated from the various circumstances around where they work, namely the work environment. During their work, each employee will interact with various conditions in the work environment.

The work environment is something that is around the workers and that affects them in carrying out the tasks assigned (Nitisemito, 2000). Furthermore, according to Sedarmayati (2013) the work environment is the total tools and materials encountered, the surrounding environment in which a person works, work methods, and work arrangements both as individuals and as groups.

According to Schultz & Schultz (2006) the work environment is defined as a condition related to the characteristics of the workplace on the behavior and attitudes of employees where it is related to the occurrence of psychological changes due to things experienced in their work or in certain circumstances that must continue to be considered by the organization which includes work boredom, monotonous work and fatigue

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Based on the theory and concept of the work environment as described above, it can be concluded that the work environment is something that is always around the employee/worker area, whether it includes the physical environment, or is included in the non-physical environment and network in the workplace. In a working relationship in an organization that can affect the morale of employees / workers in completing the work that has been assigned. From some of the opinions above, it can be concluded that the work environment is everything that is around employees at work, either in the form of physical or non-physical, directly or indirectly, which can affect themselves and their work while working.

### **2. Work Pressure**

Stress is a general term applied to the feeling of pressure in human life and the notion of stress mostly focuses on living conditions that feel depressed. This pressure arises because individuals do not have the ability to cope with tasks or problems that exist at a certain time.

Stress is a form of physical, psychological, emotional and mental tension. This form of tension affects a person's daily performance. Even stress can make decreased productivity, pain, and mental disorders. Basically, stress is a form of tension, both physical and mental. The source of stress is called a stressor and the tension caused by stress is called a strain. Gibson et al (2006) define stress as an adaptive response, amid individual differences or psychological processes as a consequence of the external environment, situation or event that imposes excessive psychological or physical demands on a person.

Stress according to Selye (1976), is the body's response that is not specific to any demands or burdens on it. Based on this understanding, it can be said that stress if a person experiences a heavy burden or task but the person cannot cope with the assigned task, then the body will respond incapably to the task, so that person can experience stress. These responses or actions include physiological and psychological responses.

### **3. Job Satisfaction**

Job satisfaction is the level of pleasure that a person feels for his role or work in the organization. The degree to which individuals are satisfied that they are being rewarded commensurately with various aspects of the work situation of the organization where they work. So job satisfaction concerns the psychology of individuals within the organization, which is caused by the circumstances that he feels from his environment.

Handoko (2008) suggests that job satisfaction is an emotional state that is pleasant or unpleasant with employees viewing their work. Time / duration of completion is a reflection of one's feelings towards his work. This can be seen from the positive attitude of employees towards work and everything in their environment.

The level of job satisfaction is one of the factors that affect work performance because it ultimately affects the effectiveness of the organization. And also employee job satisfaction is not enough to just be given incentives, but employees also need motivation, recognition from superiors for their work, work situations that are not monotonous and there are opportunities to take initiative and be creative.

Thoha (2013) states that the model developed by Weisbord is: goals, structure, rewards, work procedures, relationships and leadership will affect organizational effectiveness if no organizational development efforts are made.

### **4. Employee Performance**

Rivai (2005) says that performance is a real behavior that is displayed by everyone as work performance produced by employees according to their role in the company. The results of the work or activities of an employee in quality and quantity in an organization to achieve goals in carrying out the tasks and work assigned to him.

Furthermore, according to Spencer and Spencer (2003), personal characteristics which include temperament, concepts and knowledge predict skill behavior actions, which in turn will predict job performance. Furthermore, if we look at the direction in the picture that for organizations that do not select, develop and create motivational competencies for their employees, do not expect improvements in productivity, profitability and quality of a product and service.

## **RESEARCH METHODS**

### ***Object of research***

The research was conducted at the West Jakarta DGT Regional Office, Jl. Tomang Raya No.16-18, RT.5/RW.1, Jatipulo, Palmerah, West Jakarta City 11430.

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## Research design

This study uses an explanatory analysis approach. This means that each variable presented in the hypothesis will be observed through testing the causal relationship of the independent variable to the dependent variable. The relationship between variables can be described in the form of a path analysis diagram as follows:

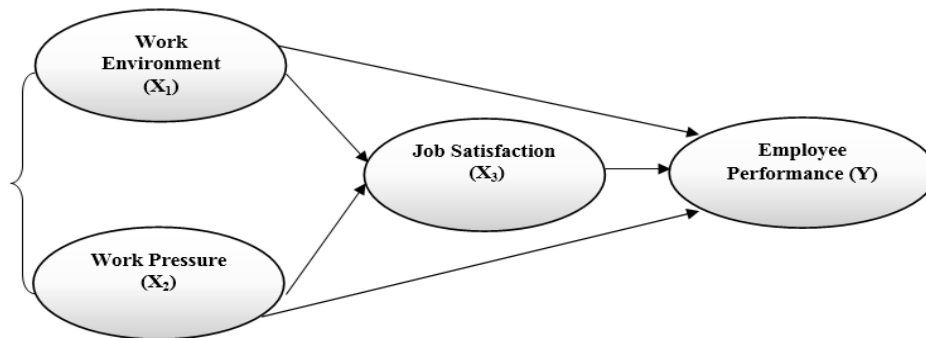


Figure 1. Research Design

## Population and Research Sample

Population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by researchers to be studied and then drawn conclusions (Sugiyono, 2010). The sample is a part of the population to represent the entire population (Surakhmad, 2000).

The sample used by the author in this study were company employees. The total number of employees is 86 people. The total number of employees involved in this study. So that the sampling used the saturated sample method.

## RESEARCH RESULT

### 1. The Influence of Work Environment and Work Pressure on Employee Performance

The linear analysis model can be seen based on calculations using the SPSS program as follows.

Table 1. Results of the First Equation Analysis

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	14,770	2,692		5,487	,000
Work_Environment	,699	,092	,626	7,623	,000
Work_Pressure	,162	,059	,226	2,753	,007

a. Dependent Variable: Employee\_Performance

Based on the table above, the simultaneous structural equations are:

$$Y = 0.626X_1 + 0.226X_2$$

The calculated F value can be obtained from the following table

Table 2. F Value Calculate Simultaneous Equation

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	876,703	2	438,352	32,598	,000 <sup>b</sup>
	Residual	1116,134	83	13,447		
	Total	1992,837	85			

a. Dependent Variable: Employee\_Performance

b. Predictors: (Constant), Work\_Environment, Work\_Pressure



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Based on the table above, it is known that the calculated f value is 32.598 and the significance is 0.05. This value is less than 0.05. This means that the work environment and work pressure variables affect employee performance. The magnitude of the influence of the independent variable on the dependent variable can be seen from the value of r squared as follows.

**Table 3. Value of r Squared First Regression Model**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	,663 <sup>a</sup>	,440	,426		3,66707	1,515

a. Predictors: (Constant), Work\_Environment, Work\_Pressure

b. Dependent Variable: Employee\_Performance

Based on the table above, it is known that the r-squared value of 44.0% means that the work environment and work pressure variables affect employee performance by 44.0% while the rest is influenced by other variables that are not included in the equation model.

### 2. Analysis of the Effect of the Work Environment on Employee Performance

The results of the analysis of the influence of the work environment on employee performance partially can be seen in the following table.

**Table 4. Results of the Second Regression Equation Analysis**

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19,361	2,194		8,824	,000
	Work_Environment	,696	,095	,624	7,310	,000

a. Dependent Variable: Employee\_Performance

The structural equation of the data above is:  $Y=0.624X_1$

Based on the table of analysis results above, it is known that the coefficient of the work environment is 0.624. The t value is 7,310. The significance value is 0.00. This significance value is smaller than 0.05. This means that the work environment variable has a partial effect on employee performance. The magnitude of the influence of the work environment on employee performance can be seen in the following table.

**Table 5. Value of r Square of the Second Equation**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,624 <sup>a</sup>	,389	,381	3,80800

a. Predictors: (Constant), Work\_Environment

Based on the table above, it can be seen that the value of r squared is 38.9%. This means that the effect of work environment variables on employee performance is 38.9% and the rest is influenced by other variables that are not included in the equation model.

### 3. Analysis of the Effect of Work Pressure on Employee Performance

The results of the analysis of the effect of work pressure on employee performance partially can be seen in the following table.

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**Table 6. Results of the Analysis of the Third Regression Equation**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	30,742	2,190		14,039	,000
Work_Pressure	,157	,076	,219	2,055	,043

a. Dependent Variable: Employee\_Performance

The structural equation of the data above is:  $Y=0,219X_2$

Based on the table of analysis results above, it is known that the working pressure coefficient is 0.219. The t value is 2.055. The significance value is 0.043. This significance value is smaller than 0.05. This means that the work pressure variable has a partial effect on employee performance. The magnitude of the effect of work pressure on employee performance can be seen in the following table.

**Table 7. Value of r Square of the Third Equation**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,219 <sup>a</sup>	,048	,037	4,75278

a. Predictors: (Constant), Work\_Pressure

Based on the table above, it can be seen that the value of r squared is 0.048. This means that the effect of the work pressure variable on employee performance is 4.8% and the rest is influenced by other variables that are not included in the equation model.

**4. Analysis of the Effect of Job Satisfaction on Employee Performance**

The results of the analysis of the effect of job satisfaction on employee performance partially can be seen in the following table.

**Table 8. Results of the Fourth Regression Equation Analysis**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	22,540	2,286		9,861	,000
Job_Satisfaction	,560	,100	,522	5,610	,000

a. Dependent Variable: Employee\_Performance

The structural equation of the data above is:  $Y=0.522X_3$

Based on the table of analysis results above, it is known that the coefficient of job satisfaction is 0.522. The t value is 5,610. The significance value is 0.00. This significance value is smaller than 0.05. This means that the job satisfaction variable has a partial effect on employee performance. The magnitude of the effect of job satisfaction on employee performance can be seen in the following table.

**Table 9. Value of r Square of the Fourth Equation**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,522 <sup>a</sup>	,273	,264	4,15423

a. Predictors: (Constant), Job\_Satisfaction

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Based on the table above, it can be seen that the value of r squared is 0.273. This means that the effect of job satisfaction on employee performance is 27.3% and the rest is influenced by other variables that are not included in the equation model.

### 5. Analysis of the Effect of the Work Environment on Employee Performance Through Job Satisfaction Variables

Based on the partial path analysis above, it can be described as follows. The analysis is an analysis of the path with the following sub-structure drawings.

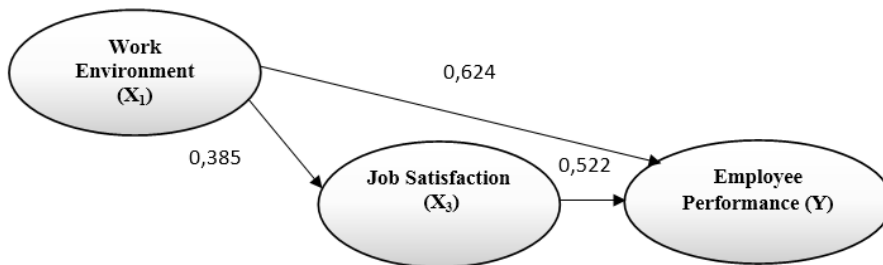


Figure 2. Path Analysis of the Effect of X1 on Y through X3

The coefficient of the influence of the work environment on job satisfaction can be seen in the following table:

Table 10. Effect of Work Environment on Job Satisfaction

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	13,391	2,416		5,543	,000
Work_Environment	,401	,105	,385	3,824	,000

a. Dependent Variable: Job\_Satisfaction

Based on the picture above, it can be seen that the effect of the work environment on employee performance is 0.624. The effect of the work environment on employee performance through job satisfaction is  $0.385 \times 0.522 = 0.201$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable.

### 6. Analysis of the Effect of Work Pressure on Employee Performance Through Job Satisfaction Variables

Based on the partial path analysis above, it can be described as follows. The analysis is an analysis of the path with the following sub-structure drawings.

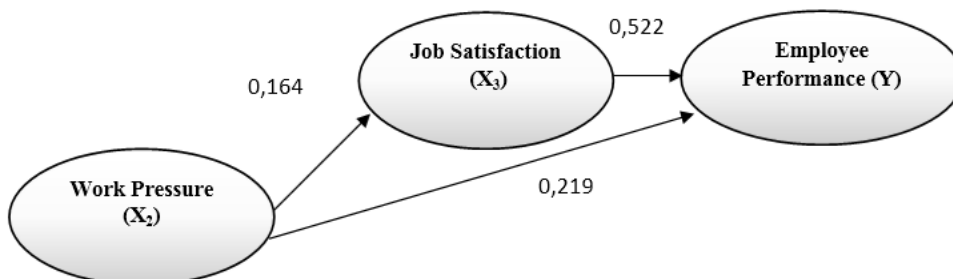


Figure 3. Path Analysis of the Effect of X2 on Y Through X3

The value of the work environment coefficient on job satisfaction can be seen in the following table:

# The Effect of Work Environment and Work Pressure on Job Satisfaction and the Impact on Employees Performance of West Jakarta DJP Regional Office

**Table 11. Coefficient Value of the Effect of Work Pressure on Job Satisfaction**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	19,414	2,065		9,403	,000
Work_Pressure	,109	,072	,164	1,520	,132

a. Dependent Variable: Job\_Satisfaction

Based on the picture above, it can be seen that the direct effect of work pressure on employee performance is 0.219. While the effect of work pressure on employee performance through job satisfaction is  $0.164 \times 0.522 = 0.086$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable.

## DISCUSSION

Based on the results of the path analysis, it shows that the work environment and work pressure have an impact on the performance of the West Jakarta Regional Tax Office employees. The results of this study are in line with research conducted by Pratama (2016), Sitinjak (2018), Agbozo, Owusu, Hoedoafia, Atakorah (2017) and Pitaloka and Sofia (2014). The work environment provides support for employee performance. The results of this study are in line with research conducted by Sitinjak (2018) and Agbozo, Owusu, Hoedoafia, Atakorah (2017). Work pressure has a decreasing impact on employee performance. The results of this study are in line with research conducted by Sobirin and Sejati (2017), and Pratiwi and Endratno (2018). Job satisfaction is able to have an increasing impact on employee performance. The results of this study are in line with research conducted by Raziq and Maulabakhsh (2015), Sobirin and Sejati (2017), Sitinjak (2018), Tjandra and Setaiwati (2018). The work environment does not contribute to improving employee performance through job satisfaction and work pressure is not able to increase employee performance through job satisfaction. The results of the study are in line with research conducted by Pratiwi and Endratno (2018). Wulan, Alam, and Umar (2018), Munandar, Musnadi, Sulaiman (2019), Pratama (2016). Dan Pitaloka and Sofia (2014).

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

Variable work environment and work pressure affect employee performance simultaneously. The calculated f value is 32.598 and the significance is 0.05. This value is less than 0.05. The r-squared value of 44.0% means that the work environment and work pressure variables affect employee performance by 44.0% while the rest is influenced by other variables that are not included in the equation model.

Work environment variables affect employee performance partially. The t value is 7,310. The significance value is 0.00. This significance value is smaller than 0.05. The value of r squared is 38.9%. This means that the effect of work environment variables on employee performance is 38.9% and the rest is influenced by other variables that are not included in the equation model.

The work pressure variable affects the employee's performance partially. The t value is 2.055. The significance value is 0.043. This significance value is smaller than 0.05. The value of r squared is 0.048. This means that the effect of the work pressure variable on employee satisfaction is 4.8% and the rest is influenced by other variables that are not included in the equation model.

Job satisfaction variable affects employee performance partially. The t value is 5,610. The significance value is 0.00. This significance value is smaller than 0.05. The value of r squared is 0.273. This means that the influence of the satisfaction variable on employee performance is 27.3% and the rest is influenced by other variables that are not included in the equation model.

The effect of the work environment on employee satisfaction is 0.624. The effect of the work environment on employee satisfaction through job satisfaction is  $0.385 \times 0.522 = 0.201$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable.

The direct effect of work pressure on employee satisfaction is 0.219. While the effect of work pressure on employee performance through job satisfaction is  $0.164 \times 0.522 = 0.086$ . In this case, the direct effect is greater than the indirect effect, so it can be said that the job satisfaction variable is not an intervening variable.

# The Effect of Work Environment and Work Pressure on Job Satisfaction and the Impact on Employees Performance of West Jakarta DJP Regional Office

## Recommendations

To improve performance, the organization needs to consider the maintenance of the work environment. The work environment needs to be improved by maintaining an already good environment and adding existing facilities. This is done based on the calculation of organizational capability. The environment is very important to improve employee performance.

Performance improvement can also be done by paying attention to work pressure. Too much work pressure can have an impact on employee stress, but too low work pressure also has an impact on the lack of employee morale. The work pressure can come from targets that are too high, communication that doesn't work properly and the leadership's lack of attention to employees. Therefore, leaders need to pay attention to these things.

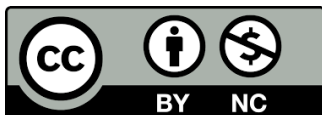
Job satisfaction also needs to be considered so that employees can improve performance. Giving rewards, incentives or bonuses can increase employee morale. Likewise, high motivation from employees can come from the fulfillment of employee needs and good career prospects in the future can increase employee performance. Therefore, it is necessary to conduct socialization about a good career and organizational plans in developing employees.

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## The Influence of Debt to Equity Ratio and Current Ratio to Return on Equity and Price to Book Value: Subsector Food and Beverages Industry of Company Listed at Indonesian Stock Exchange Period 2014-2019



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**ABSTRACT:** Market confidence in a company is determined by the size of the company's value. This trust is not only in the current financial performance but includes the company's prospects in the future. Reilly & Brown (2011) said that among the methods that can be used to determine firm value is by comparing stock prices to relevant variables that affect the stock value such as price to book value (PBV). The price to book value (PBV) is the comparison between the market price per share and the book value per share or the comparison between the market value (market price) and its book value (original value). Based on previous research, there are several factors that can affect firm value, including: funding decisions, dividend policy, investment decisions, CSR, company growth, and company size. Some of these factors have an inconsistent relationship and influence on firm value. This study aims to determine the effect of DER and CR on ROE and PBV in the Food and Beverages industry sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2019. The company that became the population in this study were 32 with a sample of 12 companies determined by purposive sampling method. Research data processing and hypothesis testing using path analysis techniques with SPSS version 22 application tools.

The results of this study indicate that, simultaneously or partially DER and CR have a positive and significant effect on ROE, DER and CR simultaneously have a negative and significant effect on PBV, but partially DER and CR have a negative and insignificant effect on PBV. ROE has a positive and significant effect on PBV, and ROE is proven to be an intervening variable or a mediating variable for the effect of DER and CR on PBV.

**KEYWORDS:** Debt to Equity Ratio, Current Ratio, Return on Equity, and Price to Book Value

### INTRODUCTION

The Indonesia Stock Exchange (IDX) or the Indonesia Stock Exchange (IDX) is a stock exchange market owned by Indonesia as a result of the merger of two stock exchanges, namely the Jakarta Stock Exchange (JSX) and the Surabaya Stock Exchange (BES). The merger of these two stock exchanges aims to serve as a stock and bond market (a market for trading securities issued by the government or companies with a certain period of time) and a derivatives market (bilateral contracts or trading contracts used as investment instruments). This stock market has been operating since December 1, 2007 under the name Indonesia Stock Exchange (IDX). After twelve years of operation, namely in 2019, the Indonesia Stock Exchange won an award as one of the Best Companies to Work for in Asia for three consecutive years (2017, 2018, 2019). This award is based on an assessment of employee engagement, development opportunities and culture.

In 2019 IDX succeeded in achieving various achievements compared to previous years, such as an increase in the number of investor participation, an increase in the quantity and quality of listed companies, as well as the highest trading frequency in the Southeast Asia (ASEAN) region. The activity of listing new shares/IPO (Initial Public Offering) on the IDX is ranked 7th in the world. No less than 55 new companies listed their shares on the IDX in 2019, bringing the total number of companies to 668 with a market capacity of IDR 7.2 trillion. The following is a graph of the number of companies listed on the IDX from 2014-2019:

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**Figure 1. Chart of Companies Listed on the IDX 2014-2019**

Source: www.idx.co.id 2019 annual report

In 2019, IDX succeeded in increasing the number of stock investors by 29.61% or worth 1.1 million SID (Single Investor Identification) so that the total number of investors owned was 2.48 million. This number increased by 53.41% from 2018 with an average increase of 44.85% per month. The following is a graph of the increase in investors from 2014-2019:



**Figure 2. Graph of Investor Increase in IDX 2014-2019**

Source: www.idx.co.id 2019 annual report

Companies listed on the Indonesia Stock Exchange are divided into groups based on the sector they manage. Among these companies are the food and beverage industry sub-sector companies (food and beverage industry) which are included in the Consumer Goods Industry group (consumer goods industry sector). In 2017 there were 15 sub-sector companies listed on the IDX and increased to 21 in 2018, in 2019 it increased to 27, and in 2020 it increased to 32 companies.

This food and beverage industry sub-sector company has a fairly large growth potential in this country, because it is supported by abundant natural resources and high community needs. The food and beverage industry is expected to remain a leading sector that contributes to national economic growth. The Ministry of Industry noted that throughout 2018, the food and beverage industry sub-sector grew by 7.91%, exceeding the national economic growth of only 5.17%, and supported the increase in national investment by contributing IDR 56.60 trillion or 26.67%, an achievement its export value reached USD 29.91 billion. In 2019, the gross domestic product (GDP) of the food and beverage industry reached 6.77%. This value is greater than the national industrial GDP growth of only 5.07%. This sector contributed 35.58% to the GDP of the non-oil and gas industry and 6.35% to the national GDP and was able to attract an investment of USD 383 million or Rp. 8.9 trillion, absorbing a workforce of 1.2 million people. The food and beverage industry sub-sector contributed 36.4% to manufacturing GDP in 2020 with growth reaching 3.9% and export value reaching USD 13.73 billion or Rp. 203.9 trillion. (kemenperin.go.id)

Taking into account the large contribution of the food and beverage industry sub-sector companies to the development of the national economy, it is only natural that this industrial sub-sector becomes one of the targets for investors to make their investment choices. The stock market is an effective means for investors to choose which companies have more potential as



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investment destinations. The purpose of investing in stock securities is to get a return (better return) in a predetermined period, although this activity has risks, because return and risk are inseparable matters in investment activities.

Reilly & Brown (2019), describes one of the methodologies that investors can use to determine the value of the economic entity of a company (company value), is by conducting a fundamental analysis of the company's stock price with relevant variables that can affect the value of the company's shares. These methods, such as analysis of income, cash flow, book value, funding and sales or also known as relative valuation techniques. This method is carried out, among others, through price earnings (PE), price cash flow (PCF), price to book value (PBV), and price sales (P/S). These models are called multiplier models, and the one that is often used to analyze firm value is price to book value (PBV).

Price to book value (PBV) is the ratio between the market price per share and the book value per share or the comparison between the market value (value/market price of a share) and its book value (original value of a share). This ratio is used to complete the book value analysis. In book value analysis, investors only know the capacity per share of the stock value, but in the PBV ratio investors know how many times the market price per share is valued from the book price (Herry, 2015). The following table presents the average PBV value of Food and Beverages Sub-Sector Companies for the period 2014-2019:

**Table 1. Average PBV Value**

No	Companies	Price to Book Value (X)					
		Years					
		2014	2015	2016	2017	2018	2019
1	Budi Starch & Sweetener Tbk.	0,48	0,46	0,46	0,43	0,39	0,34
2	Wilmar Cahaya Indonesia Tbk.	0,83	0,79	1,14	1,58	0,89	5,50
3	Delta Jakarta Tbk.	8,17	7,35	4,92	3,71	4,09	4,61
4	Indofood CBP Sukses Makmur Tbk.	5,08	5,71	11,36	5,29	5,80	4,88
5	Indofood Sukses Makmur Tbk.	1,44	1,57	1,84	1,69	1,43	1,28
6	Multi Bintang Indonesia Tbk.	0,26	33,95	33,96	29,68	34,39	28,55
7	Mayora Indah Tbk.	4,75	5,34	5,00	7,60	7,82	4,63
8	Nippon Indosari Corpindo Tbk.	8,90	6,05	6,21	3,14	2,71	2,80
9	Sekar Bumi Tbk.	4,18	2,86	2,29	1,48	1,20	0,62
10	Sekar Laut Tbk,	1,48	1,77	0,85	2,47	3,16	2,92
11	Siantar Top Tbk,	4,61	3,97	5,03	4,18	3,08	2,75
12	Ultrajaya MI dan Trading Co. Tbk.	4,74	4,44	4,14	14,69	3,32	3,43
Average		3,74	6,19	6,43	6,33	5,69	5,19

Table 1. above shows that there has been a fluctuation in the PBV value of the Food and Beverages industry sub-sector companies from 2014-2019. The average PBV in 2015 and 2016 increased and decreased again in 2017-2019. The average PBV in 2015 increased by 65.5% and 3.8% in 2016. The increase in the average PBV was driven by high expectations and investor confidence in the company's prospects (Wira, 2020), although the net profit generated in 2015 of 826.4 billion, lower than 2014's profit of 857.7 billion rupiah, however, current assets and equity owned by the company increased from 5.6 trillion to 6.1 trillion and the company managed to achieve revenue of 1.113 trillion rupiah in 2016 which was followed by an increase in the value of PBV.

In 2017-2019 the company's revenue continued to increase from 1.137 trillion to 1.401 trillion rupiah, but in the same period the PBV value decreased due to the decline in stock prices of several companies such as PT. Delta, Mayora, Siantar, Ultrajaya and Wilmar. The decline in stock prices on the Stock Market, could occur due to decreased investor confidence in the company's financial performance (Brigham and Houston, 2020). However, the average PBV of companies in the Food and Beverages sub-sector is still in the range of 5 or 6 times compared to its book value and is still above the industry average (1.7 times). This means that the average share price is still valued at 5 to 6 times the book price. This information is an attractive signal for investors because the company is considered to have good and promising prospects. This positive signal will create a high level of demand for shares and simultaneously can encourage share prices to rise in the Stock Market (Wulandari, 2019).

Brigham and Houston (2020) say the better the market assesses the company's prospects, the more successful the company is in creating value for the company and shareholders. Mirsan (2017) in his research said, the increase or decrease in the value of shares depends on how effective the company's financial performance is. According to Herry (2015), assessing the

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company's financial performance is done through an analysis of the ratios presented in the financial statements related to solvency (debt), liquidity (current assets), and profitability (profit).

Solvency ratio proxied through Debt to equity ratio (DER) is used to analyze financial performance through debt level. This ratio compares the total debt to equity or capital owned by the company. Debt as an asset financier is expected to provide higher income for the company, but debt that is too high has a risk for the company to the risk of bankruptcy. The average value of DER in the Food and Beverages industry sub-sector companies for the 2014-2019 period can be seen from the following table:

**Table 2. Average DER Values**

No	Companies	<i>Debt to Equity Ratio (%)</i>					
		Years					
		2014	2015	2016	2017	2018	2019
1	Budi Starch & Sweetener Tbk.	1,71	1,95	1,52	1,46	1,77	1,33
2	Wilmar Cahaya Indonesia Tbk.	1,39	1,32	0,61	0,54	0,20	0,19
3	Delta Djakarta Tbk.	0,30	0,22	0,18	0,17	0,19	0,17
4	Indofood CBP Sukses Makmur Tbk.	0,66	0,62	0,56	0,56	0,51	0,45
5	Indofood Sukses Makmur Tbk.	1,08	1,13	0,87	0,88	0,93	0,77
6	Multi Bintang Indonesia Tbk.	3,03	1,74	1,77	1,36	2,12	1,53
7	Mayora Indah Tbk.	1,51	1,18	1,06	1,03	1,06	0,92
8	Nippon Indosari Corpindo Tbk.	1,23	1,28	1,02	0,62	0,51	0,51
9	Sekar Bumi Tbk.	1,04	1,22	1,72	0,59	0,70	0,76
10	Sekar Laut Tbk,	1,16	1,48	0,92	1,07	1,20	1,08
11	Siantar Top Tbk,	1,08	0,90	1,00	0,69	0,60	0,34
12	Ultrajaya MI dan Trading Co. Tbk.	0,29	0,27	0,21	0,23	0,16	0,14
Average		1,21	1,11	0,95	0,77	0,83	0,68

The company's equity level exceeds the growth of debt ownership in each period of the year, causing the DER value to decrease from year to year. This DER ratio is no less important to get the attention of investors when conducting a fundamental analysis of the company's financial performance. The average value of DER in 2014 was 1.21 due to the total debt owned 5.68 trillion while the total equity was 5.63 trillion. The average DER in 2015 and 2016 decreased and was followed by an increase in PBV in 2015 and 2016. In 2017 the DER and PBV both decreased, while in 2018 the average DER increased again while the PBV fell. The increase in DER was triggered by the relatively higher level of debt, although equity continued to experience positive growth.

The addition of the company's debt is assumed to be able to have a positive influence on the achievement of profits. In 2019, the company's average net income increased to a value of 1.4 trillion and the average value of DER decreased, followed by a decrease in the value of PBV. The average DER for the last 5 years is still relatively high because it is still above the industry average of (0.4) or 40% (Utari, 2014). The average DER in 2019 was 0.68 or 68%. The high ratio of debt to equity can provide a high risk for the company and will affect the stock price in the Stock Market. However, for 5 years running, the company's financial performance has shown a very satisfactory achievement with high profit growth. This achievement is also accompanied by relatively high debt ownership.

Kasmir (2015) said that DER has an effect on PBV because the higher the DER, the higher the company's financial risk. In unfavorable economic conditions, the level of debt must be low so that the burden of return and interest is low. However, in good economic conditions, the level of debt may be higher because it is expected to boost higher income from asset financing. Therefore, a large level of debt can provide opportunities for companies to finance their assets effectively which in the end is expected to increase company profits and provide positive signals and sentiments to the market. These positive sentiments and signals can affect stock prices and firm value (PBV). This theory is in line with the results of Firdaus (2019)'s research which revealed that DER has a positive and significant effect on PBV. Research conducted by Annisa (2017), concluded the same results that DER had a positive and significant effect on PBV. However, Handayani's research (2020) concludes that DER has no effect on PBV.

Weston (1986) once explained, the company's ability to meet its short-term obligations as they mature, depends on how strong the level of liquidity it has. This means that if the company is billed, the company is able to fulfill these obligations. Not much different from Weston's opinion, Kasmir (2015) in his book states, to measure how much liquidity a company has, it is done by analyzing the current ratio in the financial statements. The current ratio explains how much investment can be converted into

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cash or money in a short time to pay expenses, bills and all other obligations that are due. This ability can be realized if the amount of current assets is greater than current liabilities. Companies that have a good level of liquidity will gain the trust of investors if they are judged to be able to utilize their liquidity effectively and generate profits. Information on the average current ratio (CR) or current ratio of companies in the Food and Beverages industry sub-sector for the period 2014-2019 is presented in the table below:

**Table 3. Average CR Values**

No	Companies	Curren Ratio (%)					
		Years					
		2014	2015	2016	2017	2018	2019
1	Budi Starch & Sweetener Tbk.	104,59	100,08	100,14	100,74	100,32	100,65
2	Wilmar Cahaya Indonesia Tbk.	146,56	153,47	218,93	222,44	511,30	574,96
3	Delta Jakarta Tbk.	447,32	642,37	760,39	863,78	720,09	805,05
4	Indo CBP Sukses Makmur Tbk.	218,32	232,60	240,68	245,46	195,17	253,57
5	Indofood Sukses Makmur Tbk.	180,74	170,53	150,81	150,27	107,91	127,21
6	Multi Bintang Indonesia Tbk.	51,39	58,42	67,95	82,57	63,61	73,19
7	Mayora Indah Tbk.	208,99	236,53	225,02	238,60	265,46	342,86
8	Nippon Indosari Corpindo Tbk.	136,64	205,34	296,23	225,86	357,12	169,33
9	Sekar Bumi Tbk.	147,71	114,51	110,72	163,53	138,33	149,30
10	Sekar Laut Tbk,	118,38	119,25	131,53	126,31	122,44	129,01
11	Siantar Top Tbk,	148,42	157,89	165,45	264,09	184,85	284,60
12	Ultrajaya MI dan Trading Co. Tbk.	334,46	374,55	484,36	419,19	439,81	444,41
Average		186,96	213,80	246,02	258,57	267,20	287,84

The average Current Ratio (CR) value for the Food and Beverages industry sub-sector for the period 2014-2019 continues to increase. In 2015 the average CR increased by 14.3% from 1.8 times to 2.13 times. This positive trend continued to occur in 2016 increasing by 15% to 2.46 times, in 2017 by 5% to 2.58 times, in 2018 by 3.3% to 2.67 times and in 2019 by 7.7% to 2.87 times. The stable level of corporate liquidity does not always give a positive sentiment to the value of the company (price to book value), the increase in the current ratio (CR) value in 2015 and 2016 was followed by an increase in the PBV value but an increase in the current ratio (CR) in 2017, 2018 and 2019 it was followed by a decrease in the value of the PBV. In general, the company is able to maintain a stable comparison between current assets and current liabilities. The average value of the current ratio (CR) is still above the industry average (2.0) which indicates that the company has very good liquidity. However, this situation is inversely proportional to the PBV value. This means that the market still responds negatively to the number of assets owned by the company. Market attitudes tend to negatively affect stock demand so that it can affect prices due to low demand. Therefore, when the market price per share falls, it will automatically affect the PBV value.

Munawir, (2017) explains that the current ratio (CR) affects the value of the company Price to Book Value (PBV) because the current ratio (CR) shows the level of security (margin of safety) of short-term credit. The high or low level of liquidity of a company has implications for investor confidence and market sentiment which in turn can affect stock prices, so it can be assumed that the current ratio has an effect on Price to Book Value (PBV).

Hidayat (2019) in his research supports the above theory with research results stating that the current ratio (CR) has a positive effect on Price to Book Value (PBV). However, Khairunnisa (2019) in her research said that the current ratio (CR) had a negative effect on Price to Book Value (PBV). Likewise, research by Setyawan (2013) says that a high level of current ratio (CR) reflects the adequacy of the company's cash. The higher the level of company liquidity will increase the level of investor confidence and affect the value of the company.

The ultimate goal to be achieved by a company is the achievement of profit or profit as much as possible from the management of its assets. Therefore, management is required to meet the predetermined achievement targets. This means that the amount of profit to be achieved must be in accordance with expectations. To analyze the amount of income achieved by the company during its operating period, it can be done by means of an analysis of the profitability ratios. Profitability ratio is a ratio used to measure how capable the company is in managing its assets to generate the expected profit. In other words, this ratio

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provides information about the level of management effectiveness in generating profits from sales and investment. Among the profitability ratios that can be used is Return on Equity (ROE).

Return on Equity (ROE) compares the level of net profit after tax against own capital. Return on equity (ROE) shows the extent to which the company can manage its own capital effectively. This ratio is very useful for investors as a decision-making consideration tool. The higher the return on equity (ROE), the better the company is valued by investors and shows a high level of return for shareholders. The higher return on equity (ROE) has a positive correlation with firm value.

The following is the average Return on Equity (ROE) in the food and beverage industry sub-sector companies for the 2014-2019 period.

**Table 4. Average ROE Values**

No	Companies	Return on Equity (%)					
		Years					
		2014	2015	2016	2017	2018	2019
1	Budi Starch & Sweetener Tbk.	3,12	1,91	3,32	3,82	4,11	4,98
2	Wilmar Cahaya Indonesia Tbk.	7,63	16,65	28,12	11,90	4,22	12,51
3	Delta Jakarta Tbk.	37,68	22,60	25,14	24,44	26,34	26,19
4	Indo CBP Sukses Makmur Tbk.	16,83	17,84	19,63	17,43	20,52	20,10
5	Indofood Sukses Makmur Tbk.	12,48	8,60	11,99	11,00	9,94	10,89
6	Multi Bintang Indonesia Tbk.	207,00	88,14	160,87	167,15	95,40	105,24
7	Mayora Indah Tbk.	9,99	24,07	22,16	22,18	20,61	20,60
8	Nippon Indosari Corpindo Tbk.	19,64	22,76	19,39	4,80	0,69	7,65
9	Sekar Bumi Tbk.	28,03	11,67	6,12	2,53	1,53	0,09
10	Sekar Laut Tbk,	10,75	13,20	6,97	7,47	1,21	11,82
11	Siantar Top Tbk,	15,10	18,41	14,91	15,60	15,49	22,47
12	Ultrajaya MI dan Trading Co. Tbk.	12,51	18,70	20,34	16,91	14,69	18,32
Average		31,73	22,05	28,25	25,44	17,90	21,74

Based on table 4. above, the average ROE of the food and beverage industry sub-sector companies fluctuated. The average ROE in 2014 was 31.73, decreased in 2015 by 30% to 22.05 and then increased again in 2016 by 28% to 28.25. In 2017 the average ROE value fell again by 10% to 25.44, and fell again in 2018 by 29% to 17.90 and in 2019 it increased by 21.45% to 21.74. The fluctuations in ROE value were followed by fluctuations in the value of PBV but not always in tandem, the decline in ROE in 2015 was followed by a temporary increase in PBV in 2016 when ROE rose followed by an increase in PBV. In 2017 ROE and PBV both increased and in 2019 when ROE increased but PBV actually decreased. The average ROE value is still above the industry average (15%). This shows that the company is able to utilize its equity effectively so that the profit generated exceeds the industry average. This ratio is an important indicator of shareholder value creation, meaning that the higher the ROE ratio, the higher the value of the company and an attraction for investors to buy shares.

Brigham and Houston (2020) said ROE has an effect on firm value (PBV) because ROE is a reflection of all financial ratios. The high value of ROE has an effect on the high value of shares because investors judge the company to have carried out their duties well. The high value of shares at the same time increases the market value as expected. Ismail (2015) in his research supports Brigham and Houston's statement, his research concludes that ROE has a positive effect on PBV, as well as research conducted by Firdaus (2019) which says that ROE has a positive effect on PBV. While the research conducted by Revi (2016) said that ROE had no effect on PBV.

### LITERATURE REVIEW

#### Price Book Value (PBV)

Price to book value or market value per share is the share value that reflects the historical value of the company's assets, a company that is well managed and operates efficiently will have a stock market value higher than its book value. Price to book value (PBV) shows the investor's perception of the company's level of success associated with stock prices. The high share price makes the company value high, and can increase market confidence not only in the company's current performance but also on the company's prospects in the future.

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Price to book value (PBV) is a ratio that shows the comparison between the market value (market value) per share and the book value (book value) per share. Based on this ratio, investors can find out whether the stock price is categorized as undervalued or overvalued. The lower the PBV value, the stock is categorized as an undervalued stock, this condition is considered good for long-term investment. However, a low PBV value may indicate a decline in the quality and performance of the company's fundamentals. Therefore, the PBV value of a company must be compared with the PBV value of other companies in the same industry. (Brigham and Houston, 2020).

### **Debt to Equity Ratio (DER)**

Debt is a factor that is no less important in carrying out the activities of a company, debt which is used as asset financing capital is expected to increase productivity, sales turnover and increase profits which are simultaneously expected to increase the value of the company. However, the debt-to-equity ratio must be balanced, because if the debt-to-equity ratio is too large, it will be a burden for the company in terms of high returns and interest. Therefore, the debt-to-equity ratio must be adjusted so that it is not burdensome and becomes a burden on the company's operations, thus it is hoped that the company can run well and healthily.

The debt to equity ratio in this study is proxied through the debt to equity ratio (DER). DER is a ratio that shows the ratio between the debt provided by creditors with the amount of own capital owned by the owners of the company. This ratio shows how the proportion of the use of debt and own capital in financing the company's activities. Debt to equity ratio (DER) is used to measure the ratio of debt to equity by comparing all debt, both current debt and long-term debt, with the company's entire equity. The analysis is carried out to find out how much equity owned by the company can guarantee all the debts it has. So this ratio serves as a tool to find out how many rupiahs of own capital are used as collateral for the debt. The greater this ratio indicates the greater the risk that will be borne by the company. However, high debt does not always have risks, but can provide opportunities for the development and income of the company depending on the characteristics of the business and the diversity of its cash flows. (Kasmir, 2015).

### **Current Ratio (CR)**

The company's liquidity level describes the company's ability to meet its short-term obligations. Liquidity is one of the determining factors for the success or failure of a company. The provision of cash needs from other sources to fulfill these obligations also determines the extent to which the company is able to cope with risk. Another understanding is the company's ability to meet obligations or debts that must be paid immediately with current assets. Hery (2015) says that the current ratio (CR) is included in the liquidity ratio, which is a ratio that measures how much the company's ability to meet its short-term obligations by using its current assets.

Kasmir (2015), said the current ratio is a ratio used to measure the company's ability to pay its short-term obligations or those that are due when they are billed in full. In other words, how much assets are available to cover short-term obligations that are due soon. Current ratio can also be said as a form of company assets that can be used as money in a short time (maximum one year).

Margaretha, (2011) states that the current ratio is a ratio that shows the relationship between cash and other current assets to current liabilities. This ratio shows the extent to which short-term claims from creditors can be met with assets that are expected to be converted into cash in a short time.

### **Return on Equity (ROE)**

The high level of profitability indicates the more efficient management performance in managing sources of financing to generate profits, so that investors judge that apart from being efficient in managing investments, the company is also considered capable of managing its sources of funds effectively. Brigham and Houston (2020) suggest that return on equity (ROE) is included in the profitability ratio, this ratio measures the return on equity by calculating how much equity contributes in creating net profit from each rupiah embedded in total equity.

Return on equity (ROE) according to Sudana, (2011) is a ratio that shows the company's ability to generate profit after tax by using its own capital. This ratio is very important information for all shareholders to determine the effectiveness and efficiency of capital management carried out by the company's management. The higher this ratio means the more efficient the use of own capital by the company's management.

Hanafi (2016) argues that return on equity is a ratio that measures the company's ability to generate net income based on a certain capital. This ratio is a measure of profitability seen from the perspective of shareholders. A high number for return on equity indicates a high level of profitability. The return on equity ratio does not take into account dividends or capital gains for

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shareholders. Because this ratio is not a measure of the return (rate of return) received by the actual shareholders. Return on equity can be influenced by the company's liquidity and leverage.

Kasmir (2015) said that return on equity is a measuring tool to find out how much return or net profit a company gets after using its equity. This ratio shows how efficient management is in the use of capital, the higher this ratio, the better. This means that the position of the owner of the company is getting stronger, and vice versa if this ratio is low, it shows that management performance is not going well. Margaretha (2011) says that return on equity is a ratio that shows the combined effect of liquidity, asset management and debt management on operating results or profits. Or in other words, return on equity is a ratio measuring the rate of return on investment for common shareholders.

## RESEARCH METHODS

### Research Time and Location

The object of this research is the food and beverages industry sub-sector companies listed on the IDX during the 2014-2019 period. This research was conducted for 6 (six) months, starting from January 2021 to June 2021. The Indonesia Stock Exchange (IDX) is a merger of two stock exchanges owned by Indonesia, namely the Jakarta Stock Exchange (JSX) and the Surabaya Stock Exchange (BES).

The merger of these two Stock Exchanges aims to make the Indonesia Stock Exchange a stock market for bonds and derivatives which began operating on December 1, 2007. After operating for 12 years, in 2019, the Indonesia Stock Exchange received an award as one of the Best Companies to Work for in Asia for three consecutive years (2017, 2018 and 2019). The awards given are based on an assessment of employee engagement, development opportunities and culture.

The consumer goods industry sector is one of the industrial sectors that plays a role as a trigger for national economic growth, along with the increasing needs of people's lives. Operationally, the consumer goods industry sector is divided into five sub-sectors, namely the food and beverages sub-sector, the cigarette sub-sector, the pharmaceutical sub-sector, the cosmetics sub-sector and the household appliances and necessities sub-sector.

### Research Desain

This research uses descriptive and verification methods. According to Sugiyono (2013), descriptive research is research conducted to determine the value of variables independently, either one or more variables without making comparisons or connecting them with other variables being studied so as to produce conclusions. While the verification method according to Sugiyono (2013) is research conducted on a particular population or sample with the aim of testing the established hypothesis. Based on the above understanding, it can be explained that the descriptive verification method is a method that aims to describe whether or not the facts are true, as well as to explain the relationship between the variables studied by collecting data, processing, analyzing and interpreting the data in statistical hypothesis testing.

The descriptive method in this study was conducted to determine and examine the phenomena or characteristics that exist in the data as well as to show the maximum and minimum values, average values and standard deviation values of each variable debt to equity ratio (DER), current ratio (CR), return on equity (ROE) and price to book value (PBV) in food and beverages industry sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2019. The verification method is used to determine and examine how much influence the variables debt to equity ratio (DER) and current ratio (CR) have on price to book value (PBV) through return on equity (ROE). The verification method is carried out to test the hypothesis by using statistical test tools. The researcher uses path analysis statistical test tool (path analysis). Sarwono (2007) said path analysis is a technique used to analyze causal relationships that occur in multiple regression if the independent variables affect the dependent variable not only directly, but also indirectly.

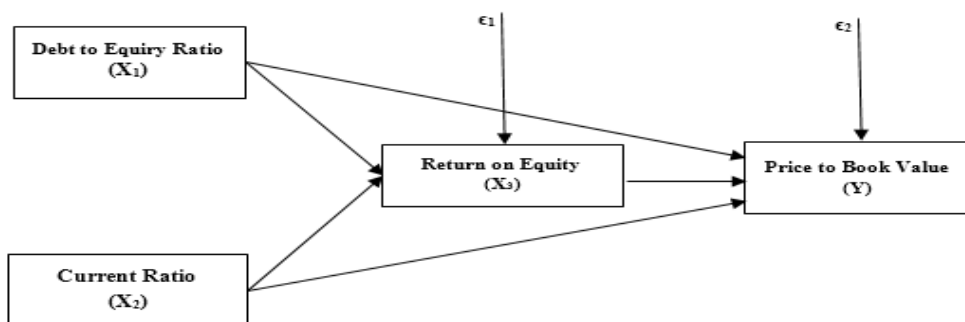


Figure 3. Variable Equation Path Diagram

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## Population and Sample

Population is all elements, elements, units, individuals or sets with the same ownership of certain characteristics. Population can also be interpreted as a value obtained from the results of measurements or calculations from a certain group of objects (Siregar, 2014). The population in this study were all companies included in the food and beverages industry sub-sector listed on the Indonesia Stock Exchange (IDX) for the 2014-2019 period, namely 32 companies.

The sample of this study was taken from the population, which were several selected companies and included in the food and beverages industry sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the 2014-2019 period. The determination and selection of samples was carried out based on the purposive sampling method, namely taking samples from the population based on the criteria determined by the researchers themselves. The criteria for selecting samples from the population in this study are as follows;

- Companies that are included in the food and beverages industry sub-sector.
- Companies in the food and beverages industry sub-sector which are listed on the IDX in the 2014-2019 period.
- Companies in the food and beverages industry sub-sector that publish their annual reports on the IDX website in the 2014-2019 period successively.
- Food and beverages industry sub-sector companies that have positive profits for the 2014-2019 period.

Based on the results of purposive sampling with the criteria determined above, from the 32 companies that became the population in this study there were 20 companies in the food and beverages industry sub-sector that did not meet the criteria in the purposive sampling method so that the number of companies in the food and beverages industry sub-sector that selected and can be used as samples are as many as 12 companies with financial statement data from 2014 to 2019.

## Data Collection Technique

Research data were collected from various sources, such as books, journals and the internet. The type of data used in this study is secondary data obtained from the financial statements of the food and beverages industry sub-sector companies that have been published on the IDX website (Indonesian Stock Exchange) for the 2014-2019 period.

## RESEARCH RESULT

### 1. Documentation data related to the variables studied

**Table 5. Average PBV, DER, CR, and ROE Data from 12 Samples Food and Beverages Subsector Companies Listed on IDX 2014 – 2019**

No	Codes	Companies	PBV	DER	CR	ROE
1	BUDI	Budi Starch & Sweetener Tbk.	0,43	1,62	101,09	3,54
2	CEKA	Wilmar Cahaya Indonesia Tbk.	1,79	0,71	304,61	13,50
3	DLTA	Delta Djakarta Tbk.	5,48	0,21	706,50	27,07
4	ICBP	Indofood CBP Sukses Makmur Tbk.	6,35	0,56	230,97	18,72
5	INDF	Indofood Sukses Makmur Tbk.	1,54	0,95	147,91	10,82
6	MLBI	Multi Bintang Indonesia Tbk.	26,80	1,92	66,19	137,30
7	MYOR	Mayora Indah Tbk.	5,86	1,13	252,91	19,94
8	ROTI	Nippon Indosari Corpindo Tbk.	4,97	0,86	231,75	12,49
9	SKBM	Sekar Bumi Tbk.	2,10	1,00	137,35	8,33
10	SKLT	Sekar Laut Tbk,	2,11	1,15	124,49	8,57
11	STTP	Siantar Top Tbk,	3,94	0,77	200,88	17,00
12	ULTJ	Ultrajaya Milk Industry & Trading Co. Tbk.	5,79	0,22	416,13	16,91

Based on the table above, the highest average PBV value for companies in the food and beverages industry sub-sector of 26.80 times is in Multi Bintang Indonesia Tbk, and the lowest value is in Budi Starch & Sweetener Tbk. of 0.43.

The highest average DER value is in Multi Bintang Indonesia Tbk. of 1.92 times (192%) while the lowest DER average value is in the company Delta Djakarta Tbk. by 0.21 times (21%).

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The highest average CR value is owned by the company Delta Djakarta Tbk. of 706.50% (7 times) and what is the lowest average CR value at Budi Starch & Sweetener Tbk. by 101.09% (1 time).

The highest average ROE value in the Multi Bintang Indonesia Tbk company. of 137.3% and the average value ROE terendah berada pada perusahaan Budi Starch & Sweetener Tbk. yaitu sebesar 3,54%.

### 2. Model Test Phase 1

Based on the results of data processing using the SPSS V.22 program, the coefficients are described in the following table:

**Table 6. Structural Equation Model Test Results 1**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.361	.156		-2.315	.024
	DER	.470	.097	.714	4.842	.000
	CR	.070	.030	.346	2.346	.022

**Table 7. Equation Model Test Results  $\epsilon_1$**

#### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524 <sup>a</sup>	.274	.253	.32256

a. Predictors: (Constant), CR, DER

b. Dependent Variable: ROE

Based on the data in the table above, structural equation 1 can be arranged as follows:

$$X_3 = 0,714 X_1 + 0,346 X_3 + 0,726\epsilon_1$$

Based on structural equation 1 above, it can be interpreted that the coefficient value of the debt to equity ratio (DER) variable obtained is 0.714. Statistically, it is stated that if the variable debt to equity ratio (DER) changes by one unit or one time, it will change the return on equity (ROE) by the coefficient of the variable debt to equity ratio (DER). In other words, this situation explains that the contribution of the debt to equity ratio (DER) variable to the return on equity (ROE) is 0.714. Then when viewed from its significance value, the variable debt to equity ratio (DER) is declared to have a positive and significant effect on return on equity (ROE), this is evidenced by the value of which is smaller than the value of 0.05 ( $0.000 < 0.05$ ). ). Furthermore, the contribution of the current ratio (CR) variable to the return on equity (ROE) based on the results of the data test in table 4.11 above, the beta coefficient value is 0.346. These results state that if the current ratio (CR) variable changes by one unit or once, it will give a change to the return on equity (ROE) of 0.346. The variable current ratio (CR) can be stated to have a positive and significant effect on return on equity (ROE), this can be proven by the value of which is smaller than 0.05 ( $0.022 < 0.05$ ).

The value of 1 or the residual value obtained based on structural equation 1 above is 0.726 (with the formula  $1 - R^2$  or  $1 - 0.274 = 0.726$ ) or 72.6%, this means that the variation of changes in the return on equity (ROE) variable can only explained by the variable debt to equity ratio (DER) and current ratio (CR) of 27.4%. In other words, 72.6% change in return on equity (ROE) is a contribution outside of the exogenous variables used in structural equation 1 (one) in this study.

The significance test is carried out simultaneously or simultaneously using the F test (Fisher's test) between all exogenous variables in equation 1 substructure to endogenous variables, the Fcount is 13.045, this number is greater than the value of Ftable (df1 = k - 1 where k is the number of variables and df2 = n - k where n is the number of samples) then df1 = 4 - 1 = 3 while df2 = 72 - 4 = 68 then the Ftable is 2.74. The Fcount is greater than Ftable ( $13.045 > 2.74$ ) and a significance value of 0.000 is smaller than the value of = 0.05 then  $0.000 < 0.05$ , this means that the debt to equity ratio (DER) and current ratio ( CR) together have a positive and significant effect on return on equity (ROE). For more details, the coefficient in question can be seen in the following table.



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**Table 8. Test results Fisher's test 1**

**ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2.715	2	1.357	13.045	.000 <sup>b</sup>
Residual	7.179	69	.104		
Total	9.894	71			

a. Dependent Variable: ROE

b. Predictors: (Constant), CR, DER

**3. Test Model Stage 2**

Phase 2 model test was carried out to apply the results of data processing to structural equation 2. Based on the results of data processing using the SPSS V.22 program, the coefficients described in the following table were obtained:

**Table 9. Structural Equation Model Test Results 2**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.657	2.652		2.133	.037
DER	-2.695	1.844	-.197	-1.461	.149
CR	-.604	.511	-.143	-1.182	.242
ROE	16.620	1.975	.801	8.415	.000

**Table 10. Equation Model Test Results  $\epsilon_2$**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.743 <sup>a</sup>	.552	.533		5.29195	2.122

a. Predictors: (Constant), ROE, CR, DER

b. Dependent Variable: PBV

Based on the data in the table above, structural equation 2 can be arranged as follows:

$$Y = -0,197X_1 - 0,143X_2 + 0,801 X_3 + 0,448 \epsilon_2$$

Based on structural equation 2 above, it can be interpreted that the coefficient value of the debt to equity ratio (DER) variable obtained is -0.197. Statistically, the coefficient is stated if the variable debt to equity ratio (DER) changes by one unit or once, it will change the price to book value (PBV) by the coefficient of the debt to equity ratio (DER) variable. In other words, this situation explains that the contribution of the debt to equity ratio (DER) variable to the price to book value (PBV) is -0.197. Then when viewed from its significance value, the debt to equity ratio (DER) variable is declared to have a negative and insignificant effect on price to book value (PBV), this can be proven by the value of which is greater than 0.05 (0.149 > 0,05).

Furthermore, the contribution of the current ratio (CR) variable to the price to book value (PBV) based on the results of the data test in table 4.13 above, the beta coefficient value is -0.143. These results state that if the current ratio (CR) variable changes by one unit or once, it will give a change to the price to book value (PBV) of -0.143. The variable current ratio (CR) can be stated to have a negative and insignificant effect on price to book value (PBV), this can be proven by the value of which is greater than 0.05 (0.242 > 0.05).

The contribution of the return on equity (ROE) variable to price to book value (PBV) based on the results of the data test in table 4.13 above, the beta coefficient value is 0.801. These results state that if the change in the return on equity (ROE) variable is one unit, it will give a change to the price to book value (PBV) of 0.801. The return on equity (ROE) variable can be stated to

## The Influence of Debt to Equity Ratio and Current Ratio to Return on Equity and Price to Book Value: Subsector Food and Beverages Industry of Company Listed at Indonesian Stock Exchange Period 2014-2019

have a positive and significant effect on price to book value (PBV), this is evidenced by the value of which is smaller than 0.05 ( $0.000 > 0.05$ ).

The residual value of 2 obtained based on structural equation 2 above is 0.448 ( $1-R^2$  or  $1-0.552 = 0.448$ ) or 44.8%, this indicates that the variation in the price to book value (PBV) variable can only be explained by the variable debt to equity ratio (DER), current ratio (CR) and return on equity (ROE) of 55.2%. In other words, 44.8% change in price to book value (PBV) is a contribution outside of the exogenous variables used in the structural equation 2 (two) in this study.

The significance test which was carried out simultaneously or simultaneously using the F test (Fisher's test) between all exogenous variables in structural equation 2 against endogenous variables, obtained the Fcount of 27.972, this number is greater than the value of Ftable ( $df1 = k - 1$  where k is the number of variable and  $df2 = n - k$  where n is the number of samples) then  $df1 = 4 - 1 = 3$  while  $df2 = 72 - 4 = 68$  then the Ftable number is 2.74. Fcount is greater than Ftable ( $27.972 > 2.74$ ) and a significance value of 0.000 is smaller than of 0.05 ( $0.000 < 0.05$ ), this means that the variable debt to equity ratio (DER) current ratio (CR) ) and return on equity (ROE) together have a positive and significant effect on price to book value (PBV). For more details, the coefficient in question can be seen in the following table:

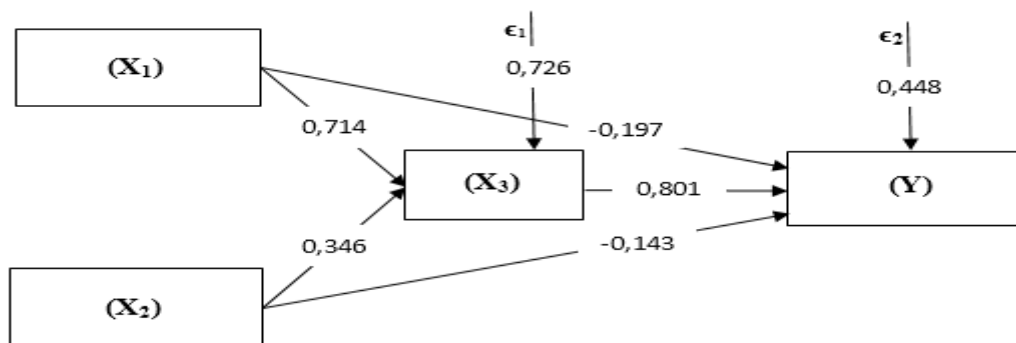
**Table 11. Test results Fisher's test 2**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2350.020	3	783.340	27.972	.000 <sup>b</sup>
	Residual	1904.322	68	28.005		
	Total	4254.342	71			

a. Dependent Variable: PBV

b. Predictors: (Constant), ROE, CR, DER

After analyzing the data, the results of the regression can be described with a structural paradigm where the exogenous variables are the variables 1, 2 and 3 variables, while is the endogenous variable. It can be seen in the following paradigm:



**Figure 4. Variable Equation Path Diagram**

The path diagram above produces two structural equations, where the variables X1 (Debt to Equity Ratio) and X2 (Current Ratio) are exogenous variables and variable X3 (Return on Equity) exogenous and endogenous variables 1 as well as intervening variables and variable Y (Price to Book Value) is the endogenous variable 2. The structural equation can be seen as follows:

- $X_3 = 0,714 X_1 + 0,346 X_2 + 0,726 \epsilon_1$
- $Y = -0,197 X_1 - 0,143 X_2 + 0,801 X_3 + 0,448 \epsilon_2$

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

Based on the results of the research that has been stated in the previous chapter, it can be concluded that the essence of the entire study will be stated in the form of a description of the conclusions as follows:

- Based on the results of the research and discussion that have been carried out, it is found that there is a positive and significant relationship or relationship either partially (alone) or simultaneously (together) between the debt to equity ratio (DER) variable and the current ratio (CR) variable to the return on equity (ROE) variable. This relationship can be seen in the form

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of a positive and significant effect of the 2 (two) variables. The results of this study have also been able to prove the proposed hypothesis that the debt to equity ratio (DER) and the current ratio (CR) variable together or individually have an acceptable contribution and influence on return on equity (ROE).

2. The results of statistical analysis that have been carried out in this study and based on the discussions that have been described, it is concluded that partially or individually there is a negative and insignificant effect between the debt to equity ratio (DER) and current ratio (CR) variables to the variable price to book value (PBV). The negative effect can be seen from the beta coefficient value which is in a negative number and the significance value of the 2 (two) variables which is greater than the cut off significance value that has been determined in this study. However, jointly or simultaneously the debt to equity ratio (DER) and current ratio (CR) variables have a negative and significant effect on the price to book value (PBV) variable. This effect can be seen from the significance value of the 2 (two) variables which are smaller than the cut off significance value that has been determined in this study. The results of this study have also been able to prove the proposed hypothesis, namely the debt to equity ratio (DER) variable and the current ratio (CR) variable simultaneously have a significant effect on price to book value (PBV) which is acceptable. However, the other hypothesis proposed is that the debt to equity ratio (DER) variable and the current ratio (CR) variable have a contribution and influence on the price to book value (PBV) which is rejected.
3. Furthermore, based on the data analysis and discussion that has been carried out, it is found that there is a positive and significant influence between the return on equity (ROE) variable on the price to book value (PBV) variable. The positive effect can be seen from the positive coefficient value and the significant value of the variable. The results of this study have also been able to prove the proposed hypothesis, namely that return on equity (ROE) has a significant contribution and influence on price to book value (PBV) and is acceptable.
4. Based on the results of the research and discussion that have been carried out, it is found that there is a positive and significant relationship or relationship between the debt to equity ratio (DER) variable and the price to book value (PBV) variable through the return on equity (ROE) variable. This influence can be seen from the number of multiplication results and the total path coefficient value of the debt to equity ratio (DER) variable on the return on equity (ROE) variable and the path coefficient value of the return on equity (ROE) variable on the price to book value (PBV). . The results of these calculations prove that the coefficient of indirect influence is greater than the coefficient of direct influence. The results of this study have also proven that the return on equity (ROE) variable functions as a moderating variable for the effect of the debt to equity ratio (DER) variable on price to book value (PBV).
5. Efforts to find answers to the proposed hypothesis have been carried out by analyzing the data, as for the results of statistical analysis and discussions that have been carried out, it is found that there is a positive and significant influence or relationship between the current ratio (CR) variable and the price to book variable value (PBV) through the return on equity (ROE) variable. This effect can be seen from the number of multiplication results and the total path coefficient value of the current ratio (CR) variable to the return on equity (ROE) variable and the path coefficient value of the return on equity (ROE) variable to price to book value (PBV). The results of these calculations prove that the coefficient of indirect influence is greater than the coefficient of direct influence. The results of this study have also proven that the return on equity (ROE) variable functions as a moderating variable for the effect of the current ratio (CR) variable on price to book value (PBV).
6. The coefficient of indirect effect of the variable debt to equity ratio (DER) and the variable current ratio (CR) on the price to book value (PBV) through return on equity (ROE) Together they produce a number greater than the value of the coefficient of direct influence variable debt to equity ratio (DER) and variable current ratio (CR) to the variable price to book value (PBV). So based on the results of these calculations, it can be concluded that the path coefficient of the indirect effect of the debt to equity ratio (DER) and current ratio (CR) variables on the price to book value (PBV) variable through return on equity (ROE) is greater than the path coefficient value direct influence. Thus it can be said that the return on equity (ROE) variable has been proven to be a moderating variable for the debt to equity ratio (DER) variable and the current ratio (CR) variable to the price to book value (PBV) variable.

### **Recommendations**

After finding the results and drawing conclusions in this study, the suggestions that the writer can convey in this research are:

It is recommended to the company, if the capital management uses debt at a certain level (as long as it can provide positive and greater benefits to returns or profits, then based on this study additional debt is still allowed). Especially for

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companies that have ROE and CR values above the industry average, namely ROE > 0.15 (15%) and CR > 2 times, even though their DER value is still above the industry average (> 0.3) or 30% such as, CEKA, DLTA, ICBP, INDF, MYOR, ROTI, STTP and ULTJ.

However, for companies that have a high DER (> 1 time or > 100%) while the CR value is low below the industry average (CR < 2) even though the ROE is 0.30 or 30% such as, BUDI, SKLT SKBM and MLBI, it is advisable to look for alternative funding for the company's business activities from other sources such as increasing profitability and asset utilization, both current assets and fixed assets owned and making policies towards better return earnings.

Meanwhile, when viewed from the side of positive company growth, it shows the company's ability to manage company finances and thus the potential for higher asset increases can be realized in order to generate high cash flows in the future, although companies also have high risks, especially those with high value. Very high DER.

To further researchers, especially those who are interested in examining the effect of the debt to equity ratio (DER) or other debt ratios and the effect of the current ratio (CR) or other liquidity ratios as well as the effect of return on equity (ROE) or other profitability ratios on price to book value. (PBV) or firm value, it is recommended that further research be conducted by expanding the variables and company samples to cover all types of companies on the Indonesia Stock Exchange (IDX) and their influencing factors. This study only uses the DER, CR, and ROE variables, all of which are internal factors or fundamental factors of financial ratios to determine their effect on firm value (PBV). Therefore, it is recommended for further researchers to examine other financial variables that have a greater influence on PBV firm value both from fundamental factors and from technical factors.

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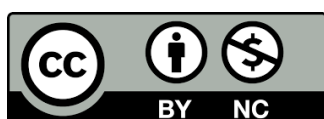
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## What effect does the Monetary Policy of Ghana have on the country's GDP growth? From 1980 to 2015, a retrospective time series analysis



Dr. Patrick K Ansah

**ABSTRACT:** Using data for the annual period series from 1980 to 2015, this article explores the impact of the Bank of Ghana's monetary policy and whether it has a major impact on Ghana's economic growth. The study used the Ordinary Least Square (OLS) retrieval line model, and the retrospective analysis was done using the SPSS statistical software with F-Statistic and T Statistic. GDP was a model-dependent variable in this study, while income, interest rate, and inflation were independent / descriptive variables. The findings showed that at 5% significant level, both interest rates and income were statistically insignificant, while inflation was statistically significant at 5% level, in that, a 1% increase in inflation resulted in a 6.9% drop in GDP. The impact of inflation on GDP has been negative. Fisher (1993), Ghosh and Philips (1998), and Neil (1999) are examples of similar verified investigations (2000). The corrected R<sup>2</sup> value of 0.365 clearly reveals that the Bank of Ghana's overall banking policy contributed roughly 36.5 percent to economic growth, whereas other unnamed factors accounted for a large difference in GDP of 65.5 percent. As a result, my policy advice is that the Ghanaian central bank employ suitable monetary policy tools to better control inflation and decrease it to a single digit, as well as pay attention to details in other real economic sector indicators to raise the rate of growth. Information on the Bank of Ghana's (BOG) overall financial strategy on policies that contribute to economic stability, Same should be made available to the Ministry of Finance and Economic Planning (MOFEP) and industry stakeholders.

**KEYWORDS:** GDP, Inflation, Interest Rate, Monetary Policy, income

### 1.0 BACKGROUND

According to the Federal Reserve Board (Federal Reserve Board, 2006), monetary policy is the process by which a country's financial authorities (the Central Bank) govern the production and distribution of money, typically by guiding interest rates to promote economic growth and stability. (Khan, 2010) also noted that many emerging countries have adopted flexible exchange principles, resulting in more monetary policy, because in a cohesive globe, there is less time to adjust to shocks and a greater need for close economic integration between trading partners Since the government of Ghana introduced the Recovery Plan (ERP) in 1983, Ghana's monetary policy has altered considerably in response to developments in the financial system. The goal of monetary policy, according to (ISSER, 1997), was to stabilize prices and enhance domestic Gross Domestic Product (GDP) through establishing a hospitable and unified business climate for private and public sector investment in Ghana. The total amount of products and services generated in an economy (for example, within the four walls of Ghana) over a period, say one year, is known as Gross Domestic Product (GDP) (Paragon, 2001).

He also mentioned in (Addison, 2001) that monetary policy tools and indirect market-based tools have been developed. The policy objectives, which are the values of specific economic dynamics sought by the financial regulator to profit from monetary policy, continue to have a comprehensive financial provision that will drive GDP growth. New financial assets emerging from freedom and the innovation process have been incorporated into the definition of financing, and they have served as proximity to financial assets. Since the ERP / SAP (Structural Rehabilitation Program), the results of numerous policy measures in Ghana have been uneven. The requirement to satisfy unforeseen financial needs has been a major impediment to monetary policy for much of the review period. In addition, since 1994, financial management has been highly burdened by end-of-year inflation targets, particularly with the influx of foreign loans set aside for cork purchases, causing GDP disruption.

### 1.1 Statement of the Issue

According to (Khan and Abdulrahman2010), while domestic government borrowing was cut in real terms and private sector financing remained very low, revenue growth in the second half of the 1980s and 1990s increased in emerging countries and Sub-

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Saharan African countries such as Ghana. in those periods, resulting in any rate of GDP growth, as seen in (Aryeetey et al, 1994). According to statistics from (ISSER 1999), expenditure has climbed by 25% and 24%, respectively, since 1999. (ISSER, 2002) also had a budget increase and a wide variety of over-the-counter income targets ranging from over one hundred percent (100%) to forty-six percent (42.6%) and fifty percent (50%). (50 percent). In 2002, the average percentage change in GDP was eighty-two percent (82 percent)

The key issue here is that financing has gradually increased without showing any proportional impact on GDP development in the Ghanaian economy during the research period, and this necessitates research, which is why this article is needed.

### **1.2 Learning Objectives**

The goal of this research is to determine the impact of the Bank of Ghana's monetary policy on economic activity in Ghana. Examining the influence of financial policy tools such as the Discount Rate, Open Market Operation (OMO), and Cash Ratio on Ghana's economic activity, as well as their impact on GDP, interest rates, and inflation, as utilized by the Bank of Ghana.

#### **1.2.1 The Overarching Goal**

The study's major goal was to determine the influence of monetary policy on Ghana's economic activities.

#### **1.2.2 Objectives Specifics**

The following are the study's particular goals: -

- (i) Examining the BoG's monetary policy tools for achieving Ghana's GDP.
- (ii) Analyzing the impact of interest rates and inflation on Ghana's GDP.

### **1.3 Hypothesis for research**

- (a) HO: Funding has no discernible effect on Ghana's economic growth.  
H1: Funding has a significant impact on Ghana's economic development.
- (b) HO: Inflation has had little impact on Ghana's economic development.  
H1: Ghana's economic growth is severely hampered by inflation.
- (c) HO: Interest rates have little impact on Ghana's economic development.  
H1: The impact of interest rates on Ghana's economic growth is significant.

## **2.1 Theoretical Foundation**

Under the direction of the World Bank and the International Monetary Fund, the government launched the Economic Recovery Program (ERP) in 1983. (IMF). One of the motivations for establishing ERP was to reduce inflation rates through strict monetary regulations and to increase the flow of foreign cash into the Ghanaian economy and steer it to key sectors in order to enhance economic activity. The ERP took a market-oriented strategy to addressing microeconomic imbalances and liberalizing the external sector, and made significant success. Inflation has been a prominent topic of controversy in the Ghanaian economy, and despite a large decrease from the pre-reform era, inflation remains high. According to ISSER (2005), an increase in monetary aggregates is one of the drivers of inflation in Ghana (money supply). Inflation is created by a rise in the money supply, according to Milton Friedmann (1963), and if the money supply were grown at the same rate as real GDP, inflation would disappear.

### **2.1.1 Cash**

Money is anything that is commonly accepted as a means of exchange and a measure of worth between commodities and services in the discharge of business responsibilities. Inflation is a primary source of money value variations over time. The quantity of products and services that a unit of money can purchase determines its value. During periods of inflation, a unit of money can buy fewer products or one must give up more money to get the same number of goods as previously (Paragon, 2001).

### **2.1.2 Monetary Base**

The entire amount of monetary assets accessible in an economy at any given time is known as the money supply. The government, usually through GSS or BoG, records and publishes data on the money supply. Because of its influence on the overall price level, the exchange rate, and the business cycle, public and private sector analysts have long tracked variations in money supply throughout time (Paul M. Johnson, 2005).

- (i) The money supply is typically divided into three categories: M1, M2, and M3.
- (ii) M1 = Cash (Coins and Bills) and Deposits in Checking Accounts.
- (iii) M2 = M1 + Savings Account Deposits.
- (iv) M3 = M2 + Time Deposits



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(v) M0 stands for basic money, also known as high-powered money, which refers to the amount of money issued by the central bank.

The specific items that make up an economy's money supply are determined by the definition of money supply used. M1 is a restricted definition of money supply. This is made up of two components: currency in circulation (paper notes and coins) and demand deposits (current accounts) with banks. All goods in M1 plus certain liquid assets or near monies — savings deposits, money market funds, and so forth — make up the broadly defined money supply (M2).

Money has a significant impact on economic activity since it is employed in almost all economic transactions. A rise in the money supply stimulates expenditure by lowering borrowing rates, which encourages investment, and by placing more money in the hands of consumers, making them feel wealthier. Increased revenues prompt companies to order additional raw materials and boost production. The spread of company activity boosts labor demand while also boosting capital goods demand. Stock market prices rise in a growing economy, and companies issue equity and debt. Prices begin to rise as the money supply expands, especially if output growth meets capacity constraints. As the public expects inflation (a sustained and significant increase in the general price level in an economy without a commensurable increase in productivity), lenders demand higher interest rates to compensate for the predicted loss of buying power over the loan's term. When the money supply or the pace of growth of money diminishes, opposite effects emerge. Disinflation (a slowing of the inflation rate) or deflation (a reduction in the general price level of goods and services) occurs as economic activity slows. Anna J Schawtz (Anna J Schawtz, 1960).

The easiest way to gauge a country's wealth is to look at the commodities and services it produces. The amount of money in the economy has no effect on the price of goods. Because prices determine what enterprises create and when they produce it, and customers determine what they buy, unexpected changes in the overall price level can knock an economy off of its stride. People buy less when there is a lot of inflation, which impacts businesses, which affects employees, and so on, because wages are sticky upwards. People buy less as a result of deflation because they wait for prices to drop even further, and lower prices, of course, make it more difficult for enterprises to stay afloat (Hannah, 2008).

### **2.1.3 Monetary Policy and the Central Bank**

A central bank is an organization that oversees the currency, money supply, and interest rate of a country. Central banks are usually in charge of their countries' commercial banking systems. A central bank, unlike a commercial bank, has a monopoly on growing the amount of money in the country and usually produces the national currency, which acts as the country's legal tender (Steven M. Sheffrin, 2003).

In almost all countries, the central bank performs the following important functions:

- (i) Issuing notes and controlling the amount of money in circulation
- (ii) Serves as the government's banker
- (iii) Serves as a banker for banks.
- (iv) Serves as keeper of the nation's reserves
- (v) Serves as a last-resort lender
- (vi) Serves as a clearinghouse for national information (vii) Serves as a credit controller.

Monetary policy aims to influence the economy's economic activity primarily through two major variables: money or credit supply and interest rate (Aparajita Sinha, 2012).

The central bank, referred to as the BoG in this study, has some tools at its disposal for controlling the money supply, which has an inextricable impact on the macro economy. The three most important tools are:

I Rate of Discount

- (ii) Operation of an Open Market (OMO)
- (iii) Required Reserve Ratio or Cash Ratio

The discount rate is the rate at which commercial banks and other depository institutions can borrow reserves from the Central Bank. Typically, this rate is set lower than short-term market rates (T-bills). This allows institutions to change credit conditions (i.e., the amount of money they can lend out) and thus influence the money supply. The Discount Window is the one instrument over which the Central Banks do not have complete control.

The Central Bank's open market activities are simply the purchasing and selling of government bonds on the open market. The consequence of the Central Bank buying bonds is to boost the money supply and so lower interest rates; the opposite is true if bonds are sold. Due to its ease of use, this is the most extensively utilized device in the day-to-day control of the money supply. Reserve requirements are a percentage of commercial banks' and other depository institutions' demand deposit liabilities (i.e.

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chequing accounts) that must be held on deposit with the Central Bank under Banking Regulations. Although it is rarely used, the Central Bank can adjust this proportion at any time, affecting the money supply and credit conditions. If the reserve requirement percentage is raised, it will diminish the money supply by requiring the Central Bank to hold a larger percentage of banks' and depository institutions' demand deposits, thereby removing them from circulation. As a result, an increase in reserve requirements would raise interest rates since borrowers would have less currency available. This type of action is only carried out on rare occasions since it has a significant impact on the money supply. Changing reserve requirements is a long-term adjustment in the money supply, not just a short-term remedial action (Ronnie, 1998).

### **2.1.4 Gross Domestic Product (GDP) (GDP)**

GDP (O'Sullivan, 2009) is the market value of all officially recognized final goods and services produced inside a country over a certain period. GDP is divided into two categories: - gross domestic product (GDP) at factor price and - gross domestic product (GDP) at market price There are two types of GDP: nominal and real.

The nominal GDP is calculated at today's prices. As a result, nominal GDP would incorporate any changes in market prices caused by inflation or deflation during the current year. Another measure, Real GDP, is presented to abstract changes in the overall price level by evaluating market prices using a base year (O'Sullivan, 2009).

Consumption, investment, government expenditure, import and export are all variables that must be included in the computation of real GDP.

$GDP = C + I + G + (X-M)$  WHERE:

C = Household expenditure on durable and non-durable goods and services is referred to as personal consumption expenditure.

I = Gross domestic private investment, i.e. Fixed investment in a business, such as plant and machinery. All types of construction, including commercial and residential structures, as well as inventory modifications.

G = Government purchases of final goods and services include central government defense spending, government employee pay and salaries, and other spending on and by local governments. All government transfer payments, however, are excluded because they do not reflect current production.

Exports of products and services minus imports of goods and services equals  $X-M$  =Net Exports.

### **2.1.5 The Monetary Policy Framework of the Bank of Ghana (Objectives, Targets and Instruments)**

The Bank's monetary policy goal is to maintain price stability and low inflation while also supporting the government's economic goals, such as growth and employment. The government's inflation target defines price stability. This goal is updated every year and spelled out in the budget statement for each fiscal year. The object recognizes the importance of price stability in attaining overall economic stability, as well as in creating the necessary conditions for long-term output and employment growth. The Bank of Ghana Act of 2002 gave the bank the authority to determine interest rates on its own. The Bank is answerable to both parliament and the larger public larger (Ghana Statistical Bulletin, 2002).

Price stability, growth, full employment, smoothing the business cycle, preventing financial crises, and stabilizing long-term interest rates and the real exchange rate have all been traditional monetary policy objectives. Although some objectives are consistent with each other, others are not; for example, the objective of price stability often conflicts with the objectives of interest rate stability and higher short-run employment (Fischer, 1993). (Fischer, 1993). As a result, countries may give equal weight to these goals or place a larger focus on the goal of low inflation. This recent shift was prompted by significant empirical evidence that high inflation (and its associated high variability) affects private agents' investment, savings, and output decisions, resulting in slower economic growth (Khan and Senhadji, 2001).

Monetary policy is a means to an end, not an end in itself. It entails the management of money and credit in order to progress the government's general economic policy and achieve predefined goals. Varied countries have had different monetary policy objectives at different times and under different economic conditions.

These goals conflict with one another, making it difficult to choose the best goal for a country's monetary policy. The proper monetary policy objective should be chosen by the monetary authority in light of the economy's specific conditions and requirements. -Monetary neutrality, price stability, economic growth, exchange stability, and full employment are some of the aims or goals of monetary policy (D.C Woran, 2012).

Price stability is one of the five objectives of economic policy, along with economic development, full employment, and internal and external balance. The duty for achieving and maintaining price stability has been delegated to central banks as part of the division of labor among economic policymakers. Fiduciary or paper money is issued by the Central Bank on the basis of computation of expected demand for cash. Monetary policy guides the Central Bank's supply of money in order to achieve the objectives of price stability (or low inflation rate), full employment, and increase in aggregate income. Money is a means of

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exchange, and changes in its demand compared to supply imply spending adjustments. In order to execute monetary policy, the Central Bank adjusts some monetary variables that it controls, such as the monetary aggregate, the interest rate, and the exchange rate, in order to effect goals that it does not control. The Central Bank's monetary policy instruments are determined by the economy's stage of development (Benjamin Friedman, 1998)

Almost since the subject's inception as a recognized branch of economic investigation, the goal to provide normative guidance to public policy has been a central concern in monetary economics. It's easy to see how the two are linked. Because "money" is a commodity provided by the government or, at the very least, by the private sector under government authority and conditions, the link between monetary influences on economic activity and specific actions by identifiable public institutions is immediate and direct. Investigating how such public institutions' actions affect the principal characteristics of macroeconomic activity has always formed the crux of what monetary economics is all about. As long as some macroeconomic outcomes are plainly better to others—stable prices rather than inflation, for example, or prosperity rather than widespread unemployment. The question of what government policies are more likely to lead to more desirable outcomes is not only natural but inevitable. The research on monetary policy aims and instruments has grown in response to a desire to bring monetary economics closer to central bank activities (Benjamin Friedman, 1988).

Monetary policy targets are the values of specified economic variables that the central bank aims to accomplish through monetary policy. Interest rates, monetary aggregates, and exchange rates are the three most well-known monetary policy aims. These are frequently intermediate goals that can be reached quickly and easily quantified, but that eventually lead to the macroeconomic goals of full employment, stability, and economic development (ISSER, 2007). Operating and intermediate aims are the two types of monetary policy targets.

Intermediate targets are variables that influence monetary policy's ultimate goals but are not directly controlled by the central bank, whereas operating targets are tactical goals that the central bank can influence in the short term (Khan and Senhadji, 2001). Identification of acceptable intermediate aims, operating targets, and/or policy instruments in Ghana is a key requirement of the activity, which has been a topic of debate among economists. They also noted that throughout the reform period in Ghana, the monetary policy framework was monetary aggregate targeting, and the monetary authority had terrible time trying to reach targets (Dordunno and Dunkor, 1997). (Dordunno and Dunkor, 1997).

According to (Fisher, 1993) data indicates that inflation decreases growth via lowering investment and productivity growth. He further emphasizes that, low inflation and small budget deficits are not necessary for high growth even over lengthy periods; conversely, high inflation is not consistent with prolonged economic expansion. Using a large panel dataset encompassing the IMF, (Ghosh and Phillips, 1998) discovered that inflation and growth are positively associated at very low inflation rates (less than 2-3%). At high levels of inflation, however, they are inversely connected. Similarly, the empirical findings of (Nell, 2000) imply that inflation in the single digits is advantageous, whereas inflation in the double digits appears to stifle growth. Inflation in the double digits, according to (Bruno and Easterly, 1996), appears to hinder growth. At yearly inflation rates of less than 40%, they similarly find no evidence of a link between inflation and growth. They discover a negative relationship between high inflation (over 40%) and growth in the short to medium term. Furthermore, they claim that discrete high inflation crises have no long-term impact on growth because countries tend to recover to their pre-crisis growth rates.

BOG employs a range of both direct and indirect methods to impact monetary policy. The indirect or market-based instruments typically entail open market operations and the use of a policy interest rate, whereas the direct instruments mostly involve use of the statutory reserve requirements. From time to time, the Bank also deploys special facilities to absorb excess liquidity from the financial system. Direct instruments function according to regulations granted to the central bank that directly affect either the interest rate or the volume of credit, which become increasingly ineffective as money and financial markets develop; besides, they create distortions, including financial repression, and promote financial disintermediation, and fiscal dominance (Fischer, 1993). (Fischer, 1993). Indirect instruments are also named "market-based instruments," since their use influences the market-determined price of bank reserves as the central bank engages in transactions with both financial and non-financial firms. There are three basic types of indirect instruments—open-market operations, central bank lending policies, and reserve requirements—that are used to inject and absorb liquidity (Fischer, 1993).

(Fischer, 1993). "In developed countries, monetary and financial policy play a major direct and indirect role in government efforts to expand economic activity in times of unemployment and excess capacity (economic recession), and to contrast that activity in times of excess demand and inflation," according to (Todaro, 1977). The aggregate supply of money in circulation and the level of interest rate are the two main economic factors that monetary policy is based on. The supply of money (basically currency in circulation plus commercial bank deposits) is thought to be directly related to economic activity in the sense that a larger money

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supply encourages people to buy more goods and services. This is what the so-called monetary theory of economic activity is all about.

Its adherents say that through controlling the expansion of money supply through central bank operations, governments may regulate their nation's economic activity. In contrast Keynesian contend that an enlarged volume of money in circulation enhances the availability of loan-able funds. A supply of loan-able funds more than demand leads to reduced interest rates. Since private investment is thought to be inversely related to prevailing interest rates, businessmen will boost their investment as interest rate falls".

### **2.2.1 An Overview of Ghana's GDP Growth**

During the 1980s, the Ghanaian government effectively rebuilt important economic sectors that had deteriorated since the 1960s. Ghana's GDP increased during the decade, and part of its economic infrastructure was repaired. Because of a reversal in the previous decade's progressively dropping production, Ghana's economy grew at a rate of approximately 6% per year. The worst years for Ghana were 1982 (-6.9%) and 1983 (-4.6%), when the country saw the worst drought in fifty years, crop destruction from bush fires, and the lowest cocoa prices in the postwar period. In the mid- and late-'80s, GDP increased to 8.6% in 1984, before falling to 5.1 percent in 1989. With the return of cocoa, gold, and timber exports in the early 1990s, the export industry regained some vigor. According to government estimates, real GDP growth in 1993 was 6.1 percent, including a rebound in cocoa production and an increase in gold production. Ghana's GDP did not incur any negative effects from 1990 to 2000, as it stayed positive throughout the decade. In the mid-1990s, GDP was 4.1 percent, and from 1995 and 1999, it varied between 4.1 and 4.4 percent. Between 2001 and 2010, Ghana's GDP grew at an annual rate of 8.4%, the highest it has ever been.

### **2.2.2 An Overview of Ghanaian Inflation**

During the 1980s, ERP policies resulted in relatively high inflation rates. Foreign loans, particularly from the IMF, were used to fund the majority of ERP projects. During this time, the government depreciated the country's currency several times in order to raise producer prices for exports and encourage output, but depreciation also resulted in price increases for all other items. Because of the policies, inflation reached new highs of 116.5 percent in 1981 and 122.8 percent in 1983. Sustaining inflation at these low rates proved problematic in subsequent years, however, as between 1986 and 1990, the year on year rate of inflation was reportedly in the range of 19-46 percent; over the same period, average inflation was between 25 and 40 percent per annum, far exceeding official targets set within the ERP. The recorded rates of inflation in 1991 and 1992 were significantly lower than the much higher rates recorded in the mid-to-late 1980s. In 1992, average inflation was lowered to single digits, owing partly to good crops the previous year and deliberate monetary management initiatives. These efforts, however, were short-lived, as average inflation increased by more than a quarter to 25% per year in 1993 and 1994. The underlying inflationary pressures maintained over the next two years, with the economy seeing the greatest rates of inflation since the ERP began. The annual rate of inflation more than doubled from 24.9 percent in December 1994 to 74.3 percent in December 1995, bringing the overall rate from 24.9 percent to 59.5 percent. The official figures indicates that inflation at end-December 2000 almost tripled to 40.5 percent, compared with 12.4 percent for the same month of 1999 (Lawrence K. Apaloo, 2001). (Lawrence K. Apaloo, 2001). Ghana has regularly witnessed high rates of inflation – the recent ones being in 1999-2000 and 2002-2003. External shocks, unsustainable macroeconomic policies, and exchange rate depreciation have all contributed to this. All of these elements are present in the current situation, which has been in place since the fourth quarter of 2007. Indeed, other than the year 2005, controlling money supply growth has been challenging – in both the monetary base control period of 2000 and 2004 and the latter period of inflation targeting of 2006 to 2008. In 2010, inflation was 10.7 percent viewing it as one of the lowest years of inflation in the preceding 30 years.

### **2.2.3 An Overview of Money Supply in Ghana**

Control of money-supply growth and liquidity management have been among the government of Ghana's most difficult duties, and expansion has generally surpassed expectations for most of the 1980s. The original phase of monetary policy 1983 (49.3 percent) -1986 (44 percent) concentrated on lowering government borrowing from the domestic banking sector and on imposing quantitative controls via credit limitations. Although they succeeded in curbing domestic credit growth, bigger than expected overseas revenues and the money market's failure to process them efficiently contributed to a rapid expansion in the broad money supply until the late 1980s. The subsequent adoption of more dynamic monetary policies in 1989 involved a phase-in of indirect controls and market-based policy instruments. In 1990, a new set of measures was implemented to improve interest rate responsiveness to changes in liquidity conditions. By mid-1991, the Bank of Ghana's rediscount rate had risen from 26% to 35%, and three- and five-year instruments had been introduced, as well as a broadening of access to Bank of Ghana financial

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instruments in favor of the non-bank financial sector. Money supply growth was firmly controlled in 1990 (10.8 percent) and 1991 (7.7%); but, a drop in interest rates and monetary control, exacerbated by public sector compensation increases, encouraged monetary expansion in 1992. (53 percent). (County studies, Library of Congress, 1994). Money supply ranged between 14 percent and 49.96 percent between 2001 and 2010. According to (A. Sanusi, 2010), fiscal deficit financing was the primary driver of the money supply process until the mid-1990s. However, in recent years, fluctuations in the Bank of Ghana's Net Foreign Assets, driven mostly by foreign aid and remittance inflows, appear to have been the primary source of monetary expansion.

### 2.2.4 An Overview of Ghana's Interest Rates

Interest rates throughout the 1980s were negative, ranging from -24.4 percent in 1980 to -8.2 percent at the end of the decade. Interest rates remained negative between 1990 and 2000, until they reached a high of 27 percent in 2001. Since then, the interest rate has been ranging between 16.83 percent and 25.62 percent, never falling below zero.

### 2.3 Final thoughts

(Milton Friedmann, 1968), asserts that Control over money supply is a key weapon of monetary policy. One of the aims of the monetary policy is to enhance the real GDP and growth of an economy balancing the price increase. Inflation always increases when the money supply growth surpasses the expansion of the economy for a period. Money supply is required to finance an economy's monetary expansion. Monetary growth is linked to an increase in money demand, which can occur as a result of an increase in real GDP or an increase in monetary phenomena in an economy.

The instruments available to the Bank of Ghana to meet its numerous objectives can be classified as outmoded and ineffective (the discount rate and reserve requirements), dependent on external circumstances when they are effective (foreign exchange operations), or rife with uncertainty about their effectiveness when either of these two conditions do not apply (Curtis E. Youngblood, 2000). (open market operations). The BOG has been able to regulate the rise of high-powered money, and hence the money supply, and thus bring the inflation rate down for brief periods of time. However, the country's overall monetary management record is weak, resulting in an uncertain macroeconomic climate and a decline in international competitiveness.

#### The Model (3.1)

Because this study deals with relationships between variables, the Ordinary Least Squares method (OLS) was used. Growth rate remains the dependent variable while Interest rate, Inflation rate and Money supply are the independent factors.

$$\text{Equation 1:- } GDP = \beta_0 + \beta_1 MSI + \beta_2 I + \beta_3 INFL + \mu$$

GDP-Gross Domestic Product  $\beta_0$  - This is the constant term.

$\beta_1$  -The slope coefficient that needs to be calculated

MSI- Money Supply also known as the control variable

I- interest rate

INFL - inflation

$\mu$  -is the stochastic error term that reflects the amount by which an observation departs from its predicted value.

To measure the percentage change (elasticity) of the dependent variable for every one percent change in the independent variable, the Ln would be introduced into equation 1. As a result, the Ln measures percentage changes in both dependent and independent variables. After the inclusion of Ln, the OLS model would be: -

$$\text{Equation 2:- } \ln GDP = \beta_0 + \beta_1 \ln MSI + \beta_2 \ln I + \beta_3 \ln INFL + \mu$$

The research GDP represents the dependent variable whose value will be decided by money supply.

An Independent variable is a variable that is handled by the researcher and assessed by its measurable effect on the dependent variable or variables (Mosby, 2009). (Mosby, 2009). Money supply, Interest Rate and Inflation are the independent variables whose value is not impacted by changes in the values of GDP.

Furthermore, is the intercept or constant term which reflects the value of GDP when money supply is equal to zero?

Is a parameter of the model and it's a quantity to be estimated? Is the money supply slope coefficient, which indicates the amount by which GDP will vary if the money supply grows by one percent and all other factors remain constant?

The Stochastic or Random Error Term refers to the fact that, in addition to the variation in GDP produced by the availability of money, there is always variation from other sources. This variation is due in part to explanatory variables that have been left out.

### 3.1.1 Information Sources

The information came from a BOG secondary data source. The annual GDP percentage growth rate and percentage changes in the money supply were utilized as time series data (from 1980 to 2015). The annual GDP percentage growth number in this study is

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calculated at the end of each year and covers the years 1980-2015. Institute of Statistical, Social, and Economic Research (ISSER) and Ministry of Finance Economic Planning publications were also utilized (MOFEP).

### **3.1.2 Techniques and Data Analysis**

The relationship between Ghana's money supply, inflation, and exchange rate was studied using the Social Sciences (SPSS) version 20 software.

### **3.1.3 The t-test Decision Rule and the Critical t-value**

I used a critical t-value to determine whether or not to reject a null hypothesis based on a calculated t-value. The value that distinguishes the acceptance zone from the rejection region is known as a critical t-value (Gujarati, 2006).

The crucial t-value will be chosen from a one-side t-table based on the stated level of type one error (rejecting a true null hypothesis) and degrees of freedom, which are defined as the number of observations minus the number of estimated coefficients (including the constant term).

It is written mathematically as.

$$df = N - K - 1$$

Where; N is the number of observations

K is the number of coefficients estimated

1 represents the constant term

However, the type one error in this hypothesis test is called the level of significance. It indicates the probability of observing an estimated t-value greater than the critical t-value if the null hypothesis were correct. It also measures the amount of type one error implied by a particular t-value (Koutsonyiannis, 1973).

The degree of significance, on the other hand, is the type one error in this hypothesis test. If the null hypothesis is valid, it represents the likelihood of seeing an estimated t-value greater than the crucial t-value. It also determines how much type one mistake is implied by a given t-value (Koutsonyiannis, 1973).

Furthermore, the computer's likelihood will be compared to a relevant 5% threshold of significance calculated using a one-sided t-table. If we know the calculated t-value and the critical t-value, we reject the null hypothesis if is bigger in absolute value than and has the sign predicted by the alternative hypothesis (Gujarati, 2006).

### **3.1.4 The Decision Rule and the F-test of Overall Significance**

Although the unadjusted and adjusted R<sup>2</sup> measures an equation's overall degree of fit, they do not provide a formal hypothesis test of the overall fit. As a result, the F-test would be employed to see if the independent factors explain the variation in the dependent variable. The F-test is a formal hypothesis test for dealing with a null hypothesis containing numerous hypotheses or a single hypothesis concerning a set of coefficients (Gujarati, 2006).

The computer would generate the calculated F-value value.

At a 5% level of significance, the critical F-value will be calculated using statistical tables. We conclude that the explanatory variable(s) are jointly significant in explaining the dependent variable if the probability ratio is smaller than at the 5% significance level.

If the probability ratio is bigger than the relevant significant level of 5%, however, we infer that the factors do not together explain the dependent variable (Gujarati, 2006).

In addition, the Durbin-Watson (DW) d-statistic would be employed to determine whether autocorrelation exists. According to Gujarati (2006), the Durbin-Watson (DW) d-statistic examines the residuals of a particular estimation of the regression equation to identify if there is a first order serial correlation in the error component of the regression equation described above. Statistical Program for Social Sciences (SPSS) version 20 provides the DW d-statistic.

Finally, the coefficient of determination (R<sup>2</sup>) will be utilized to discover which economic variables influence Ghana's GDP growth rates.

A high R<sup>2</sup> indicates a significant connection between GDP and money supply, interest rates, and inflation. A low R<sup>2</sup> may simply indicate that various economic indicators from different sectors of the economy have an impact on GDP growth rate (Gujarati, 2006).

## **4.1 Analysis and Interpretation of Data**

The OLS method was used to analyze the data during the time period studied (1980–2015). The regression findings for the variables GDP, money supply, interest rate, and inflation at a 5% significant level are shown in the table below.

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**TABLE A.1: Estimates of the GDP function in Ghana (1980–2015) with money supply, interest rate, and inflation**

VARIABLES	COEFFICIENTS	T – RATIOS	SIGNIFICANCE
Constant	4.638	3.035	0.005
Money Supply	0.044	1.223	0.232
Interest Rate	0.023	0.683	0.500
Inflation	-0.069	- 2.531	0.018

SOURCE: Ghana Statistical Service (GSS)

Econometrically,  $Y = 4.638 + 0.044MS + 0.023 I - 0.069INFL + \mu$  (3.035) (1.223) (0.683) (-2.531)

$R^2 = 0.428$

F-Value = 6.739

Durbin-Watson = 1.816

No of Observations (N) = 31

Adjusted R2 = 0.365

**4.2 Interpretation of Variables**

The regression result is shown in the table above. In the regression, the R2 value was 0.428, and the adjusted R2 was 0.365. This basically means that the model's explanatory variables account for around 36.5 percent of total fluctuations in economic activity. This also demonstrates that the model was unable to explain the remaining 63.5 percent, implying that variables from other sectors of the economy had the greatest impact, accounting for 0.365 (63.5%) of the total fluctuations in Ghana's economic activities.

**4.3 Money Supply Variable Interpretation**

Money growth is less than T-Value growth, according to the T-Ratio results. because  $|1.223| < |1.703|$   $|tk| < |tc|$  This indicates that the money supply parameter was not statistically significant. This means we accept the null hypothesis H0, which claims that the money supply has no effect on Ghana's economic growth. As a result, I rejected the alternative hypothesis that money supply had a major impact on Ghana's economic growth.

**4.4 Interest Rate Interpretation**

Because the T – Ratio of interest rate was smaller than the T – Value, the interest rate parameter was statistically insignificant in the table above. That is demonstrated by the outcomes.  $|0.683| < |1.703|$   $|tk| < |tc|$ ,  $|0.683|$  This means we accept the null hypothesis H0, which claims that interest rates have no effect on Ghana's economic development. As a result, I dismissed the alternative hypothesis H1, which claims that interest rates have a major impact on Ghana's economic growth.

**4.5 Inflation Variable Interpretation**

Inflation has a detrimental and severe impact on Ghana's economic activities, according to the findings (GDP). The estimated inflation slope coefficient is -0.069, implying that a 1% increase in inflation is related with a 6.9% decline in GDP growth. This further demonstrates that inflation has had a negative and considerable impact on Ghana's economic activity (GDP), since GDP growth reduces by 6.9% for every 1% change in inflation due to the negative sign on the inflation statistic. The T – Ratio results reveal that inflation is higher than the T – Value. Because  $|2.531| > |1.703|$ ,  $|tk| > |tc|$  As a result, I rejected the null hypothesis H0, which claims that inflation has no substantial impact on Ghanaian economic activity. As a result, I supported the alternative hypothesis, which argues that inflation has a major impact on Ghana's economic activity or GDP growth because a 1% increase in inflation causes GDP to fall by 6.9%.

**Table A 2: From 1980 to 2015, Ghana's GDP Growth Rate (Y percent), Money Growth (M percent), Interest Rates (I percent), and Inflation (INFL percent).**

YEARS	GDP (Y) (%)	Money (%) Growth	Interest (I) (%) rates	Inflation (INF) (%)
1980	0.5	30.1	-24.4	50.2
1981	-3.5	54.5	-44.8	116.5
1982	-6.9	19	-9.6	22.3
1983	-4.6	49.3	-48.6	122.8

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1984	8.6	60.6	-25.2	39.7
1985	5.1	42.7	5.2	10.3
1986	5.2	44	-6.1	24.6
1987	4.8	52.6	-18.3	39.8
1988	5.6	45	-12.2	31.4
1989	5.1	52.7	-8.2	25.2
1990	3.3	10.8	-21.3	37.3
1991	5.3	7.7	-3.1	18.1
1992	3.9	53	-3.4	10.0
1993	4.8	27.9	-6.3	25
1994	3.3	50.3	-6.8	24.9
1995	4.1	27.9	-48.1	74.3
1996	4.6	50.3	-5.8	34
1997	4.2	33.4	-0.6	27.9
1998	4.7	31.4	-22.5	14.6
1999	4.4	45.4	-6.8	12.4
2000	3.7	17.3	-4	40.5
2001	4.0	44.1	27	33.6
2002	4.5	49.9	25	14.9
2003	5.2	35.8	24	29.8
2004	5.6	26	19.1	18.2
2005	5.9	14.1	16.8	15.5
2006	6.4	38.80	20.0	11.7
2007	6.5	36.30	18.6	10.7
2008	8.4	40.20	25.6	16.5
2009	4.7	26.90	26	19.3
2010	7.7	31.90	24	10.7
2011	4.6	33.99	18.1	8.73
2012	0.7	25.14	15.5	9.2
2013	2.5	19.50	12.7	11.4
2014	1.2	37.29	14.4	15.4
2015	0.9	31.60	13.0	17.4

**SOURCE:** Ghana Statistical Service (GSS)

**5.1 Summary, Conclusion and Recommendation.**

This article investigates the impact of the Bank of Ghana's monetary policy and whether or not it has a substantial impact on Ghana's economic growth. Data were gathered from the Ghana Statistical Service and utilized in the analysis to estimate the linear form of the model from 1980 to 2015. The dependent variable in this paper was GDP, while the independent/explanatory variables were money supply, interest rate, and inflation. Following the findings, conclusions, and interpretations, it was discovered that at a 5% significant level, both money supply and interest rate were statistically insignificant, while inflation harmed the Ghanaian economy. This article also demonstrates that the Bank of Ghana's monetary policy had a 36.5 percent overall impact on Ghana's economic activities and growth, implying that other sectors not covered by the model played a larger role, accounting for 63.5 percent of GDP variation.

This paper concludes by recommending that, because inflation has been shown to have a negative impact on the level of economic activity in Ghana, the Bank of Ghana should use monetary policy instruments to control the rising level of inflation in Ghana and reduce it to a more appropriate figure (preferably single digit), in order to boost the Ghanaian economy's growth rate.

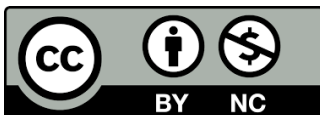
Financial authorities, such as the Ministry of Finance and Economic Planning (MOFEP), as well as other industry participants, must keep up with the Bank of Ghana's (BOG) overall monetary policy performance on policies that affect microeconomic stability.



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## Competition between Professional Universities and Traditional Universities -A Cas for Japan



Takaharu Ishii

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**ABSTRACT:** This paper provides the theoretical results of the competition between MBA schools and universities. 1) It is thought that admission is decided at a professional university, etc., without observing the research results of the faculty's two types of outputs (education and research). In such a case, the number of schools and researchers at research universities will be too small. Accordingly, an accredited evaluation organization that is an external organization will confirm the research results and disclose the quality and quantity of the research results to admission examiners. Enrollment is done. 2) The number of professional universities will increase to the point where the rate of the teacher ratio will also increase. In the model where the discount rate of education for practitioners and teachers (the length of the period of practical use in the field) fluctuates, as the number of professional universities increases, the expiration date for practical use is short (the discount rate for education is large) Recruitment of practitioner teachers will reduce the return on education at professional universities. 3) A law that sets a guideline for the practitioner teachers' educable period is desirable for economic growth. 4) Subsidies to professional universities with higher educational returns will lead to a decrease in researcher faculty and research universities through a reduction in research expenses at research universities.

**KEYWORDS:** Professional-Researcher teacher ratio, Professional teachers, MBA, Number of Professional Universities, Number of Professional teachers, Subsidy

**JEL:**M10, I21, I23, I26

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### 1. INTRODUCTION

In Europe and the United States, many graduates of business schools become senior executives in large companies, and an MBA degree plays a major role in the advancement of business careers. In addition to business schools, there are several other professional training schools around the world, including law schools, medical schools and schools for policy makers. In the United States, higher education degrees are divided into two categories: research degrees and professional degrees. In the United States, higher education degrees are divided into two categories: research degrees and professional degrees, which are awarded to researchers engaged in academic research and professionals who have worked in the field.

In general, universities and graduate schools with a large number of researchers and courses taught by researchers award research degrees, while universities and graduate schools with a certain number of professionals and courses taught by professionals award vocational degrees.

This study aims to examine theoretically the competition between universities for research degrees and professional universities for vocational degrees. Although previous research has examined theoretically the competition between public and private

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universities, to the best of the author's knowledge no research examines the competitive relationship between professional universities and other universities in general. The types of vocational degrees are diverse and the definition of professional schools offering vocational degrees varies from country to country.

This study focuses on Japan, a country that has been active in the introduction of professional degrees in recent years. For simplicity of discussion, we focus on Japanese business schools, as professional schools are defined differently in different countries and there are multiple fields of study, but we believe that the implications of this study are applicable worldwide. In Japan, the supervisory authority for higher education institutions, including universities, is called the Ministry of Education, Culture, Sports, Science and Technology (hereafter MEXT).

In Japan, there is a high demand for business administration, as it has always been one of the top departments that prospective students want to study at university. However, in recent years there has been an increase in the demand from companies for graduates in the sciences and a decrease in the demand from companies for graduates in business administration. The demand from companies for graduates and the demand from students who wish to study business administration are no longer the same. Since the 1990s, Japan's economy has entered a prolonged recession and industrial competitiveness has declined. Since the 1990s, the Japanese economy has entered a prolonged recession and industrial competitiveness has declined. However, Japan has not emerged from the prolonged stagnation and MBA graduates in Japan have not brought the same rate of income growth as in the West. In this context, a law was drafted in 2017 to allow professional schools to be established at the undergraduate level rather than at the graduate level. The establishment of professional schools requires a minimum percentage of practising teachers and a teacher training system for practitioners to become practising teachers, and a number of new systems are regularly introduced through the Certification Evaluation System (CES). In examining the effects of the introduction of such systems, we believe it is appropriate to consider Japan as a case in point.

In Japan, to increase industrial competitiveness, the education system has been reformed by establishing professional universities and professional graduate schools where students can study practical education such as nursing, teaching, and management, in addition to the traditional research degree universities. In professional degree universities, not only researchers teach, but also practitioners are the main teachers in the curriculum of professional graduate/professional universities. There are several fields of study available, including law, management, education, fashion, nursing and teaching. Also, in order to train business people who can play an active role in the business world, and to train professionals with a high level of professional knowledge who can play an active role overseas, we have made it possible for students to study practical content at universities, such as professional graduate schools and professional universities, rather than at vocational schools. The aim is to increase the country's return on education, increase competitiveness and stimulate economic growth.

The purpose of this study is to examine the impact of the establishment of professional universities and professional graduate schools on traditional universities. It will also theoretically clarify the changes in the number of universities and the composition of their teaching staff through the competition between professional universities and professional graduate schools and regular universities. In Japan, professional graduate schools have been established since 2005, and many practitioners have been assigned to them. It is important to examine the effects of the increase in professional schools to consider the future of higher education.

In previous research on school education, many theoretical and empirical studies clarify the competitive relationship between private and public high schools, but most of them are studied from the demand side. On the other hand, some studies are conducted from the aspect of supply, which is analyzed from the viewpoint of economic growth. The present study is analysed from the aspect of supply. However, it will not be analysed only in terms of the rate of return on education as a result of traditional educational activities and educational content. It includes research activities. The activities of high school, secondary school and primary school teachers are mainly education and school administration work. University faculty members, however, include

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research activities in addition to teaching and school administration, and many university faculty members devote a major part of their working time to research. The results of their research activities are an important factor in their promotion and remuneration within the university and in their ability to move to another university. The results of their research activities are also likely to be linked to the quality of their teaching.

This study focuses on professional universities and professional graduate schools, which are legally required to include practitioner teachers as faculty members. Professional universities and professional graduate schools include a variety of graduate schools and faculties such as nursing, education, law and management. To facilitate understanding, this study will focus on business schools as one example.

### 2. PREVIOUS REVIEW

An outcome measure in higher education is the rate of return on education. When comparing the rate of return on education of universities offering research degrees and business schools, one of the professional universities offering vocational degrees, previous studies show that vocational degrees are higher (Dale and Krueger 2002,2011).

Estimates of the rate of return on education have been widely used in Japan and other countries. International survey papers exist, such as Card (1999). In Japan, Seo and Kusakada (2011) and others have summarised studies of the rate of return on education in Japan.

However, there are not many studies in the world that focus on postgraduate education. Although few, research on the rate of return to higher education, including postgraduate education, has accumulated, mainly in Europe and the U.S. Jaegar and Page (1996) used U.S. Current Population Survey (CPS) data to analyze the effects of higher education degree attainment for white men, white women, black men and black women. They analysed the effects. Their analysis also compares the rates of return on general (Masters), professional (Professional) and doctoral degrees compared to undergraduate degrees. They conclude that there is a wage premium of between 5.5% and 15.5% for a general Masters degree, between 28.6% and 48.8% for a professional Masters degree and between 8.3% and 10.3% for a PhD compared to an undergraduate degree. It shows a higher rate of return for professional master's degrees.

Hussy (2012), using panel data on MBA graduates in the US, found that the educational rate of return for MBAs at top universities is about 30%. Fu and Ross (2013) found that the return on the education of US master's graduates was 10-12% higher than that of bachelor's graduates. Fu and Ross (2013) found that the returns to education for US master's graduates were 10-12% higher than for bachelor's graduates. Doctoral programs are 22-24% higher than bachelor's programs. Kakizawa (2014) estimated the internal rate of return for master's degree graduates, taking into account the number of years of employment, using the Employment Status Survey in Japan, and found that it was 11.4 for men and 10.1 for women. A theoretical analysis of the learning effects of Japanese higher education on research degrees using a macro production function was conducted by Murata (2016). Murata (2016) incorporates human capital formation into the macro production function and shows that labour productivity rises as government subsidies to higher education increase, based on the profit maximisation hypothesis for firms and the higher education level maximisation hypothesis for households. Epple and Romano (1988) analyzed the competitive environment between private and public schools and found that the voucher system increased the demand for private high school education, and also increased the selection of students based on ability. Grove and Hussey (2014) found a relationship between indicators of school quality and indicators of career success, with peer presence and school quality (curriculum, institutions, and teacher characteristics) being important. analysed the average salaries of graduates and found that pre-MBA salaries and curriculum quality are the most influential; Blackburn (2011) found that university reputation is the most important enrolment factor. Blackburn (2011) found that the reputation of the university was the most important entry factor, compared to the reputation, syllabus, quality, facilities and

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careers; Gai and Polutnik (2016) found that salaries increased particularly for those entering MBAs with experience in the accounting, banking, finance and consulting industries; GMAT and elite undergraduate education were not associated with employment probability or distress levels; Guha et al. (2013) found that the effect of tuition fees on the choice of an MBA was not statistically significant.

Valera et al. (2013) argue that an MBA does not equip you with business management skills. Shue (2013), who developed the methodology, finds that executive peer networks influence executive compensation and acquisition strategies, especially for graduates of similar courses. In the year following the reunion, the peer effect is more than twice as strong; Grove and Hussey (2013) found a return of 7%, with MBAs returning twice as much as MIS; Bishop and SchWeber conduct a cost-effectiveness analysis of online MBAs.

Trieschmann et al. (2017) found that MBA performance is affected by budget per faculty member and professor ratio; research performance is affected by a number of faculty members, professor ratio, and associate professor ratio; Hussey (2012) found that the majority of returns are signaling; Arcidiacono et al. found that the top 25 and below full-time MBAs have even higher rates of return than the top-ranked.

Burbidge et al. (2012) aimed to estimate the effective tax rate and effective subsidy rate on investment in higher education using Canadian data, measuring the rate of return on investment in higher education. The estimates show that the private rate of return is estimated to be 8.8 percent for males and 10.3 percent for females in master's programs, and 2.4 percent and 7.7 percent for doctoral programs, respectively.

Walker and Zhu (2011) use data from the UK Labour Force Survey (LFS) to analyse the wage premium for undergraduates by discipline and estimate a wage premium of around 15 percent for postgraduate women and 5-10 percent for postgraduate men in all disciplines. Song et al. (2008) find that those with higher scores on the GRE quantitative test tend not to enter graduate school in the US, while those with higher scores on the verbal test tend to enter graduate school. Fu and Ross (2013) analyze the relationship between economic agglomeration and wages in the U.S. and find that the wage premium for master's degree holders increases from 5% to 7.3% and that for doctoral degree holders increases from 5% to 12.8%. Fu and Ross (2013), in their analysis of the relationship between economic concentration and wages in the US, report estimates of wage functions that include master's (MA) and higher degrees as explanatory variables, with wage premiums of 10-12% for MA and 22-24% for higher degrees compared to undergraduate degrees.

Recent studies that estimate the rate of return on education in Japan, including higher education, include Ono (2004), Sano and Yasui (2009), and Nakamuro and Inui (2012). However, there have been no estimates of the rate of return on professional and technical schools.

While Sano and Yasui (2009) and Nakamuro and Inui (2012) estimated the general rate of return on education, Ono (2004) conducted an analysis focusing on the quality of university education and found that the wage premium for university education varies widely from 2.5% to 15.6% depending on the quality of the university education Kawaguchi (2011) found that the wage premium for university education varies widely from 2.5% to 15.6% depending on the quality of university education. Using micro data from the Basic Survey on Wage Structure (2005-2008), Kawaguchi (2011) analyzes what points should be kept in mind when applying a Mincer-type wage function to data on male general workers in Japan. The study estimates potential years of experience-wage profiles for junior high school graduates, high school graduates, junior college graduates, technical college graduates, and four university and graduate school graduates. Hirao, Umezaki and Matsushige (2007, 2011) also analyse the postgraduate wage premium using individual data from a survey of Japanese firms. In the former, they show that if the starting salary of a postgraduate (master's) degree is higher than that of an undergraduate degree with two years of service, the subsequent wage increase is also higher for the master's degree. The latter shows that the wage premium has been declining over the past decade since the late

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1990s as workers become more highly educated and that the substitutive relationship between postgraduate degrees in the humanities and undergraduate degrees in the humanities has become more pronounced.

According to Morikawa (2011), the postgraduate wage premium in Japan is about 20%, which is comparable to the US and UK. The wage premium is larger for women than for men. It has also been found that workers with postgraduate degrees experience a smaller decline in wages after the age of 60. Morikawa (2013a) also uses micro data from the Basic Survey on Employment Structure to compare the employment and wages of postgraduates with those of workers with undergraduate degrees. The results show that postgraduates have higher employment and full-time employment rates than undergraduates. Postgraduates also have higher incomes and lower poverty rates in terms of both personal and household income. There is a 30.3% wage premium for postgraduates compared to undergraduates, and by industry and type of work, it is very small for public service and very large for self-employed. There is little difference in the postgraduate wage premium between men and women, and postgraduates have been shown to have smaller wage declines after the age of 60. Morikawa (2013b) also compares the wage structures of the public and private sectors using micro data from the same Basic Survey on Employment Structure. According to the results, the wage premium for university and postgraduate graduates compared to high school graduates is 22.4% and 44.4% respectively in the private sector, while in the public sector it is smaller at 9.8% and 25.8% respectively. In particular, the results show that the premium for university and postgraduate degrees is very large for women working in the private sector.

### 3. THE SYSTEM OF PRACTICAL EDUCATION IN JAPAN

#### 3.1 Professional University

Research universities and professional universities are the same universities, but the characteristics of the teaching staff differ between professional universities, which offer more practical content, and research universities, which teach the systematisation of knowledge and its application to reality through literature and research. The increase in the number of professional universities will lead to an increase in the number of practitioners, as professional universities will have more practitioners.

Professional universities were required by industry to respond to the need for practical education and the need for relearning as the rate of students entering higher education increased. They were established to strengthen the development of human resources capable of coping in a rapidly changing society, i.e. those with advanced practical and creative skills. The university system is a system that focuses on practical vocational education and aims to strengthen the training of professional human resources through cooperation with industry.

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A professional universities is similar to a technical college in that it is a vocational-focused school. Professional universities are similar to professional universities in that they are vocational schools. They provide students who wish to become designers, cake makers, bakers or other artisans with the knowledge and skills necessary to work in their chosen profession. Like professional universities, vocational schools also offer practical training. The most obvious difference between a vocational school and a

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professional university is the degree that can be obtained after graduation: a vocational school offers a "professional" degree, whereas a professional university offers a "bachelor (professional)" degree. After graduating from a professional university, students can go on to graduate school or study abroad to pursue their studies. Professional universities are also directly linked to industry, allowing students to earn credits by working in the field. You can also study related subjects as in a normal university, so you can acquire a wide range of knowledge.

They also differ in that the period of study is four years for professional universities and at least one year for vocational schools. A professional university is a university that offers both theoretical and practical training and prepares professionals. A vocational school can be seen as a hybrid school, combining the elements of training craftsmen with those of improving university expertise, while the institutional boundaries between vocational schools and vocational universities are disappearing. Professional universities are backed by industry, so students are able to form close relationships with industry. The fact that many of Japan's top companies lend a hand in accepting students for off-campus training shows that there is a growing expectation that they will be able to secure human resources with the ability to work immediately. By experiencing first-hand the atmosphere of a professional workplace, students develop the ability to think and solve problems in an appropriate manner, and develop human resources who can be immediately effective.

**Table1. Professional Schools in Higher education**

	Professional University /Professional Junior College	Specialized Training Colleges
Years of service	4 years/2-3 years	1-4 years
Degrees and titles of graduates	Bachelor(professional) Junior college Student(professional)	Advanced Diploma or Diploma
Educational content	theory and practice	practice
Teaching content	practice(1/3), research in industry(2/3)	mainly practice
Instructors	practitioner teacher, researcher teacher	practitioner teacher
Number of students in class at the same time	in principle, 40 or less	in principle, 40 or less
Graduation credits	124 credits/62 or 93	800 hours/year

### Technical school

At a vocational school, you can specialise in a particular profession (specialised course). If you want to be a hairdresser, you should go to a beauty school. If you want to be a designer, you should go to a design school. It takes two to three years to acquire the necessary skills, and the title given after graduation is limited to schools approved by prefectural governors in accordance with the School Education Law, but if you complete the two-year course designated by MEXT, you can become a specialist, and if you complete the four-year course, you can become an advanced specialist.

A vocational school is an educational institution that offers specialised courses. It is a formal institution of higher education and is open to students who have graduated from high school or a technical college. The duration of study is at least one year. The education at special training colleges differs from that at universities, which award research degrees, in that the emphasis is on practical training to develop professionals, with 50% of classes consisting of lectures, 40% of practical training and 10% of in-company training. Graduates of two- or three-year courses are awarded a Diploma, and graduates of four-year courses are awarded an Advanced Diploma. The Diploma is generally transferable to universities, while the Advanced Diploma entitles the holder to

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enter a graduate school. Professional training colleges that offer higher education without specialised courses can be called special training colleges. In recent years, there has been an increase in the number of normal vocational schools and university-affiliated vocational schools being converted into universities.

### 3.2 Professional Graduate School

The statutory aims of the graduate schools awarding research degrees are as follows

*The purpose of the school is to teach and research academic theories and applications, to cultivate profound knowledge and outstanding ability, comprehensive and comprehensive skills to develop profound knowledge and skills for occupations requiring a high degree of specialization, and to contribute to the development of culture (Article 99, Paragraph 1 of the School Education Law).*

While the above graduate schools aim at the advancement of culture, professional graduate schools aim at the training of highly-skilled professionals. According to the laws and regulations (University Establishment Standards for Professional Graduate School), 30% or more of the faculty members must be practitioners (with no requirement for research ability).

In Japan, there is not necessarily a high demand for the establishment of graduate schools that specialize in the training of high-level professionals like professional schools in the U.S. As a result, graduate schools in Japan have been developed mainly by universities that mainly offer research degrees. In some graduate schools, such as master's degree programs in engineering and pharmacy, the weight of training practitioners such as engineers has become larger than that of training researchers in response to social demands and the progress of science and technology. However, on the whole, the graduate school system before 2005 focused on the role of training researchers.

However, in recent years, in response to rapid technological innovation, rapid changes in the social economy, and diversification, complexity, sophistication, and globalization, there have been increasing expectations and social demands for graduate schools to train advanced professionals who can be accepted by society and the international community. Expectations and social demands for the training of highly-skilled professionals of international standing are increasing in various fields, not only for the training of those who are going to work in specific professions or acquire professional qualifications, but also for the provision of opportunities for continuing education and re-education to enable those who are already working in professions or have acquired qualifications to acquire a higher level of professional knowledge and practical skills. It has become more important than ever before to enhance practical education, such as the acquisition of highly specialized knowledge and the development of skills required to engage in a particular profession.

The system of professional graduate schools was launched in April 2005, ahead of the system of professional universities, in order to dramatically improve the quality and quantity of training of highly-skilled professionals who will be active internationally and in society, and to enable universities to fulfill their function of developing human resources to meet the expectations of society. Professional graduate schools are required to realize practical education through cooperation and exchange with the business world through the participation of practitioners, and to guarantee flexible and high quality education in response to changes by introducing evaluation by a third party.

### 3.3 International accreditation bodies and the role of practitioner teachers in business schools

In Japan, there are three accreditation bodies for professional graduate schools of business administration: the Japanese Association of University Standards, ABEST21, and the Association of Graduate Schools of Accountancy (AOPAS). On the other hand, looking outside Japan, accreditation bodies in the field of business education have been actively promoting their accreditation in Asia. The EFMD issues EQIS and EPAS. The EFMD publishes the EQIS and EPAS accreditations, and the three institutions share a common focus on (1) mission and strategy, (2) learning outcomes, (3) faculty qualifications, (4) quality assurance, and (5) permanence. In addition, with regard to the perspectives (6) internationalisation and (7) corporate collaboration,



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although not common to all three institutions, they are treated as priority criteria by the EFMD.

On the first point, mission and strategy, the EFMD require a clear mission, a clear strategy for each activity, and alignment of the mission with the curriculum and learning outcomes. Based on the basic mission of a professional school of management, each graduate school is required to establish its own "specific objectives". In terms of strategy, the question is whether the graduate school has developed a medium- to long-term vision for achieving its specific objectives, and whether it has developed and implemented a strategy for achieving these objectives.

Regarding the second point, learning outcomes, the standards of international evaluation organizations require quality assurance of learning through outcome assessment. The Japanese accreditation standards for professional graduate schools of business administration include a viewpoint on learning outcomes, but they only use the status of degrees awarded and the career paths of graduates as indicators, and do not provide a substantive assessment of learning outcomes.

Thirdly, there are differences in the evaluation criteria for the qualifications of teachers. According to the evaluation standards of international evaluation bodies, research activities are mandatory for teachers, and the degree required for teachers is, in principle, a doctorate, with a minimum of a master's degree. In addition to research achievements, collaborative efforts with companies, such as consultancy, are also expected as a matter of course. In Japan, however, the requirements for qualifications of teachers are set in accordance with the professional graduate school system. The "Standards for the Establishment of Professional Graduate Schools" stipulate that full-time teachers should be "practitioners" from the viewpoint of emphasizing practical education, but the definition of "practitioner" is based on the provisions of Notification No. 53 of the Ministry of Education, Culture, Sports, Science and Technology in 2003 (Article 5, Paragraph 1 of the Standards for the Establishment of Professional Graduate Schools). However, the definition of a "practitioner teacher" is given only in the Ministry of Education, Culture, Sports, Science and Technology's Notification No. 53 of 2003 (Necessary Matters for Professional Graduate Schools under the Provisions of the Standards for the Establishment of Professional Graduate Schools, Article 5, Paragraph 1, etc.), which states that "a practitioner teacher shall be a person who has approximately five years or more of work experience in his/her major field and has a high level of practical ability. This is the only requirement. In addition, the ratio of practitioner teachers to the total number of teachers is only stipulated to be "approximately 30% or more of the number of full-time teachers to be appointed for each major. Accordingly, there is no provision on the degree requirements for practitioner teachers. This Japanese approach to the composition of teaching staff is at odds with the approach of international evaluation bodies, which require the recruitment of researchers with doctoral degrees. There is no definition of a practitioner teacher in the first place, and it is recognised that teaching only with work experience is not in itself appropriate in terms of ensuring the quality of teachers. In this study, in addition to assuming that those who teach only with practical experience are considered as practitioners, we also assume that those who have little or no research achievements after their arrival at the university are also considered as practitioners, although they had research achievements before they arrived at the university.

The fourth point is the treatment of quality assurance. Some international evaluations require the visualisation of learning outcomes in order to guarantee the quality of education, and some internal quality assurance systems have set standards for evidence of processes to guarantee the quality of education and the effectiveness of learning. For a university-wide internal quality assurance system to function effectively, it is essential that improvements and reforms are made not only at the university level, but also at the programme and classroom level in each department. There is a lack of validation of the three policies - degree-awarding policy, curriculum design and implementation policy, and student acceptance policy - and the curriculum, and measurement of learning outcomes.

The fifth point is about the sustainability of the university. From the point of view of the sustainability of the professional graduate school in the university organization, the change in the ratio of the number of students admitted and the ratio of applicants to the

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number of students admitted will be looked at in the evaluation as a reference indicator. Sustainability is not only about securing resources and financial resources, but also about the university's contribution to the local community and society. There are no criteria that require the development of a system for assessing the contribution of universities to society, nor is there an assessment perspective that recognises the role and contribution of universities to society.

In its evaluation, the EFMD places emphasis on international perspectives and interaction with business in all its activities, including mission and objectives, programmes, students and faculty. As we deal with business in education, we must be aware of the global situation surrounding business and of developments in business schools abroad. In addition, it is necessary to think about the state of education from an international perspective. It will be obligatory to establish an "advisory board" for strengthening and cooperation between professional graduate schools and society (exit).

This section compares the evaluation criteria of the three international business school accreditation bodies (EMBA, AMBA and AACSB).

Criteria relating to the qualifications of teachers are set out in the main section by all the accreditation bodies.

Towards the activities of the faculty, EFMD requires that there are activities such as research, consultancy, collaboration with companies and international initiatives, while AMBA requires active involvement in all activities of research, consultancy and collaboration with companies.

Different organisations have different standards for the number of faculty members according to their academic qualifications and the commitment of faculty members. The EFMD requires that faculty members have (or will have) a Ph.D and that core faculty members work at least 25 FTE. The AACSB classifies faculty into participating faculty and supporting faculty, and requires that participating faculty comprise at least 75% of the faculty. The AACSB divides faculty into four types by classifying them as Academics or Practitioners according to their background, and as Academic or Applied/Practice according to their approach.

(1) Scholarly Academics ("SA"), (2) Practice

Academics (hereinafter referred to as "PAs"), 3) Scholarly Practitioners (hereinafter referred to as "SPs"), 4) "Instructional Practitioners (hereinafter referred to as A doctorate is required for SA and PA, and a master's degree is also required for SP and IP. A doctorate is required for SA and PA, and a master's degree is also required for SP and IP. The criteria are that the proportion of SAs to the total number of core faculty members including Other O must be at least 40%; the total number of SAs, PAs and SPs to the total number of core faculty members must be at least 60%; and the total number of SAs, PAs, SPs and IPs to the total number of core faculty members excluding Other O must be at least 90%. AMBA requires that at least 75% of the core faculty hold a postgraduate degree, with the majority holding a Ph.D.

The Japanese Association of University Standards, the accrediting body for business schools in Japan, has set a minimum number of core faculty members above the legal minimum, at least half of the faculty members must be professors, and at least 30% of the faculty members must be practitioners, as required by law (Standards for the Establishment of Professional Graduate Schools). ABEST21 has similar standards.

### 3.4 What is a practising teacher?

Certified Evaluation and Accreditation Organization (AACSB) minimum requirements for practitioner teachers are a master's degree or higher, and AACSB standards assume that the education of practitioner teachers is obsolete; and It is assumed that the teacher is capable of taking charge of responsible and practical education within the period of employment as a practitioner teacher. In Japan, the law (Standards for Professional Graduate Schools of Management) defines a practitioner teacher as follows *Those with at least five years of work experience in their major field and a high level of practical ability.*

In Japan, there are no set standards for degrees for practising teachers and no set system for the minimum level of research activity that practising teachers must undertake or for the obsolescence of their teaching content.

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**Table 2. Number of Students**

	2015	2016	2017	2018
Master	159,481	165,422	162,693	163,100
Doctor	71,363	74,231	73,917	74,367
Professional	645	23,033	18,776	16,546
of which, number of adult students	560	9,056	8,037	8,637

1. Created by the author using the Basic School Surve

**Table 3. Num. of Teacher**

	2011			2018		
	Core Faculty		Practitioner /All teacher	Core Faculty		Practitioner /All teacher
		Num. of Practitioner			Num. of Practitioner	
Business/MOT	568	311	55	636	368	57.9
Accounting	247	111	45	169	76	45
Public Policy	113	37	33	106	37	34.9
Public Health	81	30	37	90	36	40
Intellectual Property	40	21	53	12	11	91.7
Clinical Psychology	52	22	42	52	23	44.2
Others	226	97	43	276	137	49.6
Law school	1,632	536	33	-	-	-
Teacher Education	427	191	45	913	430	47.1
Sum	3,386	1,356	40	2,254	1,118	51.3

## 4. ANALYSIS

### 4.1 Basic Model

In this section, we confirm the production  $Y^*$  of a country.  $Y^*$  is the total production of Professional School and Research University. This is the output of a country where the output of each university is multiplied by the number of schools.

At Professional University, researchers and practitioners coexist. Practitioner faculty conducts education only, and research faculty conducts education and research.

The production of a research university is obtained by multiplying the production function  $y_m$  of the research university by the number  $m$  of research universities. The size of each university is the same. Practitioners with higher educational returns are employed first as practitioner teachers.

This is the total production of Professional School, which is the production function  $y_n$  of Professional University multiplied by

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the number  $n$  of Professional University.

The total of both the above-mentioned Professional University gross product and the research university gross product is the national production  $Y^*$ .

Each university determines the ratio of researchers and practitioners. In this model in this research, the total of Professional Universities and Professional Graduate School is called Professional Universities, and the total of a research university and research graduate school is called a research university.

$$\begin{aligned}
 Y^* &= my_m + ny_n \\
 &= m[p_0y_{rm}(E_r(1 - L_R), R(p_0 + p_1, L_R))] \\
 &\quad + n[qy_{pn}(E_p(L_p)) + p_1y_{rn}(E_r(1 - L_R), R(1 - q, L_R))] \quad (1)
 \end{aligned}$$

The production function  $y_m$  of a certain research university is obtained by multiplying the ratio of researcher teachers of a certain university  $p_0 (< 1)$  by the production function  $y_{rm}$  of a representative individual of a researcher and faculty member of a certain university.

The production volume of the production function  $y_{rm}$  of the researcher, the teacher is the sum of the result  $E_r$  of the education activity of the researcher teacher and the result  $R$  of the research activity.

Professional University's production function  $y_n$  consists of two terms. It is obtained by multiplying the practitioner teacher ratio  $q$  by the practitioner teacher production  $y_{pn}$ , and by multiplying the professional teacher ratio  $p_1$  of the Professional University by the researcher teacher production function  $y_{rn}$ .  $q$  is the number of practitioners divided by the total number of teachers.

The result  $R$  of the research activity is a function of the time required for the research  $L_R$  and the ratio of all researcher teachers in a certain country  $p_0 + p_1$ .

The sum of the ratio of researcher teachers at each of the two universities.

An increase in the ratio of researchers and teachers will increase the outcome  $R$  of research activities. Increasing the research time  $L_R$  also increases the research outcome  $R$ .  $p_0 + p_1 + q = 1$  and  $0 < L_p < 1$ ,  $0 < L_R < 1$ ,  $L_p > L_R$ .

In previous studies, the production function of a school includes only education. In this study, we include research output in the production function, i.e. both teaching and research are productive activities, and the sum of the products is the output of the school. The research output is assumed to depend on the time spent on research by the research faculty and the number of research faculty in the country. Research output includes both quantitative and qualitative aspects of academic research output, such as articles. Indicators for the quantitative aspect include the number of papers, while indicators for the qualitative aspect include the impact factor, etc. An increase in research output is an increase in the output of a university; it is a natural assumption that research output is a function of the increase in the ratio of researcher-faculty members, since an increase in the number of researchers increases the overall research output of the university even if the research output per researcher is the same.

A theoretical analysis of the learning effects of Japanese higher education on research degrees, which includes the number of researchers in the macro production function, is provided by Murata (2016). An increase in the number of researcher teachers in a country increases output by contributing to a rise in the level of basic research in that country. We believe that an increase in the number of researcher-faculty members will lead to an increase in the quantity and quality of research activities through increased activity in research groups and conferences. Research output may also be expected to increase through increases in quantitative aspects such as the number of researchers who can advise on thesis drafts, the number of collaborators, and the number of teachers who supervise doctoral students, as well as qualitative aspects such as the enhancement of teaching content. In a typical university with a research component, an increase in the number of research faculty members will lead to an increase in the number of faculty members per student, which in turn will lead to an increase in the intellectual standards of the country as faculty

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members devote more teaching time to their students.

The amount of time a researcher teacher can devote to research is the total hours worked minus the time the researcher teacher spends teaching. There are a number of practising teachers in Japan who do not engage in research. Practitioner teachers spend their total working hours only on teaching. The total output of the two is the output of the university. It is assumed that an increase in the ratio of researcher-faculty members increases research output. In addition to the pathway through national level exchanges, where an increase in the number of researchers within a country increases through collaborations between researchers, research meetings, reviews, etc., the pathway through which an increase in the ratio of researchers within a university increases research output is also assumed, as shown below. It is assumed that a decrease in the ratio of researcher faculty members within the university leads to a decrease in the internal evaluation of research performance. Since a certain percentage of the faculty members of professional universities and graduate schools are practitioners, practitioners account for a certain percentage of the members of the Faculty Council and the Board of Directors. In many cases, either the President or the Vice-President is a practising teacher. As research activities are not included in the main duties of practising teachers, the evaluation of their research activities may differ from that of research universities. The lesser importance of research achievements in academic promotion and faculty evaluation is also more common in professional universities. Applying the same evaluation criteria to practitioners as to researchers in professional universities would disadvantage them in terms of research performance and would require different evaluation criteria. When two sets of criteria, one for researchers and one for practitioners, coexist in a university and are discussed in one faculty meeting, it is difficult to set quotas for promotion and a compromise is likely to be reached. Some universities have set quotas for some practitioners in terms of research achievements, but this study assumes that there are no practitioners who conduct research activities for the sake of simplification.

In this study, only teaching and research activities are shown as productive activities of university teachers. In small and medium-sized universities in a country like Japan, where the declining birth rate is a social phenomenon, activities to attract students are emphasized and the time engaged by faculty members is significant. For the sake of simplicity of the model, we do not take into account the time spent by faculty members in various social contribution activities of the university, such as visiting lectures to high schools to attract students, raising the profile of the university in the community, and contributing to the local community.

There are also external effects of research such as an increase in product development and various businesses, an increase in consumption through social changes caused by digital transformation, and an increase in national production as a result of research results spreading to the industry through industry-academia collaboration, etc. These external effects through the spillover of research results to society are included in the university's research results R.

While the inclusion of research output as a product is a feature of our model, there are several other features. The ratio of practitioners to researchers is calculated by dividing the number of practitioner teachers per university by the number of researcher teachers. It is assumed that practitioner teachers are only enrolled in professional universities and not in regular universities. An increase in the number of practitioner teachers would allow for an increase in the number of practical subjects taught by practitioner teachers as subjects and for more than one practitioner teacher to be in charge of one practical subject. An increase in the number of practitioner teachers and in the ratio of practitioner teachers will lead to a greater number of practical subjects. At the same time, an increase in the ratio of practitioner teachers will mean a decrease in the ratio of researcher teachers. As the number of practical subjects in the university curriculum increases, so does the importance of research teachers in terms of educational effectiveness.

Professional universities and professional graduate schools require less time for theoretical education than regular university education, because they provide more time for practical education, part of which is on-the-job training in business settings. The disadvantage of professional universities and professional graduate schools may be that they narrow the scope of educational

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content to aspects from a particular profession. On the other hand, they allow students to learn in-depth through experiential learning. We assume that researcher teachers allocate only part of their working time to teaching and that the rate of return on education is lower than that of practitioner teachers who allocate all of their working time to teaching.

In Japan, a certain ratio of practitioner teachers is required as a condition for the establishment of professional universities and graduate schools. The law requires that a minimum of 40% of full-time faculty members be enrolled in professional universities and a minimum of 30% in professional graduate schools. Many universities in Japan have only the minimum number of practising teachers required by law, while others have a very high ratio of practising teachers. The high ratio of practising teachers indicates an important characteristic of professional universities. However, the optimal ratio of practitioner teachers that maximises the production of a university has not been identified in previous studies. In this study, the optimal ratio of practitioner teachers will also be discussed. The relationship between university production and the rate of return on education will be discussed. The educational rate of return arises through the educational activities carried out by the university faculty. Research activities have a positive impact on the rate of return on education by influencing the quality of educational content. Since the main purpose of this study is to contrast professional universities/graduate schools with research universities, we do not consider the effect of differences in research ability and research activities among research faculty on the richness of educational content.

From the demand side, the utility function of candidates taking the entrance examination is as follows. This utility function can be considered as a constraint equation on the production function of universities on the supply side.  $u = u(E_p^{-\lambda\tau} * E_r^{-\lambda(1-\tau)})$ . The utility of a prospective student is a function of the return to education of the practitioner and the return to education of the researcher.  $\lambda$  is a measure of whether the curriculum is specific to a particular profession; for research universities,  $\lambda = 0$ .  $\tau$  is the degree of preference that the average admissions officer has for learning from a practitioner teacher; the higher  $\tau$ , the higher the ratio of practitioner teachers to prospective students.

### 4.2 Real rate of return on education $E_p^*$ and discount rate $r_p$

Professional graduate schools, which train highly-skilled professionals, offer practical education. However, practical education includes universal contents, but many contents that become obsolete with time. The content of practical education often changes due to changes in the technology prevailing in the real world, or due to changes in the law or society. For the above reasons, even if the rate of return on education is very high, the period during which the content learned is applicable in society is often short. Even if the content taught by practitioners can be used effectively to increase students' incomes to a very large extent, if the time for which the content is valid is, for example, five years, the content of the practitioner's education will only be valid for five years. If the education of a practitioner teacher goes beyond the period when it can be said to be sufficiently practical, it is not desirable for that practitioner teacher to be engaged in education at a professional university. As stated above, professional universities should recognise that, given their founding principles, there is a limit to how long the content of a practitioner teacher's education can be valid, and a practitioner teacher should only be a practitioner teacher for as long as the content he or she teaches can be valid. Alternatively, it is desirable for practitioners to transform themselves into researchers by applying their practical experience to academic frameworks and producing academic research results. Or it is desirable to return to the world of practice. In such a case, universities must be constantly aware of the freshness of the educational content of practitioner teachers and must consider recruiting new practitioner teachers. However, it is difficult to ensure a smooth turnover of practitioners, and since such a system has not yet been legislated, the practitioners hired will be engaged in teaching for a long time.

In this section, in order to take into account the above-mentioned characteristics and circumstances of practitioner teachers, we define the real rate of return on education as the rate of return on education divided by the discount rate. The longer the content of the education provided by practitioners is available to society, the higher the real rate of return on education will be, while the shorter the period of availability to society, the longer the period of providing obsolete education, and the lower the rate

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of return on education for universities.

Professional School:

$$y_n^* = qy_{pn}(E_p^{*-λτ}L_p) + p_1y_{rn}(E_r^{*-λ(1-τ)}(1 - L_R), R(1 - q, L_R)) \quad (2)$$

$$E_p^* = \frac{(1+\rho_p)E_p}{1+r_p}, E_r^* = \frac{(1+\rho_r)E_r}{1+r_r}, r_r = 0$$

Non-Professional School:

$$y_m^* = p_0y_{rm}(E_r^*(1 - L_R), R(p_0 + p_1, L_R)) \quad (3)$$

$u_p$  represents the real rate of return on education by practitioners;  $\rho_p$  represents the nominal rate of return on education by practitioners; and  $r_p$  represents the discount rate. If the content of the education is effective in the world of practice over a long time, the discount rate will be low, while if the content is only effective in the short term, the discount rate will be high and the real rate of return on education  $u_p$  will be low.

If the content is effective for a long time, the discount rate is low. The nominal and real rates here do not imply the effect of prices. In the long term, the number of professional universities will increase to the point where the rate of return on education of practising teachers, taking into account the period for which the content of their education is valid, is balanced by the rate of return on education of research universities.

$\lambda$  indicates the specialisation of the curriculum. The more specialised the curriculum, the more specialised the teaching content, and the more students whose jobs or professions do not match the curriculum.

The more specialised the curriculum, the more specialised the teaching content. Therefore, an increase in specialisation leads to a decrease in the number of students considered for admission and a decrease in the target group.  $1 \geq \lambda \geq 0$ . When the specialisation of the curriculum  $\lambda$  is 0, there is no specialisation and the target group for admission is not narrowed down. Research universities have  $\lambda = 0$ .

$\tau$  is the average orientation of prospective students towards practitioner teachers; a rise in  $\tau$  means that more prospective students want a curriculum with more practitioner teachers. In Japan, executives in large companies require more theory-intensive courses, and executives in corporate planning departments especially require universities to have an understanding of theoretical subjects, as they analyze companies by trying to apply various management theories to their own companies. On the other hand, few SME managers and students who want to start their own business are in a position to try to apply management theories to their own companies. Many SME managers are keen to increase their immediate sales and are motivated by the importance of their leadership and understanding of systematic management theory, as well as by the experience, tips, decision criteria, experiential considerations and priorities for decision-making of practitioner teachers. In this way, SME managers and entrepreneurs and executives have the same orientation towards professional universities, but the curricula they seek are different.

$0 \leq \tau \leq 1$ , where  $\tau = 0$ , practitioners are not sought by prospective students. Research universities have  $\tau = 0$ , where  $\tau = 1$  is the statutory maximum ratio of practitioners desired by the average prospective student.

**PROPOSITION 1:** In the long term, the number of professional universities will increase to the point where the rate of return on the education of practising teachers, taking into account the period for which the content of their education is valid, is balanced by the rate of return on the education of research universities.

$$Y^{**} = my_m^* + ny_n^* = m[p_0y_{rm}(E_r^*(1 - L_R), R(p_0 + p_1, L_R))] + n[qy_{pn}(E_p^*L_p) + p_1y_{rn}(E_r^*(1 - L_R), R(p_0 + p_1, L_R))] \quad (4)$$

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$$\frac{\partial Y^{**}}{\partial q^*} = -my_{rm} + mp_0 \frac{\partial y_{rm}}{\partial R} \frac{\partial R}{\partial q} + ny_{pn} - ny_{rn} + p_1 \frac{\partial y_{rn}}{\partial R} \frac{\partial R}{\partial q} \quad (5)$$

$$\frac{\partial Y^{**}}{\partial q^*} \frac{\partial q^*}{\partial r_p} = n(1 + \rho_p)E_p r_p^2 \times [n(y_{pn} - y_{rn}) - my_{rm}] \leq 0 \quad (6)$$

$$\frac{\partial y_n^*}{\partial r_p} = q \frac{\partial y_{pn}}{\partial E_p^*} \frac{\partial E_p^*}{\partial r_p} L_p < 0, \quad \frac{\partial Y^{**}}{\partial y_n^*} \frac{\partial y_n^*}{\partial r_p} < 0 \quad (7)$$

The number of research and professional universities is determined based on the rate of return on education. The number of professional universities with a high rate of return on education increases more than that of research universities. If the increase in the number of professional universities leads to the depletion of practitioner teachers who produce a high rate of return on education, and if the rate of return on the education of professional universities decreases through the obsolescence of the educational content of practitioner teachers, then the number of professional universities will increase to the point where the rate of return on the education of the number of professional universities and the rate of return on the education of research universities are balanced. To increase the rate of return on education, research universities should disseminate to society the content of their research and the methodologies by which their research is implemented in society.

The number of research universities will increase.

**PROPOSITION 2:** If the utility of the content of the education of practising teachers is guaranteed for a long time (low  $r_p$ ), the real rate of return on education  $E_p^*$  will also remain high for a long time. If the utility value of the content of the education decreases in the short term (high  $r_p$ ), the output of the professional university will be small and the overall outcome  $Y$  of the economy will be depressed. In such a case, the optimal ratio of practising teachers  $q^*$  will decrease

AACSB requires the creation of a faculty based on the premise that the usefulness of practising teachers is short term, but other institutions and Japan do not structure their faculty based on such a criterion. Practitioners are employed for long periods and are responsible for teaching. Since maintaining a high rate of return on teaching increases the output of the university, there must be a system to replace those who teach obsolete material which reduces the rate of return on teaching. If we do not have such a system, then we need to constantly provide some form of feedback to the world on what practitioner teachers can teach and seek to receive feedback from society to renew our knowledge. By creating such a situation, it is possible to create new educational content that can respond to the changing times. However, given the purpose of a professional university, the teaching staff be replaced.

$$\frac{\partial q^*}{\partial r_p} = -n(1 + \rho_p)E_p r_p^2 < 0 \quad (8)$$

**PROPOSITION 3:** If a professional university has a higher rate of return on teaching than a research university ( $E_p^* > E_r^*$ ), the ratio of practising teachers to total teaching staff  $q^*$  will increase, as practising teachers with a higher rate of return on teaching are more likely to be recruited.

PROPOSITION3 is consistent with previous studies. Professional universities have a higher rate of return on education than research universities. Since the reason for the high rate of return on education is the education provided by practitioners, professional universities employing practitioners with a high rate of return on education will aim to further increase the rate of return on education by increasing the ratio of practitioners.

### 4.3 Increase in the number of professional universities

The impact of the increase in the number of professional universities is examined in this section.



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$$\frac{\partial Y_n}{\partial n} > 0$$

$$\begin{aligned} \frac{\partial Y_m}{\partial n} &= m \left[ p_1 \frac{\partial y_{r,n}}{\partial R} \frac{\partial R}{\partial q} - y_{r,n} \right] [y_{p,n} - y_{r,n}(1 + p_0)] \\ &\quad \text{if } y_{p,n} > y_{r,n}(1 + p_0), \quad \frac{\partial Y_m}{\partial n} < 0 \\ &\quad \text{if } y_{p,n} < y_{r,n}(1 + p_0), \quad \frac{\partial Y_m}{\partial n} > 0 \end{aligned} \quad (9)$$

**PROPOSITION 4:** An increase in the number of professional universities  $n$  increases the production  $Y_n$  of professional universities, but does not necessarily increase the production  $Y_m$  of research universities

An increase in the number of professional universities implies an increase in the number of students in professional universities. As a result, it will lead to a decrease in the number of students in research universities, which has the potential to reduce the number of research universities. As professional universities have both researcher and practitioner faculty members, the lower the ratio of practitioner faculty members in professional universities (the higher the ratio of researcher faculty members), the less the decrease in the number of research universities will lead to a decrease in the number of researcher faculty members.

### 4.4 Optimal ratio of practising teachers $q^*$

Below is a formula for the ratio of practising teachers in relation to the production of practising teachers.

$$q^* = \frac{m(1-p_0) \frac{\partial y_{rm}}{\partial R} \frac{\partial R}{\partial q} + n y_{pn} + n(1-p_1 y_{rn})}{m y_{rm} + m \frac{\partial y_{rm}}{\partial R} \frac{\partial R}{\partial q} + 2n y_{rn}} \quad (10)$$

**PROPOSITION 5:** The optimal ratio of practising teachers  $q^*$  is an increasing function of the production  $y_{pn}$  of practising teachers

The ratio of practitioner teachers in each university increases as the output of each practitioner teacher increases. Practitioners who focus on teaching have a higher rate of return on education, and an increase in the number of practitioners has a positive impact on the expansion of universities' output. The high output of practitioner teachers has the effect of increasing not only the number of professional universities but also the number of practitioner teachers through an increase in the ratio of practitioner teachers. On the other hand, when we also consider the aforementioned PROPOSITION that requires a shorter period of employment of practitioner teachers due to the obsolescence of their educational content, the figures indicated by the ratio of practitioner teachers are only short-term figures as practitioner teachers need to be replaced. In the long term, the number of practitioner teachers required in Japan will be very large. Teachers who are in charge of the entire curriculum of a professional university must be able to restructure the entire curriculum appropriately, as the practical content to be taught to students becomes obsolete every few years. It is also necessary to change the person who is in charge of the whole curriculum, because he or she must know the latest knowledge that is useful in the real world, and must be able to update the information gathering ability of the person who is in charge of the whole curriculum. If not, the person in charge should have the ability to collect information from overseas universities and update his or her knowledge to be useful for working in overseas companies.

### 4.5 Circumstances in which research outputs $R$ are not observed by prospective students

Applicants to professional universities are often people who have worked before. Some professional universities require work experience as an entry qualification. Prospective students with work experience are looking for an education that will contribute to their success and achievement in the workplace in the occupation in which they are currently engaged or will be engaged.

More than research universities, students at professional universities want a practical education that will lead them to success in the world of practice, and therefore need to be educated by practitioner teachers with successful experience in practice.

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The overemphasis on teaching by practitioners not only reduces the proportion of research faculty but also means that recognition of research achievement through research activities becomes less important. If the tuition fees of prospective students, which are the source of funding for the university, are paid only in return for teaching by practitioner teachers, and if the research output of researcher teachers is not included as a criterion for the choice of university when prospective students choose whether to attend a research university or a professional university, then research output  $R$  will not contribute to the sales of the university. If the research output  $R$  is excluded from the production function of the university, it excludes not only the research output of the researcher-faculty at the research university but also the research output of the researcher-faculty at the professional university. By comparing the case where research output is removed from the production function with the case where it is included, we consider the role that research output plays in inter-university competition. We assume that the researcher-teachers at both universities work for research and produce research output  $R$ , but that they are not included in the production function. Therefore, as in the previous section, the time spent on education by researcher-faculty members is the time spent on education minus the time spent on research. When research output  $R$  is excluded, the production function of both universities depends only on teaching.

$$Y^{***} = my_m^* + ny_n^* = m[p_0y_{rm}(E_r^*(1 - L_R))] + n[qy_{pn}(E_p^*L_p) + p_1y_{rn}(E_r^*(1 - L_R))] \quad (11)$$

$$\frac{\partial Y^{**}}{\partial q^*} > \frac{\partial Y^{***}}{\partial q^*}$$

To analyse the environment when prospective students do not identify research outputs  $R$ , we compared the production functions of the two universities with and without the inclusion of research outputs  $R$ . Again, when prospective students do not identify research output, the results confirm that an increase in the ratio of practising teachers increases overall economic output, regardless of whether research output is included or not. However, when research outputs were not included, overall economic outcomes were found to be lower than when they were included. If research outcomes  $R$  are not observed in prospective students and only teaching  $E$  is observable as an outcome, the overall economic outcome  $Y$  associated with the rise in practising teachers will slow down.

**PROPOSITION 6:** If research outcomes  $R$  are not observed in prospective students, and only teaching  $E$  is observable as an outcome, overall economic outcomes  $Y$  slow down with the rise in practitioner teachers

To increase the share of research universities contributing to the overall research output, the media for disseminating research results should be expanded and the volume of dissemination increased: summaries of research results should be disseminated on social networking sites (Twitter, Facebook etc.). Researchers and post-doctoral fellows at universities need to disseminate the results of analyses they have read as prior research or in leading journals in their fields on social networking sites weekly or more. This will provide access to the latest research results, help prospective students to think about how to apply their research results to society, and help prospective students to formulate their research themes. This will help to increase the number of students entering research universities.

The number of universities in Japan has almost tripled since the relaxation of the University Establishment Standards began in the 2000s, from around 300 in 2000 to around 800 in 2019. The number of 18-year-olds, the age at which people generally attend university, is 1.17 million in 2019, compared with 1.51 million in 2000, due to the declining birth rate. The number of students enrolled at university in 2000 was 600,000, while in 2019 it will be 630,000, a significant decrease. Universities are subsidised through schemes such as the Government Subsidisation of Private Education (GSE). Perhaps the most widely used source of funding for researchers in Japan is the Grants-in-Aid for Scientific Research from the Japan Society For The Promotion of Science (JSPS). Grants-in-Aid for Scientific Research from the Japan Society for the Promotion of Science are funded by taxation.

The Certified Evaluation and Accreditation Organisation (CEA), which is responsible for the accreditation of universities, encourages universities to support research activities by establishing a research fund for individual teachers. This is often funded

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through autonomous university administration, which requires that faculty members' research be funded from the university's own earnings rather than from government grants. Despite this demand on universities to secure research funding, researchers still rely on Grants-in-Aid for Scientific Research for much of their research funding. However, accreditation bodies recommend bridging practical and theoretical education, and require that researcher teachers are mainly placed in theoretical subjects.

Most grants are awarded to universities based on several indicators of their performance, such as the number of students and research output, and not solely on research. However, some of these funds are earmarked for research as part of the funding for the running of the university, and these sources are also taxpayers' money.

If a university requires continuous research output as one of the outcomes of teaching at the university, many of its teachers will be research active, but continuous research activity often requires a lot of funding. Research activities require funding, which in many cases comes from the state. As mentioned above, there are many different types of research funding, from university-based to research project-based. Government Subsidization of Private Education (GSPE) and other criteria may well be changed.

In this section, we analyse the effects of two types of subsidies from the state to universities. The state grants subsidies either to professional universities or to research universities for research support. The amount of the subsidy is determined either by the overall output of the university, i.e. the rate of return on teaching and the research output or only by the high rate of return on teaching. The rate of return on education is often compared with the rate of increase in income at two points in time, after the completion of the professional graduate school and when the student is enrolled (at the time of admission or completion), especially in business schools. The rate of increase in income is very high in business schools, and in the United States, it is sometimes said that the rate of increase in income is 80% between five years after graduation and the time of enrollment. In the United States, it is sometimes said that the rate of increase in income is as high as 80% after five years of study.

Compared with professional universities and graduate schools, the rate of return on education at research universities is usually lower. Professional graduate schools, which aim to train highly-skilled professionals who can play an active role in society and on the international stage, and which do not require research guidance or thesis examination, can differentiate themselves from research universities by increasing the ratio of practitioners and decreasing the ratio of researchers. In addition, since the goal of professional graduate schools is to train businesspersons who can play an active role in society, the definition of the active role is the rate of increase in income, or in other words, the rate of return on education. In other words, the system of professional universities and graduate schools itself has as one of its missions the maximisation of the rate of return on education.

In this case, there is a high possibility that government subsidies, which were previously allocated to research, will be allocated to education at professional universities in the future. In conventional universities and graduate schools, teachers teach the results of their predecessors' research and their research activities acquired in the process of acquiring academic theories and applications, but they specialise in increasing the rate of return on education.

When the rate of return on education in professional universities and graduate schools is high and subsidies flow to professional graduate schools, the ratio of practitioner teachers will increase as a result.

$$Y_m = my_m = m[p_2 y_{rm}(E_r(1 - L_R(F)), R(p_0 + p_1, L_R(F))) ] \quad (12)$$

$$Y_n = ny_n = n[q(F)y_{pn}(E_p, L_p) + p_1 y_{rn}(E_r(1 - L_R(F)), R(p_0 + p_1, L_R(F))) ] \quad (13)$$

$$\begin{aligned} \text{if } y_{pn} > y_{rn}, \quad \frac{\partial Y_n}{\partial F} > 0 \\ \text{if } y_{pn} < y_{rn}, \quad \frac{\partial Y_n}{\partial F} < 0 \end{aligned}$$

If the government decides that the only criterion for granting subsidies is the rate of return on education, part of the subsidy will be transferred from research universities to professional universities. The number of research universities and the ratio of research faculty members will decrease as a result of a decrease in the research output of research universities. The subsidy  $F$  from the government to universities may shift from support for research  $R$  to support for teaching  $E_p$  to practitioner teachers.

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**PROPOSITION 7:** If the only criterion for government grants  $F$  to universities is the rate of return on education, grants could shift from supporting research  $R$  to supporting the education  $E_p$  of practitioner teachers

If subsidies are awarded based on the rate of return on education, more will be given to professional universities with a higher rate of return on education. As a result, subsidies for domestic research activities would be reduced, leading to less research activity and therefore less research output. Given the above results, subsidies should be divided into two buckets: subsidies for education, which are supported based on the rate of return on education, and subsidies for research, which are supported based on research outputs. When the rate of return on education at research universities is compared with the rate of return on education at professional universities, it is difficult in the short term for research universities to exceed the rate of return on education at professional universities because of the purpose of their establishment and the criteria for their establishment. The rate of return on the education of research universities should not be measured only by the rate of increase in post-graduation income, but should be measured by a variety of indicators, with minimum standards for each indicator and standards for each level. The undergraduate education at research universities should include the breadth and depth of the liberal arts education, and should take into account the diversity of job opportunities, employment in foreign and international companies, and the advantages of changing jobs as indicators. Postgraduate education at research universities should provide students with the basic skills to apply their expertise in business, innovation in the field of applied research that can contribute to society, and innovation in the field of basic research that cannot be used immediately in society, through the development of the ability to understand cutting-edge expertise in the form of theses. You will learn the fundamentals for innovation in the field of applied research, which can contribute to society, and in the field of basic research, which is not immediately available to society. As a result of these studies, it would be inconsistent to establish a research university to use only a high rate of return on education as an indicator. A more appropriate indicator for a master's programme at a research university would be the number of graduates and their placements in research institutes and companies where they can apply their knowledge in a more specialised way. It is also important to produce master's graduates who can show that their master's studies are useful for companies by introducing advanced knowledge to companies through their master's education, which students acquire through their master's education that cannot be fully used in companies through their undergraduate education.

Professional graduate schools need to devote more time to learning practical content, which makes it more difficult to learn cutting-edge financial knowledge and expertise such as data scientists than research graduate schools. The advantage of a research graduate school over a professional graduate school is that graduates will have an understanding of the latest knowledge, which means that they will not be limited to the technology of the company they work for, but will have the potential to introduce the latest technology into the company when major changes occur in the world. Graduates are also able to become entrepreneurs. Graduates of research universities have the advantage of being able to understand foreign papers and to select the most advanced knowledge that they need and can use. In other words, graduates of research universities, rather than graduates of professional graduate schools, have the basic skills to develop skills that can be used over a long period and can support their graduating companies over a long period, using the basic skills they learned in the past. If we ask about the rate of return on education and the number of times a graduate has been active in a company over a long period, such as 20 years after graduation, research graduates will outperform professional graduates.

However, the rate of return on education over a certain period after graduation is lower than that of graduates of professional graduate schools. The reason why the educational rate of return of professional graduate school is high in the short term but limited in the period it is valid is that they can learn current cutting-edge knowledge and practical methods more specifically, and to learn cutting-edge industry common sense and knowledge thoroughly.

### 5. POLICY IMPLICATIONS

Master's and doctoral programs are more academically advanced than undergraduate education, but they are less practical for business people. This led to the establishment of professional graduate schools, which provide both theoretical and practical training for business people. The aim is to produce graduates who can play an active role in the business world after completing their degree. In recent years, however, the sophistication of digital technology and the increasing sophistication of knowledge has meant that a certain proportion of study time is spent on practical work, and there are some fields where it is not possible to acquire sufficient knowledge in a professional degree, where theoretical education time is shorter than in a master's or doctoral course. This is particularly the case in the field of information processing. Thus, the proportion of practical and theoretical education required in business differs from field to field, and it is not clear whether a higher proportion of practical education is desirable in business in the short or long term.

In this study, we have analysed the competitive environment between professional and research universities. In Japan, professional graduate schools require a certain period of business experience as a prerequisite for entry, which means that the average age of entrants is in the 30s. In Japan, the average age of students enrolled in professional graduate schools is in the 30s, which means that the average age of students enrolled in master's programmes at research universities is in the 20s, so it is highly unlikely that there will be strong competition between research universities and professional graduate schools. However, as the qualifications for entry to the new professional universities to be established from 2020 will be the same as those for entry to research universities, it is expected that there will be competition between research universities and professional universities. In addition, the number of students in their 30s enrolling in master's programmes is now increasing, so research universities and professional graduate schools are becoming more competitive.

Under the circumstances described above, this study considered the optimal ratio of practitioner teachers that would maximize the output from the supply side of maximizing the output of educational and research activities by universities. The results obtained are as follows

- 1) It is considered that admission decisions are made without observing the research results among the two types of results (teaching and research) of teachers at professional universities etc. In such a case, the number of schools and researchers in the research university will be underestimated. Therefore, the accreditation body, which is an external body, will check the research results and disclose the quality and quantity of the research results to prospective students, so that the admission can be allocated appropriately.
- 2) If the rate of return on the education of professional universities is greater than that of research universities, and if practitioner teachers become practitioner teachers from practitioners with a higher rate of return on education, the number of professional universities will increase to the point where the rate of return on the education of research and professional universities is equal. The ratio of practitioner teachers will also increase. In a model where the discount rate of education of practitioner teachers (the length of time they are practically available in the field) varies, the rate of return on the education of professional universities will decrease as the number of professional universities increases, due to the recruitment of practitioner teachers who have a shorter time to be used in practice (a higher discount rate of education). In the case of professional universities in fields where the discount rate for education is high, the turnover of practitioner teachers occurs in a short time and the rate of return on the education of professional universities will decline faster unless there are enough qualified practitioner teachers in the market. If the discount rate for practitioner teachers is high, the rate of return on the education of professional universities will decline faster with the increase in the number of professional universities and with time since the establishment of professional universities. As the rate of return on the education of professional universities falls, the number of research universities with a higher rate of return on education increases.

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3) An increase in the number of professional universities implies an increase in the number of students in professional universities. As a result, it will lead to a decrease in the number of students in research universities, which has the potential to reduce the number of research universities. As professional universities have both researcher and practitioner faculty members, the lower the ratio of practitioner faculty members in professional universities (the higher the ratio of researcher faculty members), the less the decrease in the number of research universities will lead to a decrease in the number of researcher faculty members. However, as the ratio of practitioner teachers is expected to increase due to the high rate of return on education in professional universities, the number of researcher teachers will decrease.

4) Legislation setting out guidelines for the length of time practising teachers can be trained is desirable for economic growth

5) Subsidies to professional universities, which have a higher rate of return on education, lead to a reduction in the number of research teachers and research universities through a reduction in research funding.

Due to the special nature of their education, professional universities have a shorter shelf life for the content of their practical education than for the content of the education of researcher teachers. The content of the education provided by researcher teachers is likely to be at the cutting edge of education as long as they continue their research, whereas the content of the education provided by practitioner teachers is subject to obsolescence as the experience of practitioner teachers rapidly moves with the times. For example, in two or three years, the most advanced methods in the field of marketing will change and old marketing theories will become obsolete. It is clear that as the content of practical education becomes obsolete, the return on education for graduates declines. To prevent such a situation from occurring, there is a need for an appropriate rotation of practitioner teachers in professional universities and a system whereby practitioner teachers are employed to move between businesses and universities at regular intervals.

Through competition, the number of professional and research universities increases, with the result that the number of professional universities with higher output increases, while the number of research universities decreases. This result is due to the assumption in previous studies that professional universities have a higher output from their teaching activities because they have a higher rate of return on teaching than research universities. An increase in the number of professional universities will lead to an increase in the number of researcher teachers belonging to professional universities, but a decrease in the number of research universities will lead to a decrease in the number of researcher teachers belonging to research universities. A certain percentage of the increase in the number of teachers due to the increase in the number of professional universities is researcher teachers, but the decrease in the number of teachers due to the decrease in the number of research universities is the entire number of teachers for one university. A decrease in the number of research universities is therefore a decrease in the number of researcher teachers. A decrease in the number of research teachers reduces the output of the research university through a decrease in research output. The decline in the output of research universities is a negative spiral, which can lead to an accelerated decline. In this way, the decrease in the number of research universities will reduce the number of research teachers and research output. The number of research universities will also increase if the research output of research universities exceeds the difference between the educational output of professional universities and that of research universities, even if the educational output of professional universities is greater than that of research universities.

What needs to be taken into account is that even if there is an optimum ratio of practising teachers that maximises output, it may not be the most favourable ratio for the demand side, i.e. for prospective students. Analysis of this point is a matter for future research. If the optimal ratio of practising teachers that maximises the utility of prospective students in terms of demand is higher than the ratio of practising teachers that maximises output in terms of supply, then the country will be under-represented in terms of researchers compared with its optimal output. Even if we exclude the perspective that the optimum ratio of practitioners is determined based on the demand side of supply and demand, if a person who is considering whether to enter a professional

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university or a research university does not make a decision based on the research output of the research university and does not observe the research output of the teachers as a criterion for admission, then the researcher ratio of the country will be underestimated compared with the optimum output. If this is not observed, the number of schools in research universities will be underestimated.

Inevitably, the number of professional universities with a high rate of return on teaching will increase, but it is necessary to put in place a system of faculty turnover as soon as possible to avoid the obsolescence of teaching content. In addition, the number of research universities will be lower than the appropriate number if the situation where research results do not lead to an increase in enrolments is not improved. Through the dissemination of research results, there is a need to increase the number and volume of media through which research results are disseminated; summaries of research results should be disseminated via social networking sites (Twitter and Facebook). Researchers and post-doctoral fellows at each university should disseminate the results of analyses they have read as prior research or in leading journals in their fields on social networking sites weekly or more. This will provide access to the latest research results, help prospective students to think about how to apply their research results to society and help prospective students to formulate their research themes. This could lead to an increase in the number of students entering research universities. If these systems are supported not only by individual research universities but also by the state, there is innovation potential. Under the current system, it is assumed that when the recession hits, working people with stagnant incomes will enroll in professional universities with a high return on education in the short term. However, students with the ability to access and use the world's most advanced knowledge are also fostered at research universities, so it is important to foster the ability of graduates of research universities to apply the knowledge they have learnt in society and to disseminate the results of research, which is a public good, widely in society. It will be important for the future of higher education to create an environment in which students can innovate through self-study without having to return to university several times.

The spread of COVIR-19 in 2020, which resulted in a period of curfew, led to the introduction of distance learning in almost all universities. As a result, the boundaries between distance and commuter universities are disappearing. Competition between distance and commuter universities will intensify. In addition, commuter universities have historically capped their capacity according to the size of their facilities, but with the spread of distance learning, there is an opportunity to increase enrolments regardless of the size of the university facility. In the past, if the size of a university's facilities was small, it had no choice but to set lower admission and capacity limits. If 60% of the capacity utilization rate means a break-even point, and if one time the capacity utilization rate is the appropriate number of students to run courses within the university facilities

The stability and control of the capacity-at-risk ratio are important for the management of universities. If a 60% capacity utilization rate is an important management indicator, i.e. a break-even point, or if a capacity utilization rate of 1 time is an appropriate figure to guarantee the quality of education, or if a capacity utilization rate of 1.3 times indicates the limit of capacity for university education, then capacity management can be used as a useful indicator by accreditation bodies and external organizations such as MEXT. If this is the case, then accreditation bodies and external organisations such as MEXT can be used as useful indicators. However, in the future, with the proliferation of distance learning courses, universities will not need to worry about the size of their classrooms and rarely need to worry about the maximum number of students enrolled in a course, as long as they can create a stable distance learning environment. Under these circumstances, the capacity utilization rate of a university is not an appropriate indicator for business management. It would be important for each university to set and publish its break-even student numbers. In addition, as we have shown in this paper, it is essential for proper inter-university competition that the educational achievements of each university be made public externally. It may be necessary to have an external body periodically evaluate the relative ability of students at each university to their employers, or to distribute some of the lecture videos of each university's main courses online as samples so that the courses themselves can be subject to evaluation by each stakeholder.

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University management and higher education policy in Japan has so far emphasised the management of the number of students admitted and enrolled, but it is expected that the traditional policy of capacity management will no longer function. Rather, the applicant ratio will become an important indicator to ensure the quality of students at the time of admission. If universities create distance learning departments and majors with attractive subjects, small regional universities will have the potential to attract more students than famous private universities.

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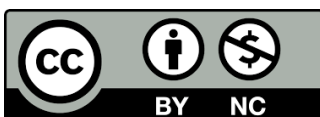
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## Assessment of Quality Work Life on Employee Job Performance (A Study of Selected Staff from Moshood Abiola Polytechnic, Abeokuta, Ogun State)



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**ABSTRACT:** This paper critically examined the impact of Quality Work Life on Employee Job Performance, with specific focus on Moshood Abiola Polytechnic, Abeokuta, Ogun-State. This study employed a descriptive survey design. A sample size of 86 respondents was selected using simple random sampling technique of which 84 respondents filled and returned the questionnaire. Data from the questionnaire was analyzed using special software for statistics which is called statistical package for social science (SPSS) version 23. The study found out that work environment of employees affects employees job performance. Also, compensation and degree of reward system influences the staff performance of an organization. After the findings of the research it is highly recommended that That Management of Organization should ensure that there is periodic review of employee needs to facilitate improvement in Quality of work life (QWL) and rise in the satisfaction level of employees. This should require adopting quality of work life (QWL) programs such as job enrichment, and socio – technical redesign into comprehensive efforts to improve the quality of working environment.

**KEYWORDS:** Quality Work Life (QWL), Compensation Packages, Work Environment, and Job Performance.

### 1. INTRODUCTION

Every individual is an integral part of the family in particular and the society in general. In today's business world, job satisfaction is key determinant in the achievement of organisational goals. As a result, organisations look for different ways of motivating their employees, in order for them to give their best to the organisation. Job satisfaction is a focal point in any establishment. Every policy should be geared towards increasing the job satisfaction and monitor it (Orogbu, Onyeizugbe & Chukwuemeka, 2015). Quality of work life is a very important phenomenon that is of great concern to various employees in both private and public sector. It goes beyond prioritising the work role and one's personal life. It also affects other aspect of individual life. All these are reflected in the output of the individual, which affects his or her performance in the work place on the long run. Quality of work life has implication on employees' attitudes, behaviors, wellbeing as well as organisational effectiveness. Quality of work life is the process by which members of the organisation influence through continuous communication channels on each other. Accordingly, the quality of work life is an attitude for the job, a sense of corporate identity and social health in the work place. Quality of work life is both a method and also a moral purpose. Nowadays attention to the quality of working life is a reflection of the importance that they give to everyone. People give their best efforts in achieving the goals of the organisation, interest in knowing how attention is paid to their expectations, desires, needs and dignity (Elmi, & Hashemzadeh, 2009).

Quality of Work Life has a relationship with employee's performance which refers to the degree of accomplishment of tasks that make up an individual job. It indicates how well an individual is fulfilling his or her job demands. Performance always measured in terms of results nor effort.

There is a large body of research literature showing that since companies incur high screening and training costs in hiring new workers, they often attempt to discourage employee turnover and interfirm mobility among their valued workers by establishing long-term employment relationships and by attempting to enhance employees' utility derived from work. This, among others, is attained by providing workers with jobs that offer a career path and rewards commensurate with tenure or simply quality of work life. On the other hand, prior researches on quality of work life largely focused on job related outcomes or employee behavioral

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responses, such as organisational identification, job satisfaction, job involvement, job effort, job performance, intention to quit, organisational turnover, personal alienation.

However, researchers have rarely investigated the important effects of quality work life on employee's performance in Tertiary Institutions. The present research is designed to fill these identified research gaps by examining the effects of quality work life on employee's performance in Tertiary Institutions using four major factors according to the researcher (Work environment, Compensation and Rewards, Training and Development and Job Security) which has hardly been used on QWL in Tertiary Institutions in the Nigeria context.

Today's educated employees are expecting more than just a pay for their work that is why the modern work place environment is paying attention to the importance of human needs and technology of work-place. The role of quality of work life is to increase job satisfaction and job performance as well as the effectiveness of an organisation for attaining involvement and commitment of its employees while decreasing absenteeism and turnover. Quality of work life is used for increasing motivation when following a strategy of job enrichment and it includes domains such as job protection, satisfaction, ease and build trust in employees.

Work environment, Compensation and Rewards, Training and development, Job security on the performance of employee has been major issue of Quality of Work Life confronted by staff of Moshood Abiola Polytechnic. It is in lieu of this, the researcher tends to look at the aforementioned factors as also dimensions of quality of work life which also serve as a gap on the subject matter and proffer solutions and make necessary recommendations with regards to the problem associated with Quality of Work Life and employee's performance in the Institution.

### **Objectives of the Study**

The purpose of this study is to examine the effect of Quality of Work Life on employee's performance in Tertiary Institution. The specific objectives that assist in achieving the purpose are:

1. To examine the significant relationship between work environment and employee's performance.
2. To ascertain the influence of Compensation and Rewards on employee's performance.

### **Research Hypotheses**

For the assessment of effects Quality of work life on employee's performance in Tertiary Institution. The following hypotheses are formulated.

- H<sub>01</sub>:** There is no significant relationship between work environment and employee's performance.
- H<sub>02</sub>:** Compensation and Rewards does not have influence on employee's performance.

### **Scope of the Study**

The world today is a world of revolutionary changes. It gives us a change to scan the 20th century and foresee the 21st century new challenges in various field are being accepted. The advantage of the Educational Institution along with the industrialization in Nigeria demands a highly motivated, skilled and goal-oriented work force.

Quality of work life has become the watchword in today's industrial scene, because when there is proper quality of work life for the employees, it will lead to the satisfaction of the employees. The scope of this study is to examine the effects of Quality of Work Life on employee's performance in Moshood Abiola Polytechnic, Ojere Abeokuta Ogun State. This study specifically focuses on the areas of Work environment, Compensation and Rewards, Training and Development, and Job security on employee's performance.

## **2. LITERATURE REVIEW**

### **Concept of Quality Work Life (QWL)**

The rivalry among organizations requires them to give more attention to the operational effectiveness for competitive advantage. The effectiveness for competitive advantage mainly depends on the performance of the workforce (Dailey, 2012). However, this means that employees are valuable resources, capable of providing competitive improvement for organizations.

The resource-based view upholds that human resources can meet the criteria for resources that are valuable rare, incomparable, and non-substitutable (Barney, 2001). For organizations to thrive, there is need to address the employee needs, particularly on aspects such as quality of work life and other factors which could have an impact on employees' performance.

Quality of Work Life bears different meanings based on different interpretations and practices. The American Society of Training and Development established a task force on the QWL in 1979 as cited by Ramawickrama, Opatha & Pushpakumari, 2017 and 'the task force defined QWL as "a process of work organisations which enables its members at all levels to actively participate in shaping the organization's environment, methods and outcomes. This value based process is aimed towards meeting the twin goals of enhanced effectiveness of organization and improved quality of life at work for employees".

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Albert and Francis (2015), Quality Work Life is seen as a set of methods, approaches or technologies for enhancing the work environment and making it more productive and more satisfying. Here, the QWL is more synonymous with such concepts as autonomous work groups, job enrichment, on the design of new plants as integrated social and technical systems. QWL as a movement seems to be more of an ideological statement about the nature of work and the worker's relationship with the organization. At this stage, the terms, 'Participative Management' and 'Industrial Democracy' became ideal systems of the Quality Work Life movement. As an umbrella concept, QWL is seen as a global concept and all organizational development or organizational effectiveness efforts tended to be labeled as part and parcel of QWL.

Nadler and Lawler (2014), provide a concise definition of Quality of Work Life as "a way of thinking about people, work and organization. Its distinctive elements are: (1) a concern about the impact of work on people as well as on organizational effectiveness; and (2) the idea of participation in organizational problem-solving and decision-making". Though it is quite clear from Nadler and Lawler's presentation, but different writers or investigators will differ in their approaches to QWL.

Cohen and Rosenthal (2012), have describe that Quality of Work Life is an intentionally designed effort to bring about increased labor management cooperation to jointly solve the problems that help in improving organizational performance and employee satisfaction.

Sangeeta Jain (2009), dealt with a whole parcel of terms and notions which are found under the quality of work life umbrella. They include human resource development, organisational effectiveness, work structure, job enrichment, socio technical systems, work humanization, group work, labour management cooperation, worker's involvement, worker's participation and cooperative work structure. Thus, Quality of Work Life can be easily defined as an approach concerned with overall climate of work and the impact that the work has on people as well as on organisational effectiveness. Direct participation in problem solving and decision making in areas related to their work helps to upgrade the quality of work life at work.

This study sought to review literature on selected quality of work related factors namely: workenvironment, rewards and recognition, training and development, and job security. Consequently, these factors were chosen because of their relationship with quality of work life and employees performance.

**Table 1. Definitions of Quality of Work Life in chronological order**

Year	Authors	Definition of Quality of Work Life (QWL)
1972	International Labors Relation Conference in New York	Aims to share knowledge and initiates a coherent theory and practice on how to create the conditions for a "humane working life."
1975	Hackman and Oldham	Involves the satisfaction and motivation in the workplace.
1977	Boisvert	A set of beneficial consequences of working life for the individual, the organisation and society.
1979	American Society of Training and Development as cited Patil and Swadi (2014)	A process of work organisation which enables its members at the levels to actively participate in shaping the organisation's environment, methods and outcomes. This value based process is aimed towards meeting the twin goals of enhanced effectiveness of organisations and improved QWL of employees.
1981	Dessler	The level of which employees are able to satisfy their personal needs not only in terms of materials matters but also of self-respect, contentment and an opportunity to use their talents making contribution for personal growth.
1983	Carlson	Two perspectives; it is as a goal and an organisational process growth. 1. As a goal, QWL is the commitment of any organisation to work improvement: the creation of more involving, satisfying and effective jobs and work environments for people at all the levels of the organisation.

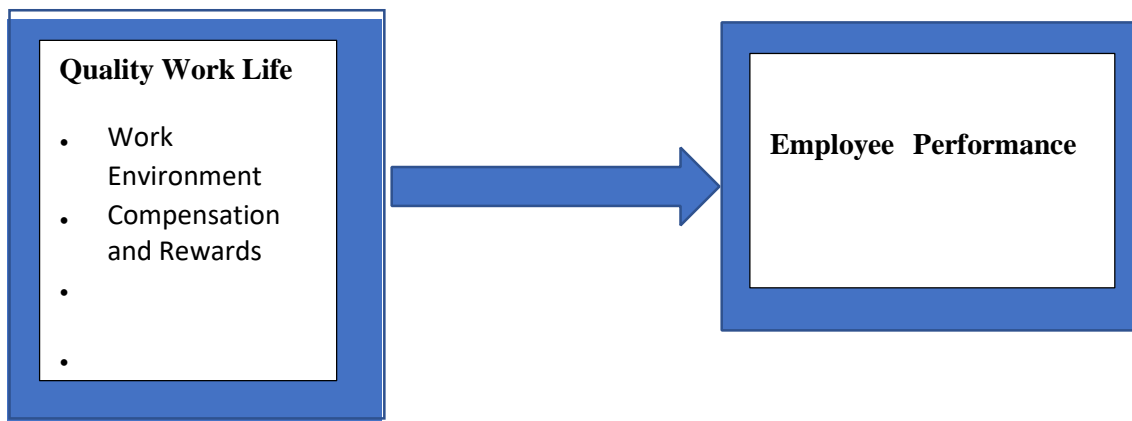
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		2. As a process, QWL calls for effort to realize this goal through the active involvement of people throughout the organisation.
1983	Nadler and Lawler	A way of thinking about people, work and organizations. Its distinctive elements are: <ol style="list-style-type: none"> <li>1. A concern about the impact of work on people as well as on organisational effectiveness, and</li> <li>2. The idea of participation in organisational problem solving and decision making.</li> </ol>
1990	Kieman and Knutson	It means something different to each and every individual, and is likely to vary according to the individual's age, career stage and/or position in the industry.
1993	Bernadian and Russell	The degree to which individual are able to satisfy their important personal needs.
1997	Cummings and Worley	The way of thinking about others, work, and the organisation which is concerned about workers' wellbeing and organisational effectiveness.
2000	Lau	The favourable working environment that supports and promotes satisfaction by providing employees with rewards, job security and career growth opportunities.
2001	Sirgy, Efraty, Siegel and Lee	A variety of needs through resources, activities and outcomes stemming from participation in the workplace.
2011	Nazir et al.	A combination of strategies, procedures and ambiance related to a workplace that altogether, enhance and sustain the employee satisfaction by aiming at improving work conditions for the employees of the organisations.
2014	Mazloumi et al	Attitudes of employees towards their job, especially their work outcomes including job satisfaction, mental health, and safety which directly influence organisational outcomes
2014	Šverko and Galić	Perceived extend to which employees can satisfy their important personal needs through their activities in the work place and experiences in the organization

(Source: Adapted from Ramawickrama, Opatha&Pushpakumari, 2017).

**Research Conceptual Framework**

**Figure 2.1**



Source: Researcher Conceptualisation (2021).

# Assessment of Quality Work Life on Employee Job Performance (A Study of Selected Staff from Moshood Abiola Polytechnic, Abeokuta, Ogun State)

## Hypotheses Development

### Work Environment and Employee Performance

Work environment is a place that one works. It is a social and professional environment in which employees are supposed to interact with a number of people, and have to work with coordination in one or the other way. Safe and healthy working conditions ensure good health, continuity of services, decreased bad labour management relations. A healthy worker registers a high productivity. Employees are cheerful, confident and may prove an invaluable asset to the organisation. It consists of safe physical and mental working situations and determining logical working hours.

Lau (2001), explained QWL as the favorable working environment that supports and promotes satisfaction by providing employees with rewards, job security and career growth opportunities. According to Winter *et al.* (2000), QWL for academicians as an attitudinal response to the prevailing work environment and posited five work environment domains that include role stress, job characteristics, supervisory, structural and sectoral characteristics to directly and indirectly shape academicians experiences, attitudes and behavior.

The elements that are relevant to an individual's quality of work life include the task, the physical work environment, social environment within the organisation, administrative system and relationship between life on and off the job. QWL is an integrated improvement plan to improve working environment and satisfy the employee's individual needs. Hackman and Oldham 1980 as cited by Gayathiri *et al.*, suggested that the work environment that is able to fulfill employees' personal needs such as skill variety, task identity, task significance, autonomy and feedback, is considered to provide a positive interaction effect, which will lead to an excellent QWL.

**H<sub>01</sub>:** Work Environment does not affect Employee Performance.

### Compensation/Reward and Employee Performance

The reward systems motivate employees in organisations. Workers do what satisfy their needs. Before doing anything, they look for the reward in terms of salary increases, benefits, desirable job assignments etc. which organisations control. These organisational rewards may be direct or indirect, financial or non-financial and distributed on individual or group basis. Whatever the type of rewards, they influence every other aspect of the organisation and must be used as an integral part of any program of organisation at change.

Compensation is a type of financial benefit to attract and motivate workers within the organisation (Kee, Ahmad & Abdullah 2016). In particular, compensation can be defined as the type of income and financial benefits received by employees based on a work relationship and compensation is divided into direct and indirect compensation (Ogunnaike, Oyewunmi, & Famuwagun 2016). Direct compensation includes the basic salary to which the employee is entitled to work. This includes all forms of wages, overtime pay and bonuses. Indirect compensation includes protection programs, insurance plans, educational assistance and payments for time off, feelings of progress, opportunities for achievement, opportunities for recognition and other forms of benefits. Supported also by the role of Silaban and Syah, (2018) which states that basic compensation is needed to maintain a decent employee lifestyle, however, compensation also provides a real measure of individual value for the organisation. Compensation payments can be used as a strategic function in human resources which has a significant impact on other related human resource functions.

Compensation and rewards are motivational factors, the best performer is given the rewards, and this builds the competitions among the employees to work hard and to achieve both organisational and individual goals. The economic interests of people drive them to work at a job and employee satisfaction depends at least partially, on the compensation offered. Pay should be fixed on the basis of the work done, responsibilities undertaken, individual skills, performance and accomplishments. Mirvis and Lawler 1984 as cited by Dodot, Anis, Hamidah, Tuti, Agung Fadilla (2020), highlighted that Quality of working life was associated with satisfaction with wages, hours and working conditions, describing the "basic elements of a good quality of work life" as; safe work environment, equitable wages, equal employment opportunities and opportunities for advancement.

A compensation package does not necessarily mean rewarding in the monetary form. It also includes flexible benefits, medical care, work-life balance, as well as employee perks. Today's employees not only work for the money, but also place equal emphasis on other aspects of compensation. A good compensation package ensures:

- Retention – A compelling compensation plan helps to reduce the turnover rate of the company. Employees will be more incentivized to stay in their role and this saves potential expenses related to turnover.
- Motivation – Compensation is the primary motivating factor for employees to continuously push themselves to strive for greater heights. It offers them a reason to work hard and keep driving towards achieving the next milestone. On the

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other hand, employee performance and efficiency can be drastically affected if a good compensation package is absent. Here are a few reasons why:

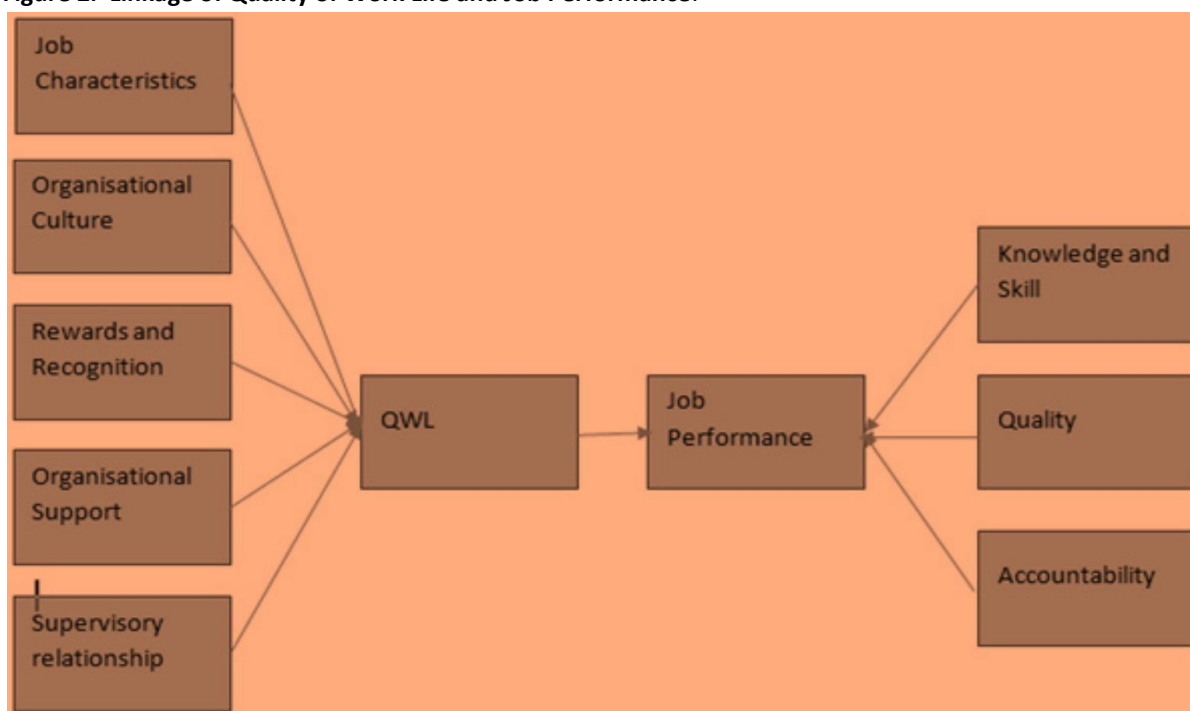
- Low job satisfaction – Employees will feel underappreciated and derive low satisfaction from their job. This may lead to discontent amongst coworkers and put a dent in workplace morale.
- Low productivity – Poor compensation induces low productivity. There is less motivation for employees to strive for excellence
- High turnover – If the reward versus effort ratio is low, employees are incentivised to cast their sights away from their current job. Employee churn incurs a hefty cost to the company (retraining, relocating and time wasted).

**H<sub>02</sub>:** Compensation and Reward System does not affect employee performance

### Quality of Work Life and Employee Job Performance

The concept of Quality of Work Life was developed in the 1970s, can be defined in terms of the reaction of the people at work, particularly job satisfaction and mental health on individual outcomes. With this definition, Quality of Work Life focused mainly on the personal consequences of work experience and how it can be improved by organisation to meet individual needs. Another explanation in terms of the techniques and methods to improve the quality of the work, such as job enrichment, self-managed teams, and the labour-management committee (Davis, 1977).

**Figure 2. Linkage of Quality of Work Life and Job Performance.**



(Source: Rashmi Rai 2015).

### Theoretical Review

This research work is based on two dominant theoretical approaches in the Quality of Work Life according to the researcher. Namely; Equity theory and the Socio-Technical theory.

#### Equity theory: John Stacy Adams 1963

Equity theory proposes that individuals in social exchange relationships compare each other the ratios of their inputs into the exchange to their outcomes from the exchange. Equity theory in some sense is related to motivation-hygiene theory, in that it considers both demotivators and motivators. It does so, however, at the same time. According to J. Stacy Adams (1963), whenever two individuals exchange anything, there is the possibility that one or both of them will feel that the exchange was inequitable. Such is frequently the case when a man exchanges his services for pay. On the man's side of the exchange are his education, intelligence, experience, training, skill, seniority, age, sex, ethnic background, social status, and very importantly, the effort he expends on the job.

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In a nutshell, workers both consciously and unconsciously consider what they bring to the table when they work for an organisation. Beyond this, they make comparisons as to how equitably they are treated relative to others. In Adams's terminology, a 'Person' makes an investment; they then consider outcomes such as 'pay, rewards intrinsic to the job, seniority benefits, fringe benefits, job status' and other factors. According to Adams, 'Inequity exists for Person whenever his perceived job inputs and/or outcomes stand psychologically in an obverse relation to what he perceives are the inputs and/or outcomes of the other. It should be noted that what matters is not necessarily actual but perceived inequity. It should also be noted that, while the other is typically a co-worker, it could be someone doing similar work in another organisation.

### **Socio-technical Systems Theory: Emery and Trist (1960)**

Cross (2020): The term socio-technical systems were originally coined by Emery and Trist (1960) to describe systems that involve a complex interaction between humans, machines and the environmental aspects of the work system. An interest in the design of work was the original stimulus for proposing socio-technical approaches. (Mumford;1983 and Eason's;1988; as cited by Baxter, Sommerville, 2011). The original objective was to make work more humanistic and the initial focus was on manufacturing systems. As computers have become pervasive in the workplace, however, the community has also examined the relationships between work and its computer-based support noting, for example, that the computer system can shape and constrain work practices. Nowadays, this interaction is true of most organisation systems. Socio-technical systems design methods are an approach to that consider human, social and organisational factors, as well as technical factors in the design of organisational systems. They have a long history and are intended to ensure that the technical and organisational aspects of a system are considered together. The outcome of applying these methods is a better understanding of how human, social and organisational factors affect the ways that work is done and technical systems are used. This understanding can contribute to the design of organisational structures, business processes and technical systems. Even though many managers realise that socio-technical issues are important, socio-technical design methods are rarely used. We suspect that the reasons for their lack of use are, primarily, difficulties in using the methods and the disconnect between these methods and both technical engineering issues, and issues of individual interaction with technical systems. Land (2000), there are two conflicting set of values underlie much socio-technical thinking. The first is a belief in the importance of humanistic principles. The main task of the designer is to enhance the quality of working life and the job satisfaction of the employee. In turn the achievement of these objectives will enhance performance and yield added value to the organisation. The second set reflects managerial values. Sociotechnical principles are merely instruments for achieving primarily economic objectives. Humanistic objectives have no value in themselves but if their achievement produces a better performance from employees leading to the fulfilment of the economic objectives well and good.

### **Theoretical Framework of the Study**

The theory upon which the study is based on is the Adams Equity theory, the rationale for the adoption of the Adams Equity Theory is based on the fact that the theory shed more light on the aspect of equality among employees which satisfy work quality on the long run and hence improve performances consequently.

### **3. METHODOLOGY**

A descriptive research design was used in this study. The target population of this study comprises of the general staff of Moshood Abiola Polytechnic, Ogun State. Thus, Role of Quality Work Life on Job Performance of an employee and its application are relevant at this level prompting the choice of the population. However, a sample size of 87 was determined using the simple random technique. This study is expected to produce both quantitative and qualitative data. Once the questionnaires are received they were coded and edited for completeness and consistency. Quantitative data was analyzed by employing descriptive statistics and inferential analysis using statistical package for social science (SPSS) version 23. This technique gives simple summaries about the sample data and present quantitative descriptions in a manageable form, Gupta (2004). Together with simple graphics analysis, descriptive statistics form the basis of virtually every quantitative analysis to data, Kothari (2004). The significance testing was done at 5% level of significance and SPSS was used for this purpose. The data was then presented using frequency distribution tables, bar charts and pie charts for easier understanding.

#### **Methodology for Data Analysis:**

To make correct analysis of the data we use SPSS software in which we make analysis in two parts:

##### **1. Descriptive Analysis:**

It is the technique in which we use to generate result in descriptive statistics. It shows percentage, valid percentage and cumulative percentage.



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### 2. Correlation:

The Pearson's correlation is used to find out the relation between at least two variables. The values for correlations are:

0.00 = No correlation

1.00 = perfect/positive correlation

Other factors such as group size will be determined if the correlation is significant. Generally, correlation above 0.80 is considered pretty high.

## 4. DATA PRESENTATION AND ANALYSIS

### Descriptive Analysis of Bio data of Respondents

The demographic data comprising gender, age of the respondents, and level of education, marital status, highest educational qualification and years of experience in the organisation were analysed and the findings showed the aggregate demographic and firm characteristics of the population studied. Frequencies and percentages were then used to evaluate each attribute.

#### *Demographic analysis of Respondents*

Variables	Characteristics	Frequency	Percentage%	Total%
<b>Age of the Respondents</b>	Below 25	3	3.6%	
	25-30	9	10.7%	
	31-40	33	39.3%	
	41-50	27	32.1%	
	50 and above	12	14.3%	
Total		84	100.0	100%
<b>Gender of the Respondents</b>	Male	42	50.0%	
	Female	42	50.0%	
Total		84		100%
<b>Level of Education of the Respondents</b>	School Certificate	3	3.6%	
	ND/NCE	11	13.1%	
	HND/BSC	45	53.6%	
	Post graduate	25	29.8%	
Total		84	100.0	100%
<b>Marital Status of the Respondents</b>	Married	67	79.8%	
	Single	14	16.7%	
	Divorced	3	3.6%	
Total		84	100.0	100%
<b>Religion of the Respondent</b>	Christianity	59	70.2%	
	Islam	25	29.8%	
Total		84		100%
	1-5 years	12	14.3%	

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<b>Work experience of the Respondents</b>	6-10 years	28	33.3%	
	11-15 years	25	29.8%	
	16 and Above	19	22.6%	
<b>Total</b>		<b>84</b>		<b>100%</b>

Source: Researcher’s Computation, 2021.

Table above presents the bio data and personal profile of respondents used for this study. Demographic and personal profile of respondents as shown in table 4.1 by Age shows that 3(3.6%) were below 25 years of age, 9(10.7%) respondents were between 25-30 years, 33(39.3%) respondents were between 41-50 years, and lastly 12(14.3%) were 50 years and above. Gender distribution revealed that 42 respondent representing 50% were male, while 42 respondents representing 50% were female.

Findings in table 4.1 also shows the distribution of respondents based on their educational qualification, 3(3.6%) respondents had School Certification, 11(13.1%) respondents had their qualification at ND/NCE, 45(53.6%) respondents are HND/B.sc holders, and lastly,25(29.8%) respondents are Post Graduate holders. Table 4.1 also shows the distribution of responses from respondents based on their marital status, 67(79.8%) respondents are married, 14(16.7%) respondents are single, and finally 3(3.6%) respondents are divorced. Religion distribution revealed that 59 respondents representing 70.2% were Christians, while 25 respondents representing 29.8% were Islam.

Analysis from table 4.1 also shows the analysis of respondents based on the number of working experiences, 12(14.3%) respondents fall between the service year bracket 1-5 years, 28(33.3%) respondents fall between the service year bracket 6-10 years, 25(29.8%) respondents fall between the service year bracket 11-15 years, 19(22.6%) respondents fall between the service year bracket 16 years and above.

**Data Analysis, Interpretation and Discussion of Findings**

The data generated through the administered questionnaires were analyzed using Statistical Package for Social Sciences (SPSS) version 22.0. Frequency distributions, mean and standard deviation were obtained through the descriptive analyses of respondent’s responses for each item as regards the formation of the data generated on Quality of Work Life and Employees Performance. The results of the survey are shown in the table below.

**Table 4.2.: Descriptive Analysis of Work Environment**

<b>Work Environment</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Total</b>
My organisation is conducive for attainment of organisation goals and objective.	21 25.0%	42 50%	14 16.7%	5 6.0%	2 2.4%	84 100%
My current work environment is healthy.	20 23.8%	29 34.5%	26 31.0%	7 8.3%	2 2.4%	84 100%
The work environment boost my morale to perform effectively on the job.	15 17.9%	26 31.0%	23 27.4%	17 20.3%	3 3.6%	84 100%
Safety is of high priority to my organisation.	18 21.4%	30 35.7%	22 26.2%	11 13.1%	3 3.6%	84 100%
There is flexibility in the constitution of rules and regulations that governs the employees.	10 11.9%	33 39.3%	26 31.0%	11 13.1%	4 4.8%	84 100%

Source: Researcher’s Computation, 2021.

Table above shows the descriptive analysis of respondents’ responses on the work environment tools. By combining responses under strongly agree and agree 63(75%) of the respondents agreed that their organisation is conducive for attainment of organisation goals and objective, 49(58.3%) of the respondents accepted that their current work environment is healthy, 41(48.9%) agreed that the work environment boost their morale to perform effectively on the job, 48(57.1%) accepted that

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Safety is of high priority to their organisation, 43(51.2%) agreed that there is flexibility in the constitution of rules and regulations that governs the employees.

**Table 4.3: Descriptive Analysis of Compensation and Reward**

Compensation and Reward	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
In my current job, compensation and pay is fair.	10 11.9%	23 27.4%	22 26.2%	16 19.0%	13 15.5%	84 100%
I can be compensated by other non-monetary factors aside money.	10 11.9%	29 34.5%	22 26.2%	17 20.2%	6 7.1%	84 100%
I am generally satisfied with the kind of compensation package in my organisation.	7 8.3%	17 20.2%	29 34.5%	21 25.0%	10 11.9%	84 100%
Money has helped to boost my Morales and performance on the job.	10 11.9%	18 21.4%	20 23.8%	26 31.0%	10 11.9%	84 100%
Compensation and Rewards package are well structured in my organisation.	7 8.3%	18 21.4%	35 41.7%	13 15.5%	11 13.1%	84 100%

Source: Researcher's Computation, 2021.

Table above shows the descriptive analysis of respondents' responses on the compensation and rewards tools. By combining responses under strongly agree and agree 33(39.2%) of the respondents agreed that, in their current job, compensation and pay is fair, 39(46.4%) of the respondents accepted that they can be compensated by other non-monetary factors aside money, 7(28.5%) disagreed that they are generally satisfied with the kind of compensation package in the organisation., 28(33.2%) disagreed that Money has helped to boost their Morales and performance on the job, 26 (51.2%) agreed that Compensation and Rewards package are well structured in the organization.

### Hypotheses Testing

#### Test of Hypothesis One

**H01:** There is no significant relationship between work environment and employee's performance.

Pearson Correlation Result on the Relationship between Work Environment and Employees Performance

		Work Environment	Employee Performance
Work Environment	Pearson Correlation	1	.411**
	Sig. (2-tailed)		.000
	N	84	84
Employee Performance	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.000	
	N	84	84

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher's Field Results, 2021

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Table above presents result of Pearson product-moment correlation coefficient analysis on the relationship between work environment and employee performance in Moshood Abiola Polytechnic. The correlation Table revealed that there is a significant relationship between work environment and employee performance. The Pearson's product moment correlation coefficient values established a moderate positive and significant relationship between work environment and employee performance ( $r = 0.411$ , at  $p < 0.05$ ). This implies that an increase in work environment will bring about corresponding increase in employee performance. This indicates that work environment and employee performance moderately move in the same direction, that is, as the employee emphasizes on work environment the more, performance is increased. As a result of this finding, the null hypothesis one ( $H_{01}$ ) which states that work environment has no significant relationship with employee performance is therefore rejected

### Test of Hypothesis Two

$H_{02}$ : Compensation and Rewards does not have influence on employee's performance.

### Results of Regression Analysis of Influence of Compensation and Rewards on Employees Performance.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error			
(Constant)	14.479	1.180		12.269	.000
<b>Compensation and Rewards</b>	.289	.075	.390	3.835	.000

R = 0.390  
 Adj. R<sup>2</sup> = .142  
 Std. Error of the Estimate = 3.05119  $F_{1/82} = 14.707$ ,  $p = 0.000$

**Dependent Variable: Employee Performance R<sup>2</sup> = .152**

Source: Researcher's Field Results, 2021.

Table above presents a summary of regression model comprising of the value of R, R<sup>2</sup> and Adjusted R<sup>2</sup> equal to 0.390, 0.152, and 0.142 respectively. The results revealed that compensation and rewards carried out by the institution have influence on the employee performance yielded a coefficient of correlation (R) = 0.390 and coefficient of determination (R<sup>2</sup>) of 0.152, which is significant at 0.05 level. The coefficient of determination (R<sup>2</sup>) of 0.152 suggests that compensation and rewards accounted for 15.2 percent of the variance in employee performance in this institution. The remaining unexplained 84.8 percent could be due to other factors that were not considered in this model. With this value (15.2%), there is an indication that compensation and rewards influence employee performance in Moshood Abiola Polytechnic.

The data in Table 4.7 also shows that the total overall significance of the regression model produced F value of 14.707, which is significant at 0.05 level. This implies that the independent variable which is compensation and rewards has significant influence on employee performance. It indicates that statistically, the model applied can significantly predict the changes in employee performance in Moshood Abiola Polytechnic. Therefore, the null hypothesis two ( $H_{02}$ ) which states that compensation and rewards has no significant influence on the employee performance is hereby rejected. It is therefore concluded that compensation and rewards has significant influence on employee performance in Moshood Abiola Polytechnic. Furthermore, Table 4.7 also shows the linearity of the variables. The finding revealed that holding explanatory variable (compensation and rewards) to a constant, employee performance would be at 14.479. The column labeled "Unstandardized Coefficients" reveals unstandardized regression coefficients for compensation and rewards as 0.289 ( $t = 3.835$ ,  $p = 0.000$ ) less than 5% level of significance.

The fitted regression model equation using unstandardized coefficient is as follows:

$$y_1 = 14.479 + .289x_1 \dots\dots\dots \text{Equation 1}$$

Where;  $y_1$  = Employee Performance

$x_1$  = Compensation and Rewards

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## Summary Table of Hypotheses Results

S/N	Hypotheses	Decision
1.	<b>H<sub>01</sub></b> : There is no relationship between work environment and employee's performance.	Rejected
2.	<b>H<sub>02</sub></b> : Compensation and Rewards does not have influence on employee's performance.	Rejected

## 5. CONCLUSION AND RECOMMENDATION

QWL takes a holistic view of the employee at the workplace. The focus has shifted from time to time, several approaches have emerged to analyze as to what really is QWL. It tries to conceptualize issues regarding people in their work environment and link it to organizational effectiveness. QWL related activities are several but revolve around work restructuring, job design, participative problem solving, reward systems, and work environment (Meenakshi & Gupta 2016). In this study it can be concluded that the Quality of Work Life (Work Environment, Compensation and Rewards, Training and Development) has a statistically significant effect on the employee's performance in Moshood Abiola Polytechnic. So, it is known that employees of the institution through the quality factors of work life can be influence to be committed to their organization. Furthermore, it is known from the results of the analysis of this study that all the independent variables work environment, compensation and rewards and training and development is the most dominant variable in influencing employee's performance in Moshood Abiola Polytechnic. In Hanaysha's research (2016), states that the work environment is a key factor affecting employee commitment to an organization and the work environment refers to the organizational atmosphere regarding where employees do their work. Therefore, when the work environment of Moshood Abiola Polytechnic is working well, it will show that the quality of their work life can also be of good value and will further affect employee's performance because it is known that the work environment is a form of physical and psychological well-being of the quality of work life of employees. Compensation is fairness and benefits that are considered sufficient for employee needs, where the measurements are adequate salary, salary that can meet daily needs, and benefits that are deemed adequate (Zin 2004). So, if the employee compensation and rewards in the institution is deemed appropriate to meet their needs and they are willing to survive in the organization, it will boost their Morales and lead to overall organizational attainments. Skills regarding learning and abilities that are implanted in the individual's brain, can imply that their soul is a side effect of the information and talents they already have. Therefore, through the efforts of the institution management on training and development and individual commitment towards hard work can improve career growth and professional skills, which in turn they will get awards and fulfil personal goals and achieve overall organizational goals and objectives.

Conclusively, employees are the main drivers of the success of the organization. Organization having a satisfied workforce can achieve and sustain the gaining position in the competitive market through exploring the performance of their employees. Hence, it is important to understand how individuals feel about the organization regarding their performances and satisfaction. Employee performance in the organization will enhance if they find that organization is more concerned to satisfy their needs as they perceived.

From the foregoing, it can therefore be concluded that Quality of Work Life and its corresponding internal indicators put in place by the institution will lead to effective and efficient employee performance as satisfied employees are responsible for improving both their individual and organizational performance.

## RECOMMENDATIONS

In order to further complete findings and add to the wealth of this scientific context on the effects of Quality of work life on employee's performance, the following recommendations are given to the management of Moshood Abiola Polytechnic, Management of tertiary institutions and future scholars of this subject:

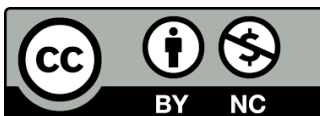
1. That Management of Moshood Abiola Polytechnic should ensure that there is periodic review of employee needs to facilitate improvement in Quality of work life (QWL) and rise in the satisfaction level of employees. This should require adopting quality of work life (QWL) programs such as job enrichment, and socio – technical redesign into comprehensive efforts to improve the quality of working environment.
2. Efforts should be made by management of the institution by emphasizing the elements of quality of work life programmes be included in total quality management, workers' empowerment approaches / strategies to facilitate improved employee's performance in the organization.

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3. Flexibility in the design of compensation and rewards packages is encourage because monetary and non-monetary incentives has been proven in the study as one of the major factors that motivates employees to perform well in Moshood Abiola Polytechnic.
4. That training and development does increases employee performance and when properly planned and executed will increase employee skills, morale, behavior, commitment that in turn leads to efficiency and effectiveness in the organization.

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## Develop HR Contingency Strategies to Deal with Situations Similar to Covid-19 in Future in Jordan



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**ABSTRACT:** The study aims to explore the importance of developing HR contingency strategies in dealing with situations like Covid-19 in the future. For this purpose, the primary quantitative data collection technique was applied using a structured survey questionnaire. The sampling size of the research was 300 respondents, which includes the general manager and vice president of industrial companies listed on the Amman financial market. The data were analysed using SPSS software. The test that was executed on the gathered data includes frequency analysis, reliability analysis and regression analysis. The estimated results show that developing remote operational policies can help sustain organisational performance in times of crisis such as a pandemic (P-value<0.05). Meanwhile, developing lean HR policies can help sustain organisational operations and performance in times of Pandemic (P-value<0.05). Therefore, the study concluded that developing HR contingency strategies has significant importance particularly in dealing with similar situations like Covid-19.

**KEYWORDS:** HR Contingency Strategies, Covid-19, Organisational Performance, Lean HR policies, Remote Operational Policies, HR Practices

### INTRODUCTION

Covid-19 one of the rapidly evolving threats also known as coronavirus has disrupted the business and investment community worldwide, which caused the human resources managers to think differently about the role of the human resource in the organisation through introducing new work environment and social distancing practices that has been never imagined (Diaz et al., 2020). The organisation in order to prevent the spread of Covid-19 has switched to the remote working model at the scale and rate that it has never experienced. For example, face to face collaboration in the organisation has been replaced with videoconferencing and e-mail. In addition, the organisation takes measures approaches to mitigate financial and operational exposure and safeguarding employee's health and safety (Seale et al., 2020). The multinational organisation has reduced production from its facilities in affected regions, mandatory social distancing and travel restrictions. Under difficult circumstances due to the outbreak of Covid-19, HR managers have to do difficult work.

Today, the interconnected and global nature of the business environment due to the geographic spread of the virus has posed a serious risk of disruption to global supply chains, which results in a significant loss of revenue (Kumar and Ayedee, 2021). As a result, it has negatively impacted the global economies and the world economy as a whole. However, for the continuity of the business, the organisations have maintained various resiliency and contingency plans for crisis management and disaster recovery. Therefore, the outbreak of Covid-19 has transformed the agenda for organisations that results into the organisation to start thinking about how to responses in case of major shocks and situation similar to Covid-19, which lead them to more emphasis on HR contingency strategies to transform and rebuild the work in responses to the similar situation in the future (Barouki et al., 2021). The survey by Syed (2020) found that 80 percent of the organisation had readied and working on a contingency plan, whereas 76 percent said that the outbreak of coronavirus influences their businesses negatively.

### **Problem Statement**

The business disruptions caused by operational, technological, man-made and natural failures are significantly different from those that have been caused by pandemic events such as Covid-19. The differences between them are mainly due to the potential increase in the duration of pandemic events, severity and scale. Therefore, organisations are required to go beyond traditional HR planning strategies. Because due to the consequences of a pandemic caused by a coronavirus, HR departments have faced an unprecedented crisis (Bartik et al., 2020). Compared to the previous pandemics such as H1N1, H2N2, H3N2 and H1N1pdm09 virus,

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the Covid-19 virus has caused a global health emergency, which highlights the significance of human resource management attention on ensuring the well-being and health of people. According to Ramos and Hynes (2020), businesses are required to incorporate pandemic contingency planning consideration for the future into existing resilience management activities for the purpose of providing comprehensive response and continuity of the business. However, in accordance with Donthu and Gustafsson (2020), there is limited prior literature related to the importance of developing contingency strategies in similar situations like Covid-19. Therefore, these studies identify the gap concentrates on the importance of developing HR contingency in a similar situation like Covid-19. Therefore, this study aims to explore the importance of developing HR contingency strategies in dealing with situations like Covid-19 in the future.

### ***Aim and Objective of the Study***

#### ***Research Aim***

The aim of the research is to explore the importance of developing HR contingency strategies in dealing with situations like Covid-19 in the future.

#### ***Research Objectives (ROs)***

The research objectives are the following:

**RO1:** To review and understand the concept and scope of HR contingency strategies.

**RO2:** To identify the impacts of pandemics events similar to Covid-19 on the HR practices.

**RO3:** To explore the relationship between HR contingency strategies and organisational performance in the times of crisis such as Covid-19 pandemics.

**RO4:** To highlight the importance of HR contingency strategies with respect to dealing with situations like Covid-19 in the future.

**RO5:** To identify the HR Contingency model for effective dealing with situations like Covid-19 in the future.

### ***Research Questions (RQs)***

#### ***Main Research Question (MRQ)***

**MRQ:** How important is it to develop HR contingency strategies to deal with situations similar to Covid-19 in future?

#### ***Subsidiary Research Questions (SRQ)***

**SRQ1:** what is the concept and scope of HR contingency strategies?

**SRQ2:** What are the impacts of pandemics events similar to Covid-19 on the HR practices?

**SRQ3:** What is the relationship between HR contingency strategies and organisational performance in the times of crisis such as Covid-19 pandemics?

**SRQ4:** What is the importance of HR contingency strategies with respect to dealing with situations like Covid-19 in the future?

**SRQ5:** What is the HR Contingency model that effectively deals with situations like Covid-19 in the future?

### ***Significance of the Study***

This study contributes to the HRM existing literature regarding the HR contingency strategies in the context of crisis management in a period of situations similar to Covid-19 pandemics. The human resource plays an essential role in the planning for any emergency and disaster, whether for reorganisation, revising plan and policies, training, planning, workforce and staffing in order to accommodate changing priorities and needs (Ramos and Hynes, 2020). In addition, HR involvement in crisis management has a significant impact on organisational performance (Liu, 2016). That is why it is pivotal to highlight the importance of an HR contingency plan in times of pandemic crisis.

## **LITERATURE REVIEW**

### ***Research Theory***

#### ***Contingency theory***

Since the 1970s, the contingency theory has been widely used as one of the many contemporary management theories. The theories related to contingency indicate the idea, which stated that the success of the HR manager is depending upon the specific situation at hand. As per the research of the authors like McAdam et al. (2019) and Steinbach et al. (2017), there are various factors that plays important role in defining whether a particular HR leader or leadership style will be effective for the given situation like the Covid-19 pandemic or in similar situations in the future. These factors are comprised of the task, composition of the group and personality of the leader specifically dealing with the crisis like Covid-19 pandemic. Therefore, the basic assumption of contingency theory is that at the time of crisis such as a pandemic the leadership failure and success is based on the situation. According to Ayman and Lauritsen, (2018), under the general contingency umbrella, there is a number of sub-



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theories, which includes, Fiedler's Contingency Theory, Situational Leadership Theory, Path-Goal Theory and Decision-Making Theory.

### **Fiedler's Contingency Theory**

Fiedler's Contingency Theory puts forth the idea that the effectiveness of HR leadership at times of crisis is on the leadership style that has been used, however, it is depended on the control that has been held over the situations like Covid-19 pandemic. It has been stated by Suharyanto and Lestari (2020) that the theory implies that a strong HR and employee relation should be established in order to succeed in dealing with a situation similar to the Covid-19 pandemic.

### **Situational Leadership**

Situational Leadership theory states that leadership styles are comprised of four behaviour, which includes telling, selling, participating and delegating. The findings of Setiawan et al. (2019) show that the maturity level of the HR managers ranges from unwillingness and incompetence to willingness and ability to perform the task. Therefore, the theory implies that HR leader in order to handle situations like Covid-19 will adopt leadership techniques for the purpose of fitting in the maturity level of the groups on a situational basis of the crisis.

### **Path-Goal Theory**

Path-Goal Theory is an amalgamation of two theories such as expectancy and goal setting. The theory explained that at times of crisis like Covid-19, effective HR leaders help others in order to achieve their goals. Therefore, this theory implies that HR has the responsibility to make sure that they have provided the required information and support to their subordinates to attain the organisational goals, in order to remove obstacles that stand in their employee's path (Scott and Akella, 2021).

### **Decision-Making Theory**

Vroom-Yetton-Jago Decision-Making Model of Leadership emphasis that in situations like Covid-19 pandemic, HR size up situations, assess them and in accordance to it, they determined how much support employees required and alter their leadership style according to that. The findings of Rüzgar (2018) demonstrate that the theory states that in order to effectively deal the situations like Covid-19 pandemics, leadership should be contingent on the situation, people and task involved.

### ***HR Contingency Strategies***

With respect to the study conducted by Wang et al., (2020), contingency strategies are the outcomes of the contingency plan. They are prepared in accordance with particular situations such as Covid-19 pandemics and other crisis events. The purpose of the HR contingency strategies is to prepare the company for the events that could happen in the future. In other words, it can be said as the back-up plan, which supports the company at the time when the actual plan fails.

Consequently, Alves et al., (2020) believed that during the times of crisis like Covid-19, HR professionals are often developed to prepare and explore contingency strategies. The priority of the contingency strategies in situations like Covid-19 is to emphasize safety and health, virtualisation of education and work and essential services. Meanwhile, Dirani et al. (2020) stated that HR leaders have been at the centre of the organisation for the rapid response to the crisis. They have a significant role in keeping the workforce resilient, productive and engaged. However, HR leaders through contingency strategies should pay attention to recovering and prepared the organisation to thrive. In order to deal with the Covid-19 crisis, most of the organisation created a crisis management team and committees. They are responsible to build policies and provide information to front-line employees, manager and leaders about Covid-19 prevention, awareness, management and hygiene practices.

### ***Impacts of Covid-19 on the HR Practices***

The covid-19 pandemic has created serious financial, physical and mental complications for people around the world. At this unprecedented and unpredictable time of this crisis, businesses have relied more than ever on their HR departments in order to make sure that the workforce feels safe. It has increased the demanding conditions for human resource managers. It has been concluded by the authors of two studies such as Carnevale and Hatak (2020) and Abrams and Greenhawt (2020) due to the pandemic, organisations are required to adopt the technological practices in their workforce such as platform-based practices. At the time of crisis, HRM is required to help employees in overcoming the challenges posed by the pandemic. Thus, HR practices have been significantly influencing due to unexpected changes in the workplace environment. For example, due to remote working from home, the HR manager has to cope with the stress of the employee that has been linked with the removal boundaries among family and work. This required collaborative and digital skills of the workplace to move to virtual work.

Moreover, the study conducted by Kniffin et al., (2021) demonstrated that Covid-19 due to its ever-changing dimension has an essential impact on markets, economies and health. The nature of the workplaces of the organisation has been majorly impacted by the Covid-19. As Covid-19 spreads around the world rapidly, many countries have announced lockdown, and organisations have to close the workplaces following the lockdown restrictions. As a result, Work from Home (WFH) has evolved into a quick response strategy for the continuation of the businesses. In the lockdown scenario, the attributes demonstrated by HR include flexibility, creativity and agility. In addition, HR functions have transformed from brick and mortar offices into virtual

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workplaces. In this case, Dubey and Tripathi (2020) added that HR practices now shifted towards managing the work from home securely and seamlessly.

Following the study by Elsafty and Ragheb (2020), it is argued that the Covid-19 pandemic has expanded the emphasis on the "human interface" factor of the HR functions and practices. In the midst of a rapidly unfolding well-being emergency, human resources are equipped to provide basic correspondence on safety agreements, cleanliness practices, a list of hospitals, emergency numbers, guidance related to social isolation and quarantine and more. Numerous companies are making additional efforts to help workers deal with pressure by offering online classes for personal motivation and well-being. Parker (2020) added that the employee's health and safety have become one of the major concerns, and human resources teams collaborated with a variety of opportunities to characterise methods of ensuring the well-being and social exclusion in the organisation that continued to operate. For example, regular sterilisation of premises, workplaces and transport has become an important segment of employees' safety protection. The procurement of sanitisers, handwashes and masks was a major concern however, in the market, the supplies fell low (Awan et al., 2020).

A crisis like Covid-19 helped the organisations to focus on the value, which HR offers in keeping the employees productive, safe, motivated and engaged (Kuper-Smith et al., 2020). With the help of this, work from the home idea and nominal staffing circumstances are likely to persist for a long time to come. The transmissibility and nature of the coronavirus have indicated that social distancing at the times of Covid-19 is new normal. Therefore, this suggests that the circumstances of the pandemic have influenced the HR practices such as training, recruitment, on-boarding and development. However, as per the study conducted by Carnevale and Hatak (2020), the Covid-19 pandemic has changed the focus of the recruitment practices; now recruitment is focused on tech-savvy talent due to the predominantly digital workplace. Whereas, the on-boarding process of the organisations for new hiring has become now fully digital. Additionally, the skilling and training are also provided through online mode.

### *Relationship between HR Contingency Strategies and Organisational Performance in the times of crisis such as Covid-19 pandemics*

The study by Iqbal (2019) stated that the relationship between organisational performance and HR strategies has been in attention since the 1990s. Katou (2017) emphasis on three approaches for a theoretical explanation of linkage between HR strategies and organisational performance, which includes best practices, contingency approaches and how HR can be a sustainable advantage for the organisation. In order to increase the organisation performance, in times of crisis, HR is required to emphasize a new set of priorities that should be identified priorly on the basis of scenarios.

Way (2018) added that HR contingency strategies should able to identified new priorities which are more strategic and business-oriented rather than traditional HR functions like compensation, appraisal, staffing and training. HR contingency strategies are required to be designed in a way to diagnose the organisation's strategic needs along with the planned talent development in times of pandemic events like Covid-19. In the Covid-19 pandemic, many organisations have planned remote operational policies (Rice, 2020). The remote operational policies have provided greater access to talent, increased productivity of the employees through providing flexibility and improve employee experiences. In addition, Wang et al. (2020) added that during Covid-19, the remote operational policy has offered a variety of tangible benefits such as it reduces the time of employee daily commute, provide suitable working hours and better work-life balance to the employee, which increase the productivity of the employee. This policy helps in accessing the wider pool of talent. Jenkin (n.d.) found that in the UK employee working from home shows 7.7 percent productivity out of 10 as compared to office workers with 6.5 percent productivity. On the other hand, the study carried out by Tortorella et al. (2020) shows that organisations that have been implementing lean HR policies and services more extensively have benefitted from the impacts of Covid-19 pandemic on the work environment in case of the home office.

### **Research Hypothesis**

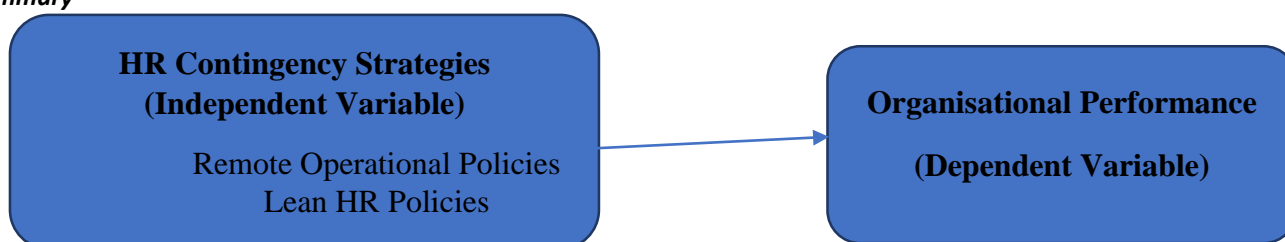
**H1:** Developing remote operational policies can help sustain organisational performance in times of crisis such as a pandemic.

**H2:** Developing lean HR policies can help sustain organisational operations and performance in times of Pandemic.

### **Research Model**

On the basis of the above discussion, the following research model is designed for the research.

### **Summary**



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### RESEARCH METHODOLOGY

#### Research Approach

The deductive research approach has been adopted in the study, as hypothesis development has been based on the literature review. According to Pandey (2019), this approach helps in testing the hypothesis.

#### Research Instrumentation

The primary data in the study has been collected using structured survey questionnaires. The survey questionnaire is comprised of twelve items associated with the study constructs, which includes Remote Operational Policies, Lean HR Policies and Organisational Performance. In order to measure the construct of remote operation policies, the questionnaire items have been adopted from the study of Zou et al., (2020). Meanwhile, the constructs of Lean HR Policies are measured by the four-item scale, which has been adopted by Wickramasinghe and Wickramasinghe, (2020). Likert scale was used in these constructs (1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree). The third construct of the study organisational performance is measured using the organisation's sales growth, profitability, level of productivity and goodwill. However, most of the sampled organisations are private limited organisations, thus not reporting their performance ratios publicly, which makes it impossible to measure accurate values of performance related to these factors. Therefore, similarly to the study like Wickramasinghe and Wickramasinghe, (2020) in the study, the respondent's subjective measures of the organisational performance were adopted. Respondents were asked to compare their organisation's performance with their major competitors and respond on a five-point Likert scale.

#### Participants

The target population of the study was 185 industrial companies identified from the Amman financial market. The survey questionnaires were sent to the general manager and vice president for human resource affairs of each company. The reason for selecting these persons is that the study is investigating the importance of HR contingencies strategies such as remote operational policies and HR lean practices in dealing with the crisis like Covid-19 for organisational performance and these people as the part of BOD (board of director) is involved in the planning of HR contingencies strategies. The 370 questionnaires were sent online to the 185 industrial companies listed on the Amman financial market. However, 300 accurate responses were received, which implies that an 81% success response rate was achieved.

### Results

#### Frequencies

##### Demographic Questions

**Table 1: Gender of the Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	214	71.3	71.3	71.3
Female	86	28.7	28.7	100.0
Total	300	100.0	100.0	

As shown in table 1, the vast majority of the respondents were male (71.3%), which indicated that the top management of the industrial companies in Jordan is male dominating, whereas, only 28.7 percent of respondents were female.

**Table 2: Age of the Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Under 30	11	3.7	3.7	3.7
30 - 35	40	13.3	13.3	17.0
35 - 40	121	40.3	40.3	57.3
Above 40	128	42.7	42.7	100.0
Total	300	100.0	100.0	

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As per table 2, most of the respondents were above 40 years old (128 respondents, 42.7%), whereas, the age of 40.3% (121 respondent) were between 35 to 40 years, 13.3% (40 respondents) were between 30 to 35 and only 3.7% (11 respondents) were under 30 years.

Informative Questions

**Table 3: Due to Covid-19, the employees in my organisation can work remotely**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	6	2.0	2.0	2.0
Disagree	1	.3	.3	2.3
Valid Agree	117	39.0	39.0	41.3
Strongly Agree	176	58.7	58.7	100.0
Total	300	100.0	100.0	

As per table 3, most of the respondents strongly agreed that because of the Covid-19 pandemic, the employees in their organisations are working remotely. As 176 respondents (58.7%) responded strongly agreed with this statement and 117 respondents (39%) agreed, whereas, only 1 respondent (0.3%) responded and 6 (2%) strongly disagreed. Therefore, the results reveal that because of the Covid-19, in the Jordan organisations employees are working remotely.

**Table 4: My Company in case of situations like Covid-19 in future is planning to majorly work remotely through digital operations**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	6	2.0	2.0	2.0
Valid Agree	131	43.7	43.7	45.7
Strongly Agree	163	54.3	54.3	100.0
Total	300	100.0	100.0	

As per table 4, most of the respondents strongly agreed that my company in case of situations like Covid-19 in future is planning to majorly work remotely through digital operations. As 163 respondents (54.3%) responded strongly agreed with this statement and 131 respondents (43%) agreed, whereas, only 6 respondents (2%) responded strongly disagree. Therefore, the results reveal that in similar situations like Covid-19, the organisations are planning to work remotely.

**Table 5: The positive impact of Covid-19 includes encouragement in the establishment of remote office work**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	6	2.0	2.0	2.0
Valid Neutral	1	.3	.3	2.3
Agree	131	43.7	43.7	46.0
Strongly Agree	162	54.0	54.0	100.0
Total	300	100.0	100.0	

As per table 5, most of the respondents strongly agreed the positive impact of Covid-19 includes encouragement in the establishment of remote office work. As 162 respondents (54%) responded strongly agreed with this statement and 131 respondents (43.7%) agreed, whereas, only 1 respondent (0.3%) responded neutral and 6 (2%) strongly disagreed. Therefore, the

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results reveal that the top management in the Jordan organisation believes that the positive impact of Covid-19 includes the encouragement of establishing remote office work.

**Table 6: During the Covid-19 pandemic, I have practices partial home working practice**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	6	2.0	2.0	2.0
Neutral	1	.3	.3	2.3
Valid Agree	124	41.3	41.3	43.7
Strongly Agree	169	56.3	56.3	100.0
Total	300	100.0	100.0	

As per table 6, most of the respondents strongly agreed that during the Covid-19 pandemic, they have practiced partial home working practice. As 169 respondents (56.3%) responded strongly agreed with this statement and 124 respondents (41.3%) agreed, whereas, only 1 respondent (0.3%) responded neutral and 6 (2%) strongly disagreed. Therefore, the results reveal that in the Jordan organisation the Covid-19 has enhanced the home working practices.

**Table 7: In my current organisation due to Covid-19, training programmes related to the job tasks are provided to the employees**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	7	2.3	2.3	2.3
Valid Agree	133	44.3	44.3	46.7
Strongly Agree	160	53.3	53.3	100.0
Total	300	100.0	100.0	

As per table 7, most of the respondents strongly agreed that in their organisations due to Covid-19, training programmes related to the job tasks have been provided to the employees. As 160 respondents (53.3%) responded strongly agreed with this statement and 133 respondents (44.3%) agreed, whereas, only 7 respondents (2.3%) responded strongly disagree. Therefore, the results reveal that in the Jordan organisation due to Covid-19 training programmes related to the job tasks has been provided to the employees.

**Table 8: In my organisation, sufficient amount of training has been provided to the newly hired employees for the cross functional team work**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	7	2.3	2.3	2.3
Valid Disagree	1	.3	.3	2.7
Neutral	1	.3	.3	3.0
Agree	126	42.0	42.0	45.0
Strongly Agree	165	55.0	55.0	100.0
Total	300	100.0	100.0	

As per table 8, most of the respondents strongly agreed that in their organisations sufficient training has been provided to the newly hired employees for cross functional team work. As 165 respondents (55%) responded strongly agreed with this statement and 126 respondents (42%) agreed, whereas, only 1 respondent (0.3%) responded neutral and 1 respondent (0.3%) disagreed and 7 respondents (2.3%) strongly disagreed. Therefore, the results reveal that in the Jordan organisations sufficient amount of training has been provided to the newly hired employees for cross functional team work.

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**Table 9: My organisation provides training related to different functional areas such as maintenance and quality control in order to deal with situations like Covid-19.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	2.3	2.3	2.3
Agree	145	48.3	48.3	50.7
Strongly Agree	148	49.3	49.3	100.0
Total	300	100.0	100.0	

As per table 9, most of the respondents strongly agreed that in their organisations training related to different functional areas such as maintenance and quality control in order to deal with situations like Covid-19 has been provided. As 148 respondents (49.3%) responded strongly agreed with this statement and 148 respondents (48.3%) agreed, whereas, only 7 respondents (2.3%) responded strongly disagree. Therefore, the results reveal that in the Jordan organisations, training related to different functional areas such as maintenance and quality control in order to deal with situations like Covid-19 has been provided.

**Table 10: My organisation provides leadership training for effective team working in order to deal with situations like Covid-19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	7	2.3	2.3	2.3
Disagree	1	.3	.3	2.7
Neutral	1	.3	.3	3.0
Agree	140	46.7	46.7	49.7
Strongly Agree	151	50.3	50.3	100.0
Total	300	100.0	100.0	

As per table 10, most of the respondents strongly agreed that their organisations provide leadership training for effective team working in order to deal with situations like Covid-19. As 151 respondents (50.3%) responded strongly agreed with this statement and 140 respondents (46.7%) agreed, whereas, only 1 respondent (0.3%) responded disagree, 1 respondent neutral (0.3%) and 7 respondents (2.3%) strongly disagreed. Therefore, the results reveal that the Jordan industrial organisations provide leadership training for effective team working in order to deal with situations like Covid-19.

**Table 11: In comparison to the competitors, my organisation has better level of productivity in the times of Covid-19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	4	1.3	1.3	1.3
Agree	135	45.0	45.0	46.3
Strongly Agree	161	53.7	53.7	100.0
Total	300	100.0	100.0	

As per table 11, most of the respondents strongly agreed that their organisations than competitors have a better level of productivity in the times of Covid-19. As 161 respondents (53.7%) responded strongly agreed with this statement and 135 respondents (45%) agreed, whereas, only 4 respondents (1.3%) responded strongly disagree. Therefore, the results reveal that in the time of Covid-19, the Jordan industrial organisations have a better level of productivity than their competitors.

**Table 12: In comparison to the competitors, my organisation has long-run profitability in the times of Covid-19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	4	1.3	1.3	1.3
Agree	141	47.0	47.0	48.3
Strongly Agree	155	51.7	51.7	100.0

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Total	300	100.0	100.0	
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As per table 12, most of the respondents strongly agreed that their organisations than competitors have long-run profitability in the times of Covid-19. As 155 respondents (51.7%) responded strongly agreed with this statement and 141 respondents (47%) agreed, whereas, only 4 respondents (1.3%) responded strongly disagree. Therefore, the results reveal that in the time of Covid-19, the Jordan industrial organisations have long-run profitability than their competitors.

**Table 13: In comparison to the competitors, my organisation has better sales growth in the times of Covid-19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	1.3	1.3	1.3
Disagree	1	.3	.3	1.7
Valid Agree	135	45.0	45.0	46.7
Strongly Agree	160	53.3	53.3	100.0
Total	300	100.0	100.0	

As per table 13, most of the respondents strongly agreed that their organisations than competitors have better sales growth in the times of Covid-19. As 160 respondents (53.3%) responded strongly agreed with this statement and 135 respondents (45%) agreed, whereas, only 1 respondent (0.3%) responded disagree and 4 respondents (1.3%) strongly disagreed. Therefore, the results reveal that in the time of Covid-19, the Jordan industrial organisations have better sales growth than their competitors.

**Table 14: In comparison to the competitors, my organisation has better good will in the times of Covid-19**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	1.3	1.3	1.3
Disagree	1	.3	.3	1.7
Valid Agree	113	37.7	37.7	39.3
Strongly Agree	182	60.7	60.7	100.0
Total	300	100.0	100.0	

As per table 14, most of the respondents strongly agreed that their organisations than competitors have better goodwill in the times of Covid-19. As 182 respondents (60.7%) responded strongly agreed with this statement and 113 respondents (37.7%) agreed, whereas, only 1 respondent (0.3%) responded disagree and 4 respondents (1.3%) strongly disagreed. Therefore, the results reveal that in the time of Covid-19, the Jordan industrial organisations have better goodwill than their competitors.

### Regression

**Table 15: ANOVA**

ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1.168	2	.584	1.609	.020 <sup>b</sup>
Residual	107.749	297	.363		
Total	108.917	299			

a. Dependent Variable: Organisational Performance

b. Predictors: (Constant), Lean HR Policies, Remote HR Operational Policies

As per table 15, the significant value is lower than 0.05 (0.20<0.05), which indicates that the relationship between variables is significant.

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**Table 16: Coefficients**

**Coefficients<sup>a</sup>**

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	4.252	.330	12.868	.000
	Remote HR Operational Policies	.091	.051	1.788	.048
	Lean HR Policies	.008	.048	.171	.049

a. Dependent Variable: Organisational Performance

Table 16 shows that significant values of both independent and dependent variables are under 0.05, based on this, it could be stated that both hypotheses have been accepted. Therefore, Remote HR Operational Policies and Lean HR Policies can help in sustaining the organisational performance at the times of Covid-19.

### **Reliability**

**Table 17: Reliability**

Cronbach's Alpha	N of Items
.700	12

The Cronbach's alpha value of the questionnaire items is 0.70, which indicates that it has good internal consistency.

### **Findings**

#### *Discussion of Findings*

The covid-19 pandemic has resulted in serious financial, physical and mental complications to the people worldwide. In addition to this, findings revealed that events like Covid-19 have been considered as one of the rapidly evolving threats that have disrupted the business universally. The findings of Hinojosa et al. (2020) confirm the fact that due to the consequences of the pandemic caused by a coronavirus, HR departments have faced an unprecedented crisis. It has been found that at this unprecedented and unpredictable time of this crisis, the organisation have majorly dependent on their HR departments in order to make sure that the workforce feels safe. This evidence shows that in the times of crisis like Covid-19, HR practices have transformed from brick-and-mortar offices into virtual workplaces through adopting remotely operational policy as the HR contingency strategy for the purpose of business continuation.

The results are consistent with the results of Zou et al. (2020) that HR practices due to Covid-19 have shifted towards managing the work from home securely and seamlessly. Syed (2020) also confirmed the role of the human resource in the organisation has been changed significantly by introducing a new work environment and social distancing practices that have been never imagined. It is found that the organisation in order to prevent the spread of Covid-19 has implemented remote operational policies through adopting a remote working model at the scale and rate that have never experienced (Ramos and Hynes, 2020).

Moreover, according to the results of this study, for an organisation to deal with situations similar to the Covid-19 in the future, it is essential to integrate pandemic contingency planning into existing resilience management activities for the purpose of providing comprehensive response and continuity of the business (Menoni and Schwarze, 2020). However, in parallel to the statement by Donthu and Gustafsson (2020), it can be said that the priority of the contingency strategies in situations like Covid-19 should be on the safety and health of the employees. The research evidence also revealed that remote HR operational policies along with the lean HR policies have a significant impact on the organisation performance specifically in times of crisis like Covid-19. It is found that they have a significant role in keeping the workforce resilient, engagement and productivity.

Consequently, it has been found that HR contingency strategies have significant importance in sustaining the organisation performance and operations in situations like Covid-19. As in this unprecedented time, HR contingency strategies like remotely operational policies and lean HR policies provide greater access to talent, increased productivity of the employees through providing flexibility and improving employee experiences (Williams, 2019). Furthermore, the research findings also suggest that to sustain the business operations and performance in the situations like Covid-19, the business should be able to identify new priorities which are more strategic and business-oriented through different HR contingency strategies such as remotely



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operational policies and lean HR policies rather than traditional HR functions such as training, staffing compensation and appraisal. Cao et al. (2020) also confirmed that to manage the business performance in times of pandemic events like Covid-19, the HR department is required to design a contingency strategy in a way that diagnoses the organisation strategic needs along with the planned talent development. Therefore, for effective dealing with situations like Covid-19 in the future, the HR Contingency model is required to be built in accordance with the strategic needs of the organisation through providing various talent management opportunities to the employees (Acharya et al. 2020; O'Rourke, 2020).

### CONCLUSION

The aim of the research was to explore the importance of developing HR contingency strategies in dealing with situations like Covid-19 in the future. It has been concluded that HR contingency strategies have significant importance particularly in a situation like Covid-19. Because these events have an ever-changing dimension, which essentially influences markets, economies and health. The study concluded that HR contingency strategies such as remote operational policies and lean HR policies have significantly helped the organisations to sustain their organisation's operations and performance in the times of Covid-19. Remote working and Lean HR practices have been evolved in these times as a quick response strategy for the continuation of the businesses. As a result, now organisations are paying more attention to HR contingency strategies in order to rebuild and transform the work in responses to similar situations in the future. Therefore, the HR manager to deal with situations like Covid-19 in the future are recommended to react quickly and effectively to minimise the impact of such a crisis. However, for effective and quick response, they are required to analyse the situation first, identify threats and prioritize the risk factors. In accordance with the risk factors, the HR contingency strategies should be prepared (O'Rourke, 2020). Additionally, for quick adaptation of HR contingency strategies, organisations should emphasize on internal communication, as cooperation, collaboration and team spirit are essential to survive in a changing environment due to such a crisis.

### ACKNOWLEDGEMENTS

The study is funded through Al-Hussein Bin Talal University

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## Analysis of the Effect of Product Quality Factors, Product Style, Product Price, Brand Image, Service Quality and Store Environment against Brand Loyalty of Zara Customers in Surabaya



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**ABSTRACT:** People in Indonesia are currently very easy to follow the existing fashion trends with a variety of products and fashion models, to complement their appearance every day to make it more attractive and stylish. Currently, in Indonesia, fashion retail has become increasingly diverse with the emergence of new brands starting from domestic brands to foreign brands. One of the foreign retailers that has enlivened the competition between retailers, especially in the fashion sector in Indonesia, is Zara. The purpose of this study was to determine the effect of product quality, product style, product price, brand image, service quality and store environment of brand loyalty. The expected benefits of this research is to increase the repertoire of knowledge in the field of management, especially how large the influence of product quality, product style, product price, brand image, service quality and store environment so as to increase Brand Loyalty for Zara customers in Surabaya. This study is causal. The method used is quantitative methods of processing the data using AMOS. Data was collected by distributing questionnaires to 125 respondents with the characteristics of male and female respondents aged 18-60 years, and has visited Zara's store at least two years. The results showed that Product Quality with regression coefficient of 0.464; Product Style with regression coefficient of 0.370, Product Price with regression coefficient of 0.723, and Service Quality with regression coefficient of 0.256, positive and significantly affect Brand Loyalty; Brand Image with regression coefficient of 0.044 and Store Environment with regression coefficient of 0.042, positive and not significantly affect Brand Loyalty.

**KEYWORDS:** Product Quality, Product Style, Product Price, Brand Image, Service Quality, Store Environment, And Brand Loyalty

### I. INTRODUCTION

People in Indonesia are currently very easy to follow the existing fashion trends with a variety of products and fashion models, to complement their appearance every day to make it more attractive and stylish. Along with the development of the current era of globalization, the fashion industry has undergone many changes from year to year. Consumer needs for goods and services are increasing and developing very rapidly along with the development of increasingly complex human needs. Currently, in Indonesia, fashion retail has become increasingly diverse with the emergence of new brands starting from domestic brands to foreign brands. All fashion retail companies compete with each other to dominate market share (Fasha & Madiawati, 2019). According to the survey results from the Central Statistics Agency (BPS), it can be seen that the fashion industry contributes 56 percent of the creative industries from total exports compared to other sub-sectors (Hananto, 2017). This is because consumer needs for fashion are increasingly diverse and increasing. If a company wants its product or brand to continue to be in demand by consumers from time to time, then the company must have the right marketing strategy. In today's highly competitive market, brands have a very important role for the survival of a company. Marketing in the future will pay more attention to competition between brands, namely competition to win consumers through brands (Kotler and Keller, 2013).

The rapid development of technology and industry has an impact on the business world today, especially in the fashion sector. Currently, clothing is not only used as a primary need, but also has another function, namely as a reflection of the personality of the person who wears it. In the Indonesian market, there are many clothing products from local brands to products from abroad that are mushrooming and dominating the market. These products have their own uniqueness and characteristics so that they can compete with competitors. With the wide choice of products offered, consumers must be more careful and careful in making choices when shopping (Angelina, 2020).

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With the proliferation of fashion retail in Indonesia, this shows that Indonesia has not escaped the fever of fashion industry trends that are currently growing rapidly in various parts of the world. The growth of market share in Indonesia is very promising because the fashion industry in Indonesia is very broad. The city of Surabaya is one of the cities with the most fashion retail targets, this is because Surabaya is one of the big cities with the development of the fashion world and prestige which is part of the lifestyle trend of dressing for the people of Surabaya. There are 200 fashion brands that have joined the Surabaya fashion industry, both locally and internationally, which always provide updates on the latest trends in fashion that make the people of Surabaya now considered fashionable. This has encouraged various fashion retail companies to develop their markets in Indonesia, one of which is Zara who chose Surabaya as one of the marketing centers for the East Java region (Kanalsatu, 2018).

### **II. LITERATURE REVIEW**

#### ***Product Quality***

According to Tjiptono (2007), product quality can be interpreted as an effort to meet the needs and desires of consumers and the accuracy of delivery in balancing consumer expectations. Anwar (2015) argues that product quality is the quality of a product that is acceptable to consumers in accordance with the wishes and needs of consumers. According to Assauri (2015), product quality is a statement of the level of ability of a particular brand or product in carrying out the expected or desired function. Meanwhile, Oetarjo & Prasetyo (2017) argue that product quality is a condition in which consumers feel that they are suitable for a product or in accordance with the wishes that are expected to meet their needs. **H1: Product Quality has a significant effect on Brand Loyalty**

#### ***Product Style***

According to Kim et al., (2016) product style is a product that is used to provide psychological comfort and aesthetic fulfillment, fulfill functional comfort, and efficiency at the same time. Kotler and Keller (2009) define product style as the style of a product that affects the appearance, taste, and function of the product based on consumer needs. Khoei (2014) explains that product style is the details, lines, and silhouettes that make up the visual appearance of a product. According to David (2009) product style is an attempt to increase sales through product improvement or current product development. Meanwhile, Sutojo (2009) explains that product style is a product style that distinguishes the company's products from competing products. **H2: Product Style has a significant effect on Brand Loyalty**

#### ***Product Price***

According to Kotler and Armstrong (2013), product price is the amount of money charged for a product (goods or services), or the amount of value that must be paid by consumers in order to get the benefits of the product. Philip Kotler (2012) suggests that the product price is the amount of value that consumers must pay to own or benefit from a product or service. Meanwhile, Dimiyati and Subagio (2016) explain product price as a very important aspect for customers because it will be a guide to measure the suitability of the product benefits received by the sacrifices that have been given both in the form of goods and services. **H3 : Product Price has a significant effect on Brand Loyalty**

#### ***Brand Image***

Farzin and Fattahi (2018) define brand image as the attributes and benefits associated with a brand that make the brand special and different from its competitors. According to Tjiptono (2015) brand image is a consumer's belief in a certain brand so that consumers make repeated purchases of that brand. Keller (2013) suggests that Brand Image is a consumer's perception of a brand that can be reflected through brand associations in the consumer's memory. Meanwhile, Aaker in Mohammad Rizan (2012) explains that brand image is a set of brand associations that are formed and embedded in the minds of consumers. **H4: Brand Image has a significant effect on Brand Loyalty**

#### ***Service Quality***

According to Tjiptono (2002), service quality is the fulfillment of customer needs and desires as well as the accuracy of delivery to balance customer expectations. According to Rasyid (2017), service quality is the result of customer assessment of the difference between expectations and the perceived reality of a service that customers receive from service providers (companies), both in part and in whole. Rahman et al., (2020) define service quality as an important factor that is able to provide satisfaction for consumers related to the results of word of mouth behavior such as complaints, recommendations and exchanges or transfers. Meanwhile, according to Dennisa & Santoso (2016) service quality is a very important thing for companies, because good service quality in a company will create satisfaction for its consumers and cause consumers to make repeated purchases.

**H5: Service Quality has a significant effect on Brand Loyalty**

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## Store Environment

According to Gillbert (2013), said that the store environment is a combination of planned physical messages or store atmosphere can be described as changes to the planning buying environment that produce special emotional effects that can cause consumers to make purchases. According to Berman and Evans (2001) store environment is a situation where a store can create and maintain an atmosphere that refers to the physical characteristics of the store and leaves a good impression on consumers. Berman and Evan (2012), define a store environment as a physical characteristic of a store that can show the image (impression) of the store so that it can attract consumer interest.

**H6: Store Environment has a significant effect on Brand Loyalty**

## Research Model

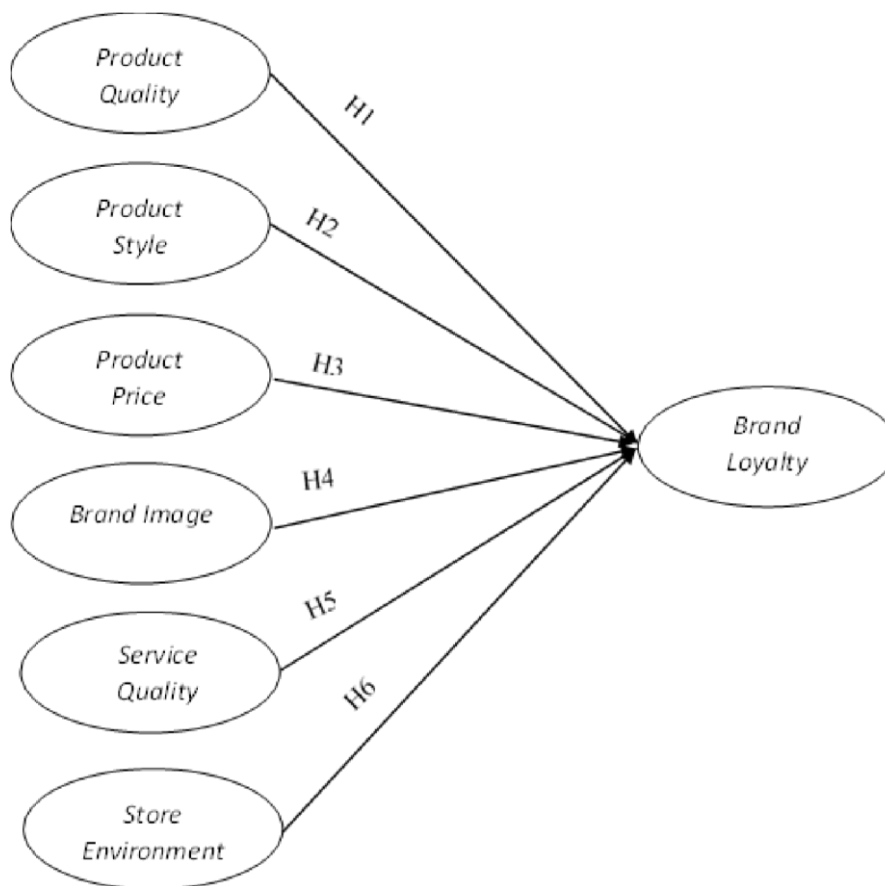


Figure 2.1 Research Model

## III. RESEARCH METHODS

This study uses causality research, because this research develops a previous research model to test the research hypotheses determined based on the literature review to answer the problems identified in the previous chapter. Causality research is defined as a research that aims to identify causal relationships (Zikmund et al., 2009). This study uses quantitative research methods, where this method is a scientific approach to managerial and economic decision making. Quantitative methods are used because they can obtain analytical results accurately when used according to the rules, can measure the interaction of the relationship between two or more variables and can simplify the reality of complex and complicated problems in a model (Syamrilaode, 2011). This study uses a method that will refer to references that can carry out a simultaneous analysis process that is related to a multivariable research model, namely the Structural Equation Model (SEM) using AMOS 22.0 software. It is hoped that this research model is able to explain the relationship between variables in order to understand the factors that influence the Brand Loyalty of Zara customers in Surabaya as well as make an implication whose results will approach the requirements of a measurement that will be described through a research design. Population is the whole of a group of people, events, or things that the researcher wants to investigate (Sekaran, 2006). Sugiyono (2010) explained that the population is a generalization area consisting of objects/subjects that have certain qualities and characteristics that have been determined by researchers to be studied and then used to draw conclusions. The population is the entire data that will be of concern to us in a predetermined

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scope and time (Margono, 2010). The population theory according to Sukmadinata (2011) states that the population is a large group and area that is the scope of our research. Arikunto (2006) revealed that the population is the entire research subject. Populations with certain characteristics are finite in number and some are infinity (Hartono, 2011). From some of these definitions, it can be concluded that the population is an area that has been determined to be studied and studied so that conclusions can be drawn from the results of the research. The population that will be used in this study are consumers who make purchases of Zara products in Surabaya. The sample according to Sugiyono (2010) is part of the number and characteristics possessed by the population. Meanwhile, according to Sekaran (2006), the sample is a subset or subgroup of the population. If the research has a large population, but has limited funds, manpower, and time in conducting the research, a sampling technique will be used, so that generalizations can be made to the population that has been determined by the researcher. Sampling can be done by two methods, namely probability sampling and non-probability sampling (Sekaran, 2006). The sampling method that will be used in this research is Non-Probability Sampling. The non-probability sampling method was used because the population who had bought Zara products was not known with certainty. This study uses a questionnaire as the main tool in the data collection process. In this study, the researcher also used the snowball sampling technique, where in this technique the researcher chose respondents who would assist the researcher in distributing and filling out the questionnaire so that it could be done quickly and precisely. Snowball sampling technique is used in this study by distributing questionnaires to be distributed to Zara customers who have purchased Zara products that were selected as samples. The area used as a place for distributing questionnaires is the city of Surabaya, so that the respondents selected are in accordance with what is expected.

## IV. RESULT AND DISCUSSION

### Results

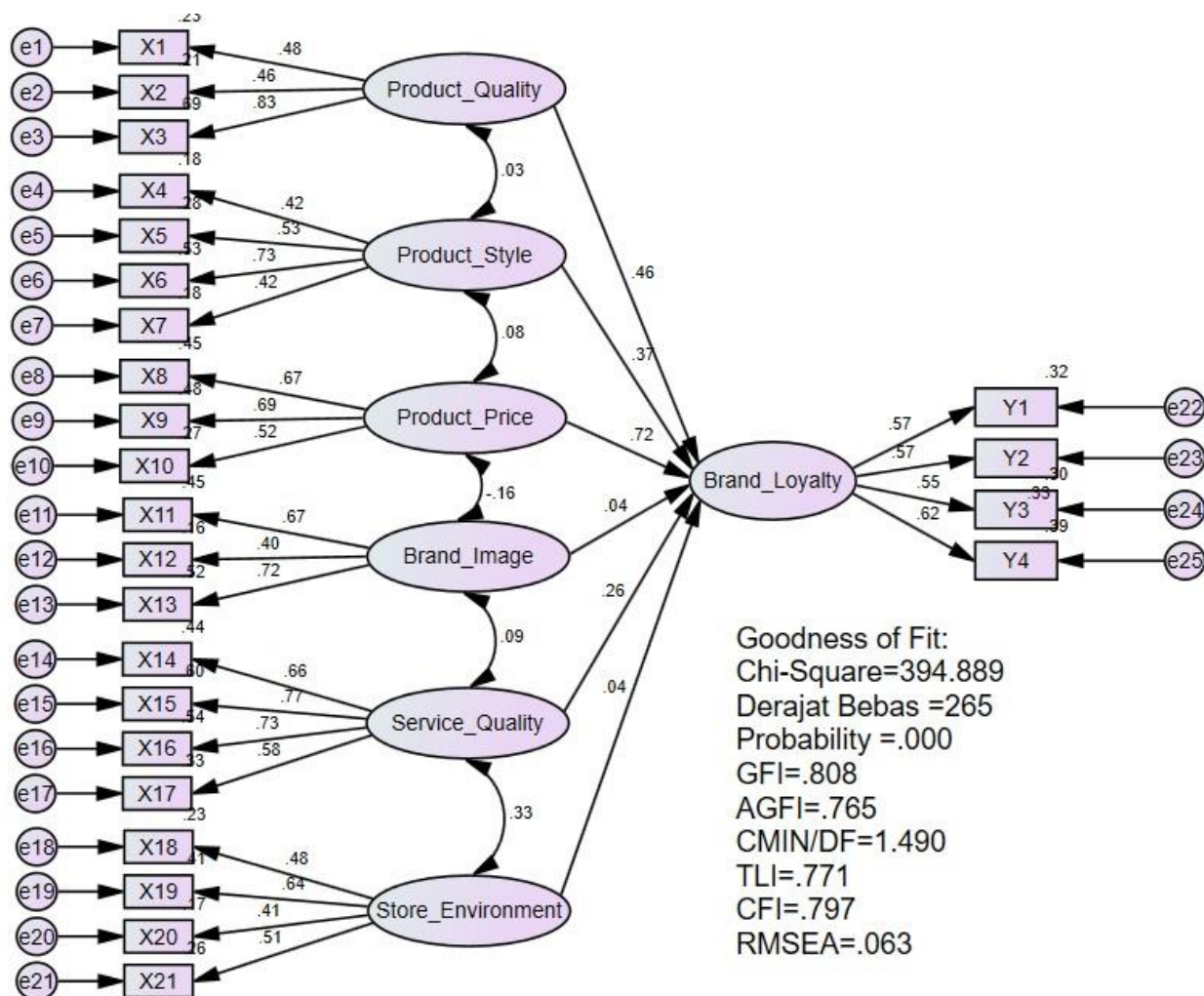


Figure 4.1 Full Structural Model

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Table 4.1 Regression Weight Full Structural Equation Model

		Estimate	S.E.	C.R.	P	Std. Estimate	
Brand_Loyalty <---	Product_Quality	.329	.115	2.859	.004	.464	
Brand_Loyalty <---	Product_Style	.342	.122	2.804	.005	.370	
Brand_Loyalty <---	Product_Price	.505	.132	3.824	***	.723	
Brand_Loyalty <---	Brand_Image	.023	.066	.351	.726	.044	
Brand_Loyalty <---	Service_Quality	.155	.078	2.001	.045	.256	
Brand_Loyalty <---	Store_Environment	.053	.180	.296	.767	.042	
X3	<---	Product_Quality	1.000			.829	
X2	<---	Product_Quality	.560	.163	3.447	***	.463
X1	<---	Product_Quality	.504	.135	3.741	***	.482
X10	<---	Product_Price	1.000			.520	
X9	<---	Product_Price	1.189	.258	4.607	***	.692
X8	<---	Product_Price	1.189	.277	4.290	***	.668
X16	<---	Service_Quality	1.000			.733	
X15	<---	Service_Quality	1.032	.150	6.882	***	.773
X14	<---	Service_Quality	.984	.153	6.413	***	.661
X13	<---	Brand_Image	1.000			.722	
X12	<---	Brand_Image	.549	.181	3.036	.002	.402
X11	<---	Brand_Image	.796	.264	3.019	.003	.675
X6	<---	Product_Style	1.000			.730	
X5	<---	Product_Style	.723	.235	3.076	.002	.528
X4	<---	Product_Style	.518	.162	3.203	.001	.419
X20	<---	Store_Environment	1.000			.415	
X19	<---	Store_Environment	1.469	.556	2.642	.008	.642
X18	<---	Store_Environment	1.106	.431	2.563	.010	.484
X7	<---	Product_Style	.516	.206	2.507	.012	.419
X17	<---	Service_Quality	.689	.125	5.495	***	.575
X21	<---	Store_Environment	1.647	.583	2.826	.005	.515
Y1	<---	Brand_Loyalty	1.000			.566	
Y2	<---	Brand_Loyalty	1.069	.202	5.287	***	.573
Y3	<---	Brand_Loyalty	.914	.179	5.094	***	.548
Y4	<---	Brand_Loyalty	1.572	.297	5.286	***	.622

Table 4.2 Hypothesis Test Results

Hipotesis	Analisis
H1 : <i>product quality</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Diterima
H2 : <i>product style</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Diterima
H3 : <i>product price</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Diterima
H4 : <i>brand image</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Ditolak
H5 : <i>service quality</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Diterima
H6 : <i>store environment</i> memiliki pengaruh signifikan terhadap <i>brand loyalty</i>	Ditolak

## DISCUSSION

### H1: Product Quality has a significant effect on Brand Loyalty

Product Quality is formed by indicators of Zara products having comfortable materials to use, Zara products having many attractive color choices and Zara products having guaranteed product quality. While Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future, customers will recommend Zara products to their families, customers will say positive



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things about Zara products to others, and customers consider themselves loyal to Zara products. The estimated parameter between product quality and brand loyalty shows significant results in a positive direction with a value of C.R = 2.859 and a regression coefficient of 0.464 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 1 (H1) is accepted.

### **H2: Product Style has a significant effect on Brand Loyalty**

Product Style is formed by indicators that Zara products have various types of attractive styles, Zara products have trendy designs, Zara products are fashionable designs and Zara products provide cool clothes. Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future. In the future, customers will recommend Zara products to their families, customers will say positive things about Zara products to others, and customers consider themselves loyal to Zara products. The estimated parameter between product style and brand loyalty shows significant results in a positive direction with a value of C.R = 2.804 and a regression coefficient of 0.370 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 2 (H2) is accepted.

### **H3: Product Price has a significant effect on Brand Loyalty**

Product Price is formed by indicators that Zara products have the best prices, Zara products have affordable prices, and Zara products have attractive price discounts. Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future, customers will recommend Zara products to their families, customers will say positive things about Zara products to others, and customers consider themselves loyal to Zara products.

The estimated parameter between product price and brand loyalty showed significant positive results with a value of C.R = 3.824 and a regression coefficient of 0.723 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 3 (H3) is accepted.

### **H4: Brand Image has a significant effect on Brand Loyalty**

The brand image formed by the indicator Zara is a well-known brand, the Zara brand image reflects a quality brand, and the Zara brand is a trusted brand. Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future, customers will recommend Zara products to their families, customers will say positive things about Zara products to others, and customers consider themselves loyal to Zara products.

The estimated parameter between brand image and brand loyalty shows a positive and insignificant result with a value of C.R = 0.351 and a regression coefficient of 0.044 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 4 (H4) is rejected.

### **H5: Service Quality has a significant effect on Brand Loyalty**

Service Quality is formed by indicators of employees at Zara stores having a neat appearance, employees at Zara stores are friendly, employees at Zara stores are very knowledgeable about the products offered and employees at Zara stores are always ready to help me. Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future, customers will recommend Zara products to their families, customers will say positive things about Zara products to others, and customers consider themselves loyal to Zara products. The estimated parameter between service quality and brand loyalty shows significant results in a positive direction with a value of C.R = 2.001 and a regression coefficient of 0.256 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 5 (H5) is accepted.

### **H6: Store Environment has a significant effect on Brand Loyalty**

Store Environment is shaped by indicators that Zara stores have an affordable location, Zara stores have an attractive interior appearance, Zara stores have fun color designs and Zara stores have good shelving arrangements. While Brand Loyalty is formed by indicators that customers will repurchase Zara products in the future, customers will recommend Zara products to their families, customers will say positive things about Zara products to others, and customers consider themselves loyal to Zara products. The estimated parameter between Store Environment and brand loyalty showed positive and insignificant results with a CR value of 0.296 and a regression coefficient of 0.042 with an acceptable standard hypothesis, namely CR  $\geq \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 6 (H6) is rejected.

## **V. CONCLUSION**

This model was developed in the framework of research on Brand Loyalty Zara in Surabaya. This research model is formed from the relationship of influence between product quality, product style, product price, brand image, service quality and store environment on brand loyalty.

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**Table 5.1 Managerial Implications**

Research Now	Managerial Implications
Product Quality is one of the elements that is the focus in the process to increase Brand Loyalty	<p>Increase the types of materials used, such as using natural, artificial, and synthetic materials</p> <p>follow color trends that exist every year such as lilac, sage green, magenta, and others which are not only neutral colors</p> <p>maintain the quality of the products that have been used</p>
Product Style is one of the elements that is the focus in the process to increase Brand Loyalty	<p>by increasing collabs with top designers</p> <p>hold fashion show events to produce new designs that are more fashionable and find out what clothing trends will be booming next</p> <p>produce clothes with new styles such as vintage, retro, streetwear, and so on</p> <p>add a theme to each product, for example the theme of Halloween, summer, autumn and so on following the existing season.</p>
Product Price is one element that is the focus in the process to increase Brand Loyalty	<p>maintain affordable product prices so that they remain a plus compared to other brands</p> <p>maintain its current price with good product quality</p> <p>offer promotions such as buy 1 get 1, or special coupons that can be claimed on their special day.</p>
Brand Image is one of the elements that is the focus in the process to increase Brand Loyalty	<p>maintain its products to continue to gain customer trust as a high-end fashion brand with the best quality</p> <p>maintain a strict quality control process so that no reject products pass for sale</p> <p>sponsor major events or use top artists for promotional media</p> <p>maintain advertisements showing that the ingredients of Zara products are not only luxurious, but of the best quality</p>
Service Quality is one of the elements that is the focus in the process to increase Brand Loyalty	<p>implement SOPs that are required to smile and greet customers politely</p> <p>improve product knowledge of Zara's employees, by routinely conducting training and testing product knowledge</p> <p>provide more uniforms for employees so that employees don't use the same uniforms so they don't get dirty easily.</p> <p>increase the number of employees to be placed at certain points in the store in order to reach all customers who need assistance.</p>
Store Environment is one of the elements that is the focus in the process to increase Brand Loyalty	<p>improve shelf layout by paying more attention to ergonomics and science</p> <p>take advantage of its location inside the mall, by choosing a store location that is close to the center of the crowd in the mall</p> <p>add a spot for trending photos to attract customers to shop at Zara stores.</p>

### RECOMMENDATION

Looking at the results of existing research where there are still many limitations to the research conducted by the author, the recommendations that can be conveyed by the author are as follows:

- 1 Seeing the limitations of the research object that only took respondents, namely Zara consumers in Surabaya, it is hoped that future research using the same or modified model can be applied to different objects to get more general results on the factors that affect Brand Loyalty.
- 2 Further research is expected to be able to complement the existing variables in this research so that it can further refine the understanding of the factors that influence Brand Loyalty, such as customer satisfaction, entertainment, repurchase intention, brand attitude, etc.
- 3 Further research can be developed by connecting the factors that influence Brand Loyalty based on the average income of the object customer to be studied. Future research can also expand the scope of respondents to be studied, or conduct their research in areas and objects that are different or similar to the research that has been carried out at this time. So that further research is carried out to provide a broad overview of Brand Loyalty.

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- 4 In addition, it is also expected to be able to use the Structural Equational Model (SEM) but by using Lisrel software or Statistical Analysis System (SAS) in further research.

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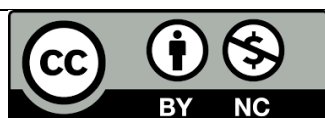
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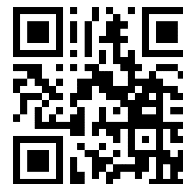
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## Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya



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**ABSTRACT:** The growth of the digital industry or e-commerce industry in Indonesia itself can be said to be experiencing rapid growth, where it has develop very quickly and has become one with our daily activities, where it used to be If you want to make a purchase, the buyer makes a direct purchase at the store, but now e-commerce itself has become something that become our daily habits, where when buyers or consumers want something they (consumers or buyers) can directly open apps and search through apps them self then buy and do payments with ease through the application. This research aims to know how learning, novelty, escapism, enjoyment, social value, and value for money, towards Purchase Growth in forming Costumer Loyalty in Tokopedia users in Surabaya. It is hoped that this research can contribute to forming new theories and new research towards forming new strategy for Tokopedia Purchase Growth.

**KEYWORDS:** novelty, escapism, enjoyment, social value, value for money, Purchase Growth, Costumer Loyalty

### 1. INTRODUCTION

Generally the development of technology that became an important part of our lives or other wise known as e – commerce. The development of the e – commerce industry in Indonesia it self has been rapid, this growth can be seen in its rapid integration with the daily lives of many Indonesians. According to we are social (<https://wearesocial.com/>) Indonesia is the current fastest growing country in term of e – commerce users in southeast Asia (in the year of 2020) leading by 88% while the second place belonging to Thailand with 82% growth and third being Malaysia by 81%, other then that according to lokadata (<https://lokadata.beritagar.id/>) the rapid growth of Indonesian e – commerce growth can be seen in the year by year when the first growth of users in the year 1998 with 500.000 users and by 2019 there were a recorded 196.700.000 user's for e – commerce in the country. This growth can and will be one of the best opportunity for growth and development that can be used by the government and other parties, this is because the rapid growth and development will lead to a more rapid integration .Development such as this is what lead to the formation of Tokopedia as the leading e – commerce company in Indonesia itself is founded in the year 2009 6 February , it was founded by 2 people by the name of William Tanuwijaya and Leontinus, later that year by August 7<sup>th</sup> the company went public. After going public the company itself perience rapid growth do to the rapid expansion of internet users especially in the e – commerce sector this can be seen the companys number of users and the number and amount of investment the company itself received of investment it received both from inside the country and from foreign investors. That is why this research has its focus about customer loyalty to see why the users keep coming back and uses the same platform repeatedly. The research gap between the current The Research Gap in previous research between the Value for variables Money and Purchase Growth variables conducted by Teng (2018), which stated that there was no significant effect on Value for Money and Purchase Growth variables. This is contrary to research conducted by Rafsanjani (2018,) which states that there is significant relationship between Value for Money and Purchase Growth variable where it is said that the two variables are related because a feeling of benefit for what is earned and what is spent.

### 2. LITERATURE REVIEW

#### *Learning*

According to Demetriou (2020) learning is the ability possessed by an organization or group to be able to adapt to circumstances and can maintain its relevance amid changes. Lau (2015) learning is a way an organization or group can adapt to a change that

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occurs so that it may be able to support the development of an organization. Based on previous research we can conclude that Learning has a positive effect towards Purchase Growth.

H1 : Learning has significant effects towards Purchase Growth

### **Novelty**

According to Pappu and Quester (2016) a novelty is one of the key aspects of innovation by a company that can be a differentiator factor for said company. According to Hekkert (2018) novelty is differences that can be seen by consumers that are unique or different from other platforms. Based on previous research we can conclude that Novelty has a positive effect towards Purchase Growth.

H2 : Novelty has significant effect towards Purchase Growth

### **Escapism**

According to Cova (2018) Escapism is a pleasure that arises from the use of services or products that evoke feelings detachment from the circumstances surrounding the user or buyer. According to Hsu (2017) Escapism is a process that creates or increase the user's intention to use the internet platform to conduct remote interaction between two or more parties. Based on previous research we can conclude that Escapism has a positive effect towards Purchase Growth.

H3 : Escapism Has Significant effect towards Purchase Growth

### **Enjoyment**

According to Arens (2018) enjoyment is a form of pleasure arising from consumer shopping activities either digitally or online that is essentially the same as shopping physically or offline which in the end have an influence on the shopping behavior that is shown by consumer. According to Merhi (2017) enjoyment has a strong influence in the process of influencing users or potential buyers to purchase or use of applications, especially in e-mail settings commerce. Based on previous research we can conclude that Enjoyment has a positive effect towards Purchase Growth.

H4 : Enjoyment has significant effect towards Purchase Growth.

### **Social Value**

According to Goh (2016) social value is a process the establishment of a relationship, either directly or indirectly between two different parties. According to Zhang (2017) social value is a process of interaction that occurs where there is the sharing or dissemination of information either between individual users or groups that can influence decisions that are made. Based on previous research we can conclude that Social Value has a positive effect towards Purchase Growth.

H5 : Social Value has significant effect towards Purchase Growth

### **Value for Money**

According to Rajaguru (2016) Value for money is a benefit that consumers or users receive from products or services received by users or consumers who give the impression profit or get something more than what is spent. According to Zeithaml (2016) value for money is a view held by consumers or users regarding what is sacrificed and what is gained from the things sacrificed and whether it is equal or greater with what consumers get. Based on previous research we can conclude that Value for money has a positive effect on Purchase Growth.

H6 : Value for Money has significant effect towards Purchase Growth.

### **Purchase Growth**

According to Monroe (2016) purchase growth is behavior which is continuously driven by user desires or consumers to add value or get value from something good it's goods or services. According to Matthews (2020) . purchase growth is the result or impact of commitment from consumers or users to increase interaction and engagement with an specific platform or company. Based on previous research we can conclude that Purchase Growth has a positive effect towards Costumer Loyalty

H7 : Purchase Growth has a significant effect towards Costumer Loyalty

### **Customer Loyalty**

According to Moliner (2018) customer loyalty is a decision taken by users or consumers to continue to buy or use a product or service continuously over a period continuously. According to Bela (2016) customer loyalty is a deep commitment that users have or hold on to or consumers towards a product or service that is supported on an ongoing basis either by buying or continuing to use the goods or services.

# Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya

## Previous Research

This study uses the main journals studied by Ching (2018) entitled Look to The Future: Enhancing Online Gamer Loyalty from The Perspective of The Theory of Consumption Values. This research conducted in Taiwan. This study collects data using an online survey that posted on a local Taiwanese gaming website where they do a lottery for survey participants. The similarity of this research and previous research is in the use of variable learning, novelty, escapism, enjoyment, social and value, value for money, while the difference is in the variables adapted for This research is the variable purchase growth and customer loyalty, which previously character growth and gamer loyalty. While the audio-visual variable the design is not used because it cannot be used on the object of this research.

## 3. RESEARCH METODELOGY POPULATION AND SAMPLE

According to Sekran (2000) population is whole groups, events, or interests that wants to investigate further by a researcher. Sugiyono (2010) a population is a generalization area consisting of objects and subjects that have certain characteristics defined by the researcher to be studied and then conclusion drawn. The population in this study is all Tokopedia customers and users in Surabaya. Notoatmojo (2005) a sample is apart from the population that can represent the population that will be studied further by researcher. According to Sekran (2003) in multivariate studies (including analysis of multiple regression) sample size should be several times(preferably 10 times or more)of the number of variables in research, there are 7 variables in this research with a minimum sample size of 100, for this research the amount of sample targeted is 108 samples. Below is the proposed research model based on the previous variabels

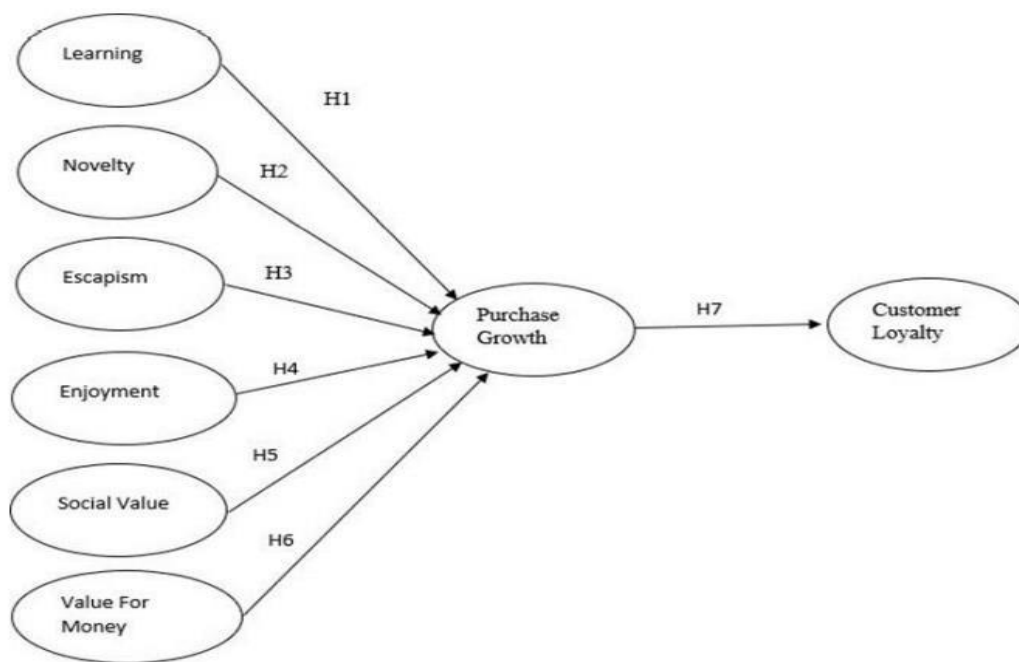


Fig1. Research Model

The data collection technique used in this research is the distribution of data questionnaire. Questionnaires will be distributed to Tokopedia customers at Surabaya. In the process of facilitating data collection, respondents' perceptions will be measured using the Likert measurement scale , on a scale of 1 to 5, with 1 being Strongly disagree and 5 being Strongly agree. After selection, the selected questionnaire data will be tabulated and further processed. The tabulated data then tested on the research model using software IBM® SPSS®.

## 4. RESULTS

### Data Validity Test

Bellow are the results for the data validity test



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**Table 1. Data validity test**

Variabel	Butir	Pearson Corelation	r Tabel	Keterangan
<b>Customer Loyalty</b>	1	0,954	0,254	Data Valid
	2	0,946	0,254	Data Valid
	3	0,967	0,254	Data Valid
<b>Purchase Growth</b>	1	0,838	0,254	Data Valid
	2	0,862	0,254	Data Valid
	3	0,836	0,254	Data Valid
<b>Value for Money</b>	1	0,831	0,254	Data Valid
	2	0,846	0,254	Data Valid
	3	0,746	0,254	Data Valid
<b>Escapism</b>	1	0,744	0,254	Data Valid
	2	0,867	0,254	Data Valid
	3	0,782	0,254	Data Valid
<b>Enjoyment</b>	1	0,572	0,254	Data Valid
	2	0,817	0,254	Data Valid
	3	0,791	0,254	Data Valid
<b>Social Value</b>	1	0,671	0,254	Data Valid
	2	0,810	0,254	Data Valid
	3	0,711	0,254	Data Valid
	4	0,797	0,254	Data Valid
<b>Novelty</b>	1	0,764	0,220	Data Valid
	2	0,752	0,220	Data Valid
	3	0,777	0,220	Data Valid
<b>Learning</b>	1	0,566	0,220	Data Valid
	2	0,665	0,220	Data Valid
	3	0,699	0,220	Data Valid

In this study, the overall validity test was carried out with the test sample (n) = 108 and  $\alpha = 0.05$  (5%) so that  $r_{table} = 0.254$  is obtained. Based on the test on the table of validity test results, it is known that the value of Pearson Correlation of all variable indicators is greater than  $r_{table}$ . Therefore, it can be concluded that all variable indicators in the study this is valid.

**Reliability Test**

Below are the results for the Reliability test

**Table 2. Reliability Test Results**

Variabel	Cronbach's Alpha Based on Standardized Items	Standard	Criteria
<b>Customer Loyalty</b>	0,977	>0,6	Data Reliabel
<b>Purchase Growth</b>	0,907	>0,6	Data Reliabel
<b>Value for Money</b>	0,878	>0,6	Data Reliabel
<b>Escapism</b>	0,871	>0,6	Data Reliabel
<b>Enjoyment</b>	0,810	>0,6	Data Reliabel
<b>Social Value</b>	0,864	>0,6	Data Reliabel
<b>Novelty</b>	0,842	>0,6	Data Reliabel
<b>Learning</b>	0,713	>0,6	Data Reliabel

Based on the test in the table of reliability, the test results, it is known that the value of Cronbach's Alpha Based on Standardized Items of all indicators are greater than 0.6. Therefore, it can be concluded that all indicators the variable in this study is reliable.

# Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya

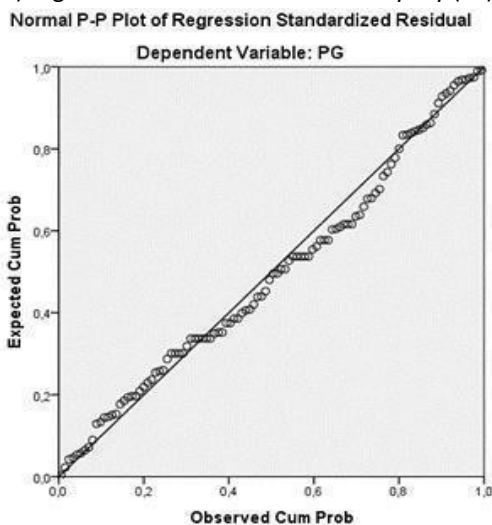
## Classical Normality Assumption Test

Below are the results for the classic normality test

**Table 3. The Classic Normality Test Results**

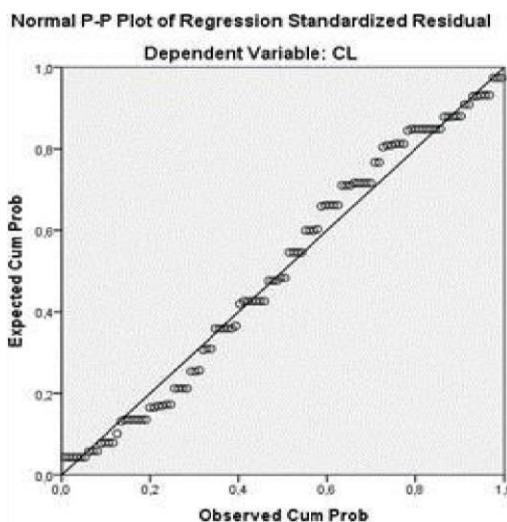
Model	Sig Smirnov	Kolmogorov	Standard	Criteria
LR, NV, SV, EJ, ES, VM*PG	0,200		>0,05	Normal
PG*CL	0,072		>0,05	Normal

Kolmogorov Smirnov that the significance value for all models is greater than 0.05. So, it can be concluded that the regression model of Learning (LN), Novelty (NV), Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) on Purchase Growth (PG); and the Purchase Growth (PG) regression model on Customer Loyalty (CL) is normally distributed.



**Fig 2. Scater Plot Normality Test LN, NV, SV, EJ, ES, VM\*PG**

Based on fig 2 above we can see that the points spread around the diagonal line, it can be concluded that the regression model of Learning (LN), Novelty (NV), Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) on Purchase Growth (PG) ) is normally distributed.



**Fig 3. Scater Plot Normality Test PG\*CL**

Based on fig 3 above we can see that that the points spread around the diagonal line, it can be concluded that the Purchase Growth (PG) regression model on Customer Loyalty (CL) is normally distributed.

## Classical Heteroscedasticity Assumption Test

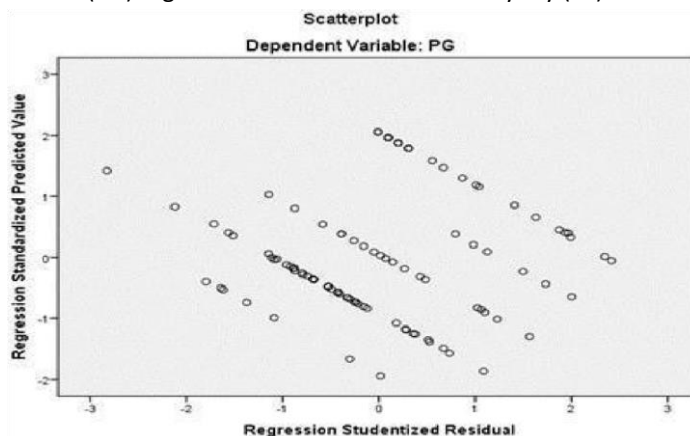
The following is a heteroscedasticity test based on the Spearman's Rho statistical test:

**Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya**

**Table 4. Heteroscedasticity Test Results**

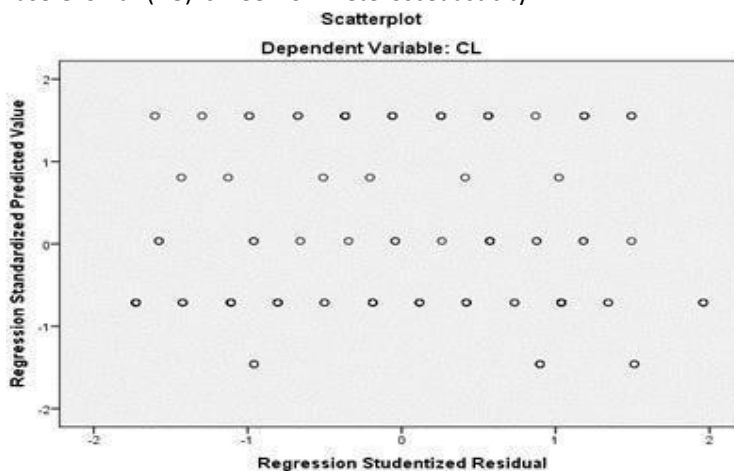
Model	Sig Spearman's Rho	Standar	Criteria
LN*PG	0,788	>0,05	Homogen
NV*PG	0,988	>0,05	Homogen
SV*PG	0,880	>0,05	Homogen
EJ*PG	0,895	>0,05	Homogen
ES*PG	0,496	>0,05	Homogen
VM*PG	0,515	>0,05	Homogen
PG*CL	0,760	>0,05	Homogen

Spearman's Rho can be seen that the significance value of all models is greater than 0.05, so it can be concluded that the regression model is Learning (LN), Novelty (NV), Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) to Purchase Growth (PG); and the Purchase Growth (PG) regression model on Customer Loyalty (CL) is free from heteroscedasticity.



**Fig 4 . Scater Plot Heteroscedasticity Test LN, NV, SV, EJ, ES, VM\*PG**

Based on fig 4 above we can see that there is no clear pattern and the points spread above and below the number 0 on the Y axis, it can be concluded that the regression model is Learning (LN), Novelty (NV), Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) to Purchase Growth (PG) is free from heteroscedasticity.



**Fig 5. Scater Plot Heteroscedasticity Test PG\*CL**

Based on fig 5 above we can see that there is no clear pattern and the points spread above and below the number 0 on the Y axis, it can be concluded that the Purchase Growth (PG) regression model for Customer Loyalty (CL) is free from heteroscedasticity.

## Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya

### Classical Linearity Assumption Test

Below are the results for the classical linearity assumption test

**Table 5. Classical Linearity Assumption Test**

Variabel	Sig Linearity	Sig Deviation from Linearity	Standar	Criteria
LR*PG	0,229	0,652	>0,05	Linear
NV*PG	0,000	0,008	<0,05	Linear
SV*PG	0,000	0,162	<0,05	Linear
EJ*PG	0,000	0,001	<0,05	Linear
ES*PG	0,000	0,026	<0,05	Linear
VM*PG	0,000	0,503	<0,05	Linear
PG*CL	0,031	0,292	<0,05	Linear

Bases on the table above we can see that in the linearity column it can be seen that the deviation from linearity value exceeds 0.05 and linearity is less than 0.05, so it can be concluded that in the Learning (LN), Novelty (NV) regression model, Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) to Purchase Growth (PG); and the Purchase Growth (PG) regression model on linear Customer Loyalty (CL).

### Linear Regression Analysis

**Table 5. Multiple Linear Regression Analysis Effect of Learning (LN), Novelty (NV), Social Value (SV), Enjoyment (EJ), Escapism (ES), and Value for Money (VM) on Purchase Growth (PG)**

Model / Variabel	R	Adj R <sup>2</sup>	F sig	Standardized Coefficients Beta	tsig	Hipotesis
LN, NV, SV, EJ, ES, VM*PG	0,758	0,550	0			
LN				0,076	0,254	Rejected
NV				0,236	0,004	Accepted
SV				0,134	0,103	Rejected
EJ				0,119	0,241	Rejected
ES				0,371	0,000	Accepted
VM				0,071	0,392	Rejected

Based on the table above we can conclude that :

1. Learning has a significant effect on Purchase Growth rejected with a sig level of 0.254 > 0.05
2. Novelty has a significant effect on Purchase Growth received with a sig level of 0.004 < 0.05
3. social Value has a significant effect on Purchase Growth rejected with a sig level of 0.103 > 0.05
4. Enjoyment has a significant effect on Purchase Growth rejected with a sig level of 0.241 > 0.05
5. Escapism has a significant effect on Purchase Growth received with a sig level of 0.000 < 0.05
6. Value for Money has a significant effect on Purchase Growth rejected with a sig level of 0.392 > 0.05

**Table 6. Simple Linear Regression Analysis Effect of Purchase Growth (PG) towards Customer Loyalty (CL)**

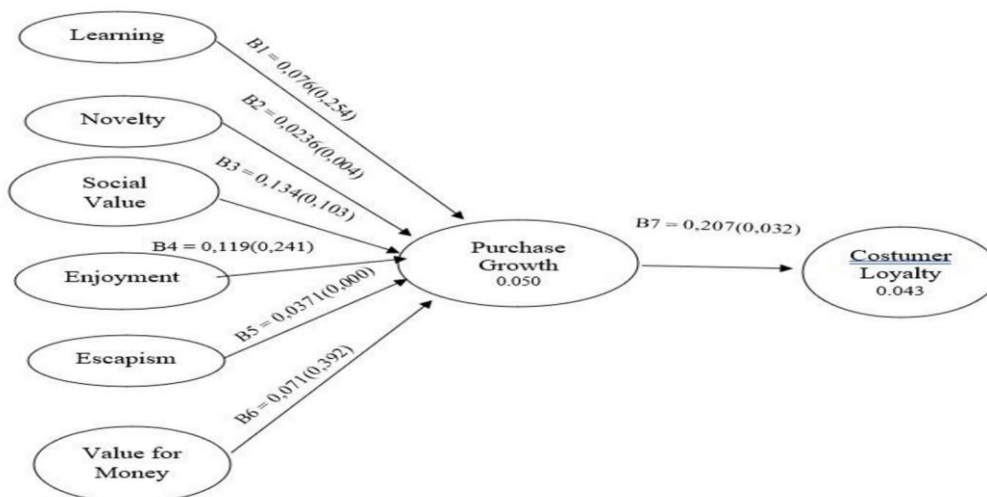
Model / Variabel	R	R <sup>2</sup>	F sig	Standardized Coefficients Beta	tsig	Hipotesis
PG*CL	0,207	0,043	0	0,207	0,032	Accepted

Based on the table above we can conclude that :

1. Purchase Growth has a significant effect on Customer Loyalty rejected with a sig level of 0.032 > 0.05

### 5. DISCUSION

## Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Costumer Loyalty in the users of Tokopedia in Surabaya



**Fig 6. Results**

Based on the results of the overall model analysis, it is known that the Customer Loyalty variable is formed by the Purchase Growth variable. This means that the better the attitude that Tokopedia users have towards increasing purchases, then this will increase Customer Loyalty. While the Purchase Growth variable is formed by 6 variables, namely Learning, Novelty, Social Value, Enjoyment, Escapism, and Value for Money. Based on the results of the study, it was found that Escapism had the greatest influence on Purchase Growth, followed by Novelty, Social Value, Enjoyment, Learning, and Value for Money variables. This is because Tokopedia users are more emotionally influenced which can be seen from their desire to seek uniqueness and different situations which can be seen from the Escapism and Novelty variables, while the logically influential variables are in a lower position such as Learning.

Purchase Growth (PG) has a significant effect on Customer Loyalty (CL) of 0.207. This is the same as what Liao and Teng (2017) say that Purchase Growth is the desire of consumers or users to increase purchases from providers or sellers. In this study showed significant results. This is because Tokopedia users feel the compatibility with Tokopedia so that they start increase purchases to or at Tokopedia itself.

Escapism has the biggest influence on the Purchase Growth variable of 0.371. This is the same as Merhi (2016). Escapism is a temporary feeling that makes individuals who feel this feeling feel like they are in a different place. In this study, it has a significant effect. This happens because Tokopedia users can give the feeling of being in a different place from where they are now.

Novelty has the second biggest influence on the Purchase Growth variable, which is 0.236. This is the same as what Pappu and Quester (2016) said that novelty is one of the key aspects of innovation carried out by a company that can be a differentiator. In this study showed significant results. This happens because of the differences that have become innovations from Tokopedia, such as the unique top quest feature for Tokopedia users which provides something different from Tokopedia's competitors.

The third biggest influence on the Purchase Growth variable is Social Value of 0.134. This is the same as what Hamari and Keronen (2017) say is a phenomenon that can influence users or buyers of a platform to build relationships with other users or buyers regarding a thing or trend. In this study, the results were not significant. This happens because Tokopedia users feel that outside influences don't really influence the decision to use or use the website shop at Tokopedia.

The fourth largest influence on the Purchase Growth variable is owned by Enjoyment of 0.119. This is the same as Merhi (2017) said that enjoyment has a strong influence in the process of influencing users or prospective buyers in making purchases or using applications, especially in e-commerce settings. In this study did not have a significant effect. This happens because the pleasure that users can feel in using Tokopedia is almost or can be felt on their competitor's platforms as well.

The fifth biggest influence on the Purchase Growth variable is owned by Learning of 0.076. This is the same as what Demetriou (2020) said that learning is an ability possessed by an organization or group to be able to adapt to circumstances and be able to maintain its relevance amid changes that occur. In this study, the results were not significant. This is because most features from Tokopedia itself have a level of difficulty or learning that is almost the same as their competitors.

The sixth largest influence on the Purchase Growth variable is owned by Value for Money of 0.645 This is the same as what Zeithaml (2016) said that Value for Money is a view held by consumers or users regarding what is sacrificed and what is obtained from what is received. Sacrificed and whether it is commensurate with what consumers get. In this study, the results were not

## **Analysis Learning, Novelty, Escapism, Enjoyment, Social Value, and Value for Money, Against Purchase Growth Informing Customer Loyalty in the users of Tokopedia in Surabaya**

significant. This is because the majority of Tokopedia users feel that the difference in prices offered by both Tokopedia and its competitors does not have a big difference or has almost the same price.

### **6. CONCLUSIONS**

Through this research which has been conducted on 108 male and female respondents aged 17 – 65 years based on the research that has been done, the results obtained are that the Purchase Growth variable has a significant positive effect on Customer Loyalty, Learning has a significant positive effect on Purchase Growth, Novelty has a significant positive effect. on Purchase Growth, Escapism has a significant positive effect on Purchase Growth, Enjoyment has an insignificant positive effect on Purchase Growth, Social Value has a positive and insignificant effect on Purchase Growth, and Value for Money has an insignificant positive effect on Purchase Growth. In addition, in this study, in the results of this study, Tokopedia users focus more on the emotional side or factors than logic. This can be seen in the results of this study where emotionally influential variables such as novelty and escapism are significantly positive, while logical variables such as learning have no significant positive effect.

Based on the research, the Purchase Growth variable has a significant positive effect on the Tokopedia Customer Loyalty variable. Novelty and Escapism variables have a significant positive effect on the Purchase Growth variable. So that managerial implications should be more focused on important variables that have a significant influence. The managerial implications developed from the findings are as follows:

First, Purchase Growth is an important element in the context of increasing or improving Customer Loyalty. This happens because if consumers feel there is a bond with Tokopedia, they will keep coming back many times to make new purchases repeatedly at Tokopedia.

Both Learning Variables are elements that are not too important to increase or improve Purchase Growth. This is because in this study the results were not significant. This is because the learning process for using features such as additional features is not very important in increasing Tokopedia purchases or transactions.

The three Novelty variables are important elements to increase or improve Purchase Growth. This is because in this study showed significant results. This is because Tokopedia's uniqueness that makes it different from competitors is the main attraction for users to use Tokopedia.

The four Escapism variables are important elements to increase or improve Purchase Growth. This is because in this study showed significant results. This is because Tokopedia can provide different feelings and sensations from what is usually felt every day, such as the feeling of being in a different place.

The five Enjoyment variables are elements that are not too important to increase or improve Purchase Growth. This is because in this study the results were not significant. This is because the fun or entertainment that may be obtained from using Tokopedia can also be obtained from the use of their competitors' platforms.

The six Social Value variables are elements that are not too important to increase or improve Purchase Growth. This is because in this study the results were not significant. This happens because users feel that the influence of family and friends does not really affect the desire to use or buy at Tokopedia.

The seven Value for Money variables is elements that are not too important in order to increase or improve Purchase Growth. This happens because in this study showed insignificant results. This happens because even if compared to other platforms, Tokopedia may have more users, but in terms of categories, Tokopedia has similar product categories with similar price ranges.

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## Analysis of the Effect of Food Quality, Price, Location and Environment, and Service Quality on Customer Loyalty through Customer Satisfaction of Burger King Customers in Surabaya during the Pandemic



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**ABSTRACT:** Community needs in the food industry have decreased due to the COVID-19 pandemic. . This can be seen from the economic growth in the second quarter of 2020 which decreased by minus 5.32 percent. Restaurant companies that rely on dine-in eating habits must also pay more attention to the development of online delivery so that restaurants can survive, with good online development, making their own restaurant applications, would be able to attract more buyers, the use of technology to facilitate payments and ordering is one of the steps restaurants to survive and thrive.

With the changes in habits implemented during the pandemic, this can be an opportunity for a fast food restaurant like Burger King, which has more practicality compared to other non-fast food meals. The concept of a drive-thru and delivery-order is becoming more and more due to these pandemic times, which should pay more attention to various sectors of the food and beverage industry, especially Burger King.

This study aims to analyze how the influence of food quality, price, location and environment, and service quality on customer loyalty through customer satisfaction variables. The benefits expected in this study can increase knowledge in the field of management, especially how much influence customer satisfaction has so that it can increase customer loyalty and correct existing errors and ultimately this will be able to increase sustainable transactions from Burger King restaurant customers in Surabaya. The data collection in this study was carried out by distributing questionnaires to 132 respondents with the characteristics of male and female respondents, aged 18-60 years, domiciled in Surabaya, had bought and consumed ( dine in / on the spot) Burger King in Surabaya twice in the last two years. For processing and analyzing data in this study using SPSS 22.0. After that, to tabulate the results of the respondent's research, and to test the research model using the Structural Equation Model (SEM) AMOS 22.0 data analysis technique.

**KEYWORDS:** *Food Quality, Price, Location and Environment, Service Quality, Customer Satisfaction, and Customer Loyalty.*

### 1. INTRODUCTION

A restaurant is a place that provides services in the food and beverage industry, equipped with equipment and accessories in the process of storing materials, making food, and serving food in a fixed place, and not moving around in order to gain profit or profit, according to Suyono ( 2004; 1), a restaurant is a place that serves as a refreshment for one's condition by providing a culture to eat and drink (research library.com, downloaded on July 9, 2021).

Community needs in the food industry have decreased due to the COVID-19 pandemic. This can be seen from the economic growth in the second quarter of 2020 which decreased by minus 5.32 percent. However, upper-middle-class restaurants are not so much a problem with purchasing power or having no money but a problem of fear. If the fear is gone and we can start adapting to the new normal, of course, the restaurant industry business will increase in the upper middle class. Therefore, this is an opportunity for the food and beverage industry to create new product innovations that can attract people to buy (liputan6.com, downloaded on July 9, 2021).

From news of developments in the era of the covid-19 virus pandemic, consumers are more likely to buy food and drinks that are purchased or ordered online, either through online services or application delivery from independent sellers. This is done because people still tend to worry about gathering in crowded places, such as restaurants, etc., because the transmission of the

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covid-19 virus is still happening a lot. Therefore, sellers of food and beverage businesses such as restaurants must be able to pay attention to the cleanliness of food processing and follow existing health protocols. That way buyers can be sure that the food is safe from the transmission of this corona virus (cnnindonesia.com, downloaded on July 11, 2021).

There is a PPKM policy by the government that makes restaurants have to reduce their operating hours capacity, which is 20.00 or 8 pm as well as the limitation of the capacity that can eat in place, which is 50% of the capacity of the place so that this makes restaurant companies that rely on eating habits to pay more attention to the development of online delivery so that restaurants are able to survive, with online development, whether making their own restaurant applications, would be able to attract more buyers, the use of technology to facilitate payments and ordering is one of the steps for restaurants to survive and develop. If you look at PPKM, this is also a new habit that will make the food industry go online, because this online limit can reach many customers because the products from the restaurant are seen by many people, especially during the pandemic where many people are around the world. home and see the technology that is owned by both SmartPhones, Televisions, Laptops, as well as existing social media such as Instagram, Twitter, Facebook, Tiktok, Youtube, etc. (Beritasatu.com, downloaded on July 20, 2021).

With the changes implemented during the pandemic as mentioned above, this can also be an opportunity for fast food restaurants like Burger King, which have more practicality compared to other non-fast food meals. The concept of a drive-thru and delivery-order is becoming more and more due to these pandemic times, which should pay more attention to various sectors of the food and beverage industry, especially Burger King.

Burger King is a fast food restaurant that was founded in 1953 with an office in the unincorporated Miami-Dade County, Florida, United States, by Jacksonville, Florida which was named Insta-Burger King. In 1954 Insta-Burger King experienced financial difficulties so it was bought by James McLamore and David Edgerton and renamed Burger King for short (BK). By 1967 Burger King had grown to more than 250 locations in the United States) (id.scribd.com, download July 23, 2021).

Burger King came to Indonesia for the first time in the 1980s which finally closed in 1998 when it was affected by the monetary crisis that year. Next Burger King returned to Indonesia in April 2007 operated by the MAP Group (www.cnbcindonesia.com, downloaded on 23 July 2021).

In 2007, Burger King already had 147 outlets spread across Indonesia, as of December 31, 2018 Burger King had 17,796 outlets in 100 countries in the world, 99.7% of the restaurants were operated privately with the Franchise system (food.detik.com). .com, downloaded July 26, 2021).

The first Research Gap in this study is the influence of the service quality variable on customer satisfaction which is based on previous research conducted by Mohammed Belal Uddin (2019) which states that there is a significant influence between service quality on customer satisfaction. However, this contradicts the results of research from Haverila (2018) which states that in his research service quality does not have a significant effect on customer satisfaction. This is because the research was conducted using ski resorts in Canada, where the study stated that interaction with visitors was lacking because visitors who came to the place for a ski vacation were not in the context of a ski resort.

The second Research Gap in this study is the influence of the customer satisfaction variable on customer loyalty, which is based on previous research conducted by Mohammed Belal Uddin (2019) which states that there is a significant influence between customer satisfaction and customer loyalty. However, this contradicts the results of research from Trevor Alexander Smith (2020) which states in his research that customer satisfaction does not have a significant effect on customer loyalty. The research used is about the role of customer personality in satisfaction, attitude towards the brand, and loyalty in cellular services. In the study, it is said that satisfied customers are not necessarily loyal unless mobile developers always develop a positive attitude towards their mobile phone product/brand.

## **2. LITERATUR RIVIEW**

### ***Food Quality***

According to (Kuo et al., 2018) food quality is things that are influenced by the visual appeal of food, taste, health, temperature and freshness with appropriate service to customers. According to Mahafuz Mannan, Nusrat Chowdhury, Priodorshine Sarker, and Riasat Amir (2019) in their research, food quality has a significant effect on customer satisfaction. the effect of perceived value/price and food quality affect the level of customer satisfaction.

H1: Food Quality has a significant effect on customer satisfaction

### ***Price***

According to Alma (2014) said that: Price is the value of an item that can be expressed with the nominal value of money for the item. According to Bedman Narteh (2018) in his research says that Price has a significant effect on Customer Satisfaction. In

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his research, he said that price choices affect the bargaining power of customers and the volume of bank customer transactions that make customers satisfied.

H2: Price has a significant effect on customer satisfaction

### ***Location and Environment***

According to Fandy Tjiptono (2014) "Location is a place where the company operates or where the company carries out activities in order to produce goods and services that are concerned with the economic aspect." According to Herry Achmad Buchory and Djaslim Saladin (2010) who argued that the environment is one of the most important factors and is taken into account in business activities. This environment is very influential on business strategic planning. According to Muhammad Ali, Chin-Hong Puah, Norazirah Ayob, and Syed Ali Raza (2019) in their research, they say that the physical environment has a significant effect on Customer Satisfaction. In his research said that the physical environment such as lighting, music, comfortable place decorations, can attract more customers to eat at the place, so that these things increase the level of customer satisfaction.

H3: Location and Environment have a significant effect on customer satisfaction

### ***Service Quality***

According to (Banahene et al., 2017) who also interpret service quality as the customer's feeling when they evaluate their experience in an organization or company. According to Prameswari Purnamadewi Dhisasmito, and Suresh Kumar (2020) in their research, they say that Service Quality has a significant effect on Customer Satisfaction. That providing good service to coffee shops can increase customer or customer satisfaction.

H4: Service Quality has a significant effect on customer satisfaction

### ***Customer Satisfaction***

According to Mensah (2018), customer satisfaction is an assessment of products or services from customers in providing pleasure in consumption levels. According to Muhammad Ali, Chin-Hong Puah, Norazirah Ayob, and Syed Ali Raza (2019) in their research, they say that Customer Satisfaction has a significant effect on Customer Loyalty. In this study, indicating satisfied customers, the greater the indication of loyal behavior.

H5: Customer Satisfaction has a significant effect on Customer Loyalty

### ***Customer Loyalty***

According to (Ali et al., 2018; Ryu and Han, 2010) customer loyalty is a value that is felt by consumers to make a pleasant experience for customers which can result in an increase in satisfaction levels. Increasing the level of satisfaction, furthermore it can ensure customer loyalty. According to Prameswari Purnamadewi Dhisasmito, and Suresh Kumar (2020) in their research, they say that Customer Satisfaction has a significant effect on Customer Loyalty. With customer satisfaction, customers will buy back to the coffee shop which signifies customer loyalty.

### **Previous Research**

This study uses research from Mohammed Belal Uddin (2019) as a reference research for the main journal in conducting this research, which is entitled "Customer loyalty in the fast food restaurants of Bangladesh". The predecessor discussed the influence of food quality, price, location and environment, service quality, to customer satisfaction and the effect on customer loyalty. The similarity of this research with the research conducted by the predecessors is that they both use the variables of food quality, price, location and environment, service quality, to customer satisfaction and affect customer loyalty. This study and previous studies used the same fast food restaurant as the object, besides that the method used was the same, namely AMOS. However, the difference between previous researchers and this research is that the object used in previous research is more than one object of fast food restaurants, while this study only focuses on one object, namely the Burger King restaurant, besides that the previous research was conducted in 8 cities in the Bangladesh area while this study only focuses on one city, namely Surabaya, Indonesia.

## **3. RESEARCH METHODOLOGY**

### **Population and Sample**

According to (Sekaran, 2006) population (population) is the whole group of people, an event, or something that researchers want to investigate/find. Meanwhile, according to Sugiyono (2010) population is a generalization area consisting of objects and subjects that have certain qualities and characteristics determined by the researcher so that they can be studied and conclusions can be drawn. The population that will be used in this research is the customers of Burger King restaurant in Surabaya.

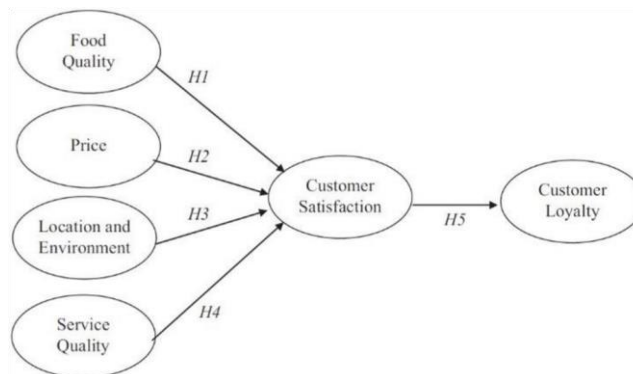
# Analysis of the Effect of Food Quality, Price, Location and Environment, and Service Quality on Customer Loyalty through Customer Satisfaction of Burger King Customers in Surabaya during the Pandemic

According to (Sugiyono, 2010) The sample is part of the characteristics and quantities possessed by a population. According to Sekaran (2003), the sample is a slice of the selected population and has the same relative characteristics as the population, so it is considered representative of the population.

The number of questionnaires distributed is guided by Ferdinand (2002) having the following sample size guidelines:

- a. 100-200 samples for Maximum Likelihood Estimation;
- b. Depends on the number of estimated parameters. The guideline is 5 - 10 times the estimated number of parameters;
- c. Depends on the number of indicators used in all latent variables. The number of samples is an indicator multiplied by 5 to 10.

The number of indicators used in this study is 26 indicators, so the minimum number of samples needed is 130-260 respondents, this study determines the number of respondents to be used as many as 130 respondents which is the minimum number of samples. Not all of the samples that will be used can be successfully collected as expected, so the process must be repeated until the expected number of samples can be met. The following is a model of this research:



**Fig 1. Reseach Model**

Data collection in this study was carried out by distributing questionnaires. Questionnaires were distributed to Burger King customers in Surabaya according to predetermined characteristics. In the process of collecting data, respondents' perceptions will be measured using a Likert measurement scale, on a scale of 1 to 5, assuming 1 to strongly disagree and 5 to strongly agree. After the data has been selected, the selected questionnaire data will be tabulated and processed further. Then the tabulated data will be tested on the research model using IBM® SPSS® AMOS 22.0 software.

In selecting a questionnaire used in this study, it will be divided into two parts, the first part which contains questions to obtain general information about the respondents, in order to determine the suitability of the respondents with the characteristics of the sample. And the second one contains questions to obtain research data and analyze the effect of Food Quality, Price, Location and Environment, Service Quality on Customer Loyalty through Customer Satisfaction.

## 4. RESULTS

### Overview of Respondents by Age

Respondents used in this study were customers of Burger King in Surabaya. The profile of respondents in this study is described by age which is described as follows:

**Table 4.1 Respondents by Age**

	Frequency	Percent
18 – 35 years old	117	88,6
36 – 50 years old	15	11,4
51 – 60 years old	0	0
Total	132	100,0

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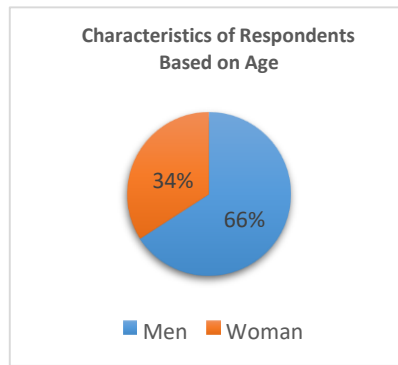


Figure 2. Pie Pictures of Respondents by Age

Based on table 4.1, it can be seen that most of the Burger King restaurant customers in Surabaya are 18-35 years old. This shows that the segmentation of Burger King restaurants in Surabaya based on age is 18-35 years old.

## General Description of Respondents by Gender

Respondents used in this study were customers of Burger King in Surabaya. The profile of respondents in this study is described by gender which is described as follows:

Table 4.2 Respondents by Gender

	Frequency	Percent
Men	87	65,9
Woman	45	34,1
Total	132	100,0

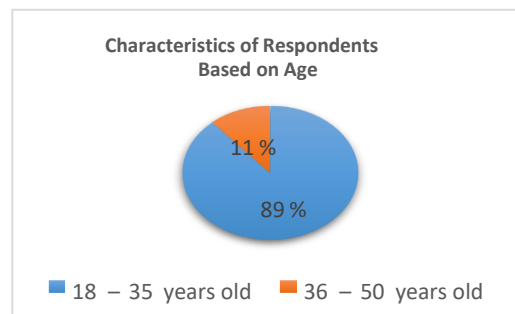


Figure 3. Pie Pictures of Respondents by Gender

Based on table 4.2, it can be seen that most of the gender of Burger King restaurant customers in Surabaya are male. This shows that the Burger King restaurant segmentation in Surabaya based on gender is more male.

## Full Structural Equation Modeling Analysis

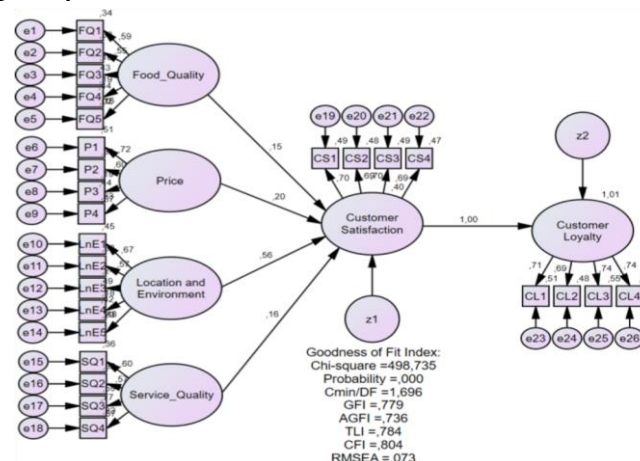


Figure 4. Full Structural Equation Modeling

## Analysis of the Effect of Food Quality, Price, Location and Environment, and Service Quality on Customer Loyalty through Customer Satisfaction of Burger King Customers in Surabaya during the Pandemic

Information:

FQ1: This Burger King Surabaya restaurant provides an attractive food menu display.

FQ2 : Food from Burger King Surabaya restaurant has a good taste.

FQ3 : Burger King Surabaya restaurant has a variety of interesting menus.

FQ4 : Burger King Surabaya restaurant uses fresh food ingredients.

FQ5 : Burger King Surabaya restaurant serves the right temperature of food.

P1 : Burger King Surabaya restaurant has affordable food prices.

P2 : The price of food from Burger King Restaurant Surabaya is reasonable.

P3 : The payment system from Burger King Surabaya Restaurant is easy (ie cash or card).

P4 : Burger King Surabaya restaurant provides attractive promos on its products.

LnE1 : Burger King Surabaya restaurant has adequate parking area.

LnE2 : Burger King Surabaya restaurant has a comfortable seating arrangement.

LnE3 : Burger King Surabaya restaurant has an interesting play area for children.

LnE4 : Burger King Surabaya restaurant has a strategic location.

LnE5 : Burger King Surabaya restaurant has an interesting decoration.

SQ1 : Burger King Surabaya restaurant has courteous staff members.

SQ2 : Burger King Surabaya restaurant staff members have good knowledge about the food offered.

SQ3: Burger King Surabaya restaurant can provide services according to health protocols

SQ4 : Burger King Surabaya restaurant has friendly service.

CS1 : I am satisfied with choosing Burger King Surabaya restaurant.

CS2 : I am satisfied with the service provided by Burger King Surabaya restaurant.

CS3 : Overall I am satisfied with Burger King Surabaya restaurant.

CS4 : I am satisfied with the payment method of Burger King Surabaya CL1 : I will visit Burger King Surabaya restaurant in the future.

CL2 : I will recommend Burger King Surabaya restaurant to others.

CL3 : I will try various types of food in the Burger King Surabaya restaurant menu in the future.

CL4 : In my opinion, Burger King Surabaya restaurant is the best alternative in fast food.

**Table 4.3 Feasibility Test Index**

Goodness of Fit Criteria		Critical Value	Model Test Results	Conclusion
<i>Absolute Fit Indices</i>	Chi-square	Diharapkan kecil	498.735	<i>Marginal</i>
	<i>Probability</i>	$\geq 0.05$	0.000	<i>Marginal</i>
	CMIN/DF	$\leq 2.00$	1.696	<i>Good Fit</i>
	GFI	$\geq 0.90$	0.779	<i>Marginal</i>
<i>Incremental Fit Indices</i>	RMSEA	$\geq 0.80$	0.73	<i>Good Fit</i>
	TLI	$\geq 0.95$	0.784	<i>Marginal</i>
<i>Parsimony Fit Indices</i>	CFI	$\geq 0.95$	0.804	<i>Marginal</i>
	AGFI	$\geq 0.09$	0.736	<i>Marginal</i>

**Source:** developed from Full Structural Equation Model (2021)

Based on table 4.3 above, it is explained that the results of the goodness of fit criteria with the results between the Full Structural Equation Model show that the RSMEA and CMIN/DF criteria have been accepted. Meanwhile, chi-square, probability, TLI and CFI are only accepted marginally. However, the fulfillment of RSMEA and CMIN/DF can be said that this model fits the data used in this study.



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**Table 4.4 Regression Weight Full Structural Equation Model**

		Estimate	S.E.	C.R.	p	Std. Estimate
Customer_Satisfaction	<--- Food_Quality	.325	.284	2.145	.032	0.559
Customer_Satisfaction	<--- Price	.485	.285	1.703	.088	0.157
		Estimate	S.E.	C.R.	p	Std. Estimate
Customer_Satisfaction	<--- LnE	1.019	.304	3.351	***	1.004
Customer_Satisfaction	<--- Service_Quality	.184	.139	2.326	.025	0.441
Customer_Satisfaction	<--- Customer_Satisfaction	1.108	.131	8.449	***	0.604
Customer_Loyalty	<--- Price	1.000				0.715
P3	<--- Price	1.844	.492	3.749	***	0.573
P2	<--- Price	1.974	.517	3.819	***	0.766
P1	<--- Service_Quality	1.512	.417	3.623	***	0.568
P4	<--- Service_Quality	1.000				0.600
SQ3	<--- Service_Quality	.729	.149	4.876	***	0.570
SQ2	<--- Service_Quality	.700	.128	5.484	***	0.488
SQ1	<--- LnE	.715	.150	4.777	***	0.573
SQ4	<--- LnE	1.000				0.672
LnE3	<--- LnE	1.261	.340	3.713	***	0.419
LnE2	<--- LnE	1.172	.272	4.309	***	0.477
LnE1	<--- LnE	.932	.312	2.986	.003	0.428
LnE4	<--- Food_Quality	.916	.252	3.641	***	0.549
LnE5	<--- Food_Quality	1.000				0.586
FQ3	<--- Food_Quality	1.318	.510	2.583	.010	0.440
FQ2	<--- Food_Quality	1.278	.447	2.861	.004	0.457
FQ1	<--- Food_Quality	1.072	.374	2.865	.004	0.691
FQ4	<--- Customer_Satisfaction	.377	.292	1.291	.197	0.697
FQ5	<--- tion	1.000				0.688
CS2	<--- Customer_Satisfaction	1.061	.132	8.047	***	0.700
CS3	<--- tion	1.019	.128	7.990	***	0.745
CS4	<--- Customer_Satisfaction	1.004	.124	8.108	***	0.695
CS1	<--- tion	1.000				0.711
CL3	<--- Customer_Satisfaction	.902	.107	8.451	***	0.740
CL2	<--- tion	.924	.104	8.899	***	0.559
CL1	Customer_Loyalty	.931	.100	9.282	***	0.557
CL4	Customer_Loyalty					
	Customer_Loyalty					
	Customer_Loyalty					

Source: developed from Full Structural Equation Model (2021)

Information:

FQ = Food Quality

P = Price

LnE = Location and Environment

SQ = Service Quality

CS = Customer Satisfaction

CL = Customer Loyalty

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The C.R value for each relationship between the tested variables is shown in table 4.4. Table 4.4 shows the value of C.R. from Food Quality, Price, Location and Environment, Service Quality, Customer Satisfaction, and Customer Loyalty.

### Test of Residual Value

Testing at the residual value stage can indicate that the model is significantly acceptable and the residual value determined is  $\pm 2.58$  at the 1% significance level (Hair et al., 1995). While the standard residuals are processed using IBM® SPSS® AMOS 22.0 software which can be seen in the Standardized residual covariance on the output display. It can be concluded that the data used in this study can be accepted significantly because the residual value is  $\pm 2.58$ .

### Reliability Test and Variance Extract

The reliability test shows the extent to which a measuring instrument can provide a relatively the same result if it is repeated on the same subject. The reliability test in SEM can be obtained through the following formula (Ferdinand, 2002).

$$\text{Construct - Reliability} = \frac{(\sum \text{Std Loading})^2}{(\sum \text{Std Loading})^2 + \sum E_j}$$

### Information:

- Standard loading is obtained from standardized loading for each indicator obtained from the results of computer calculations
- $E_j$  is a measurement error of each indicator. Measurement error is obtained from  $1 - \text{indicator reliability}$ . While the level of reliability can be accepted if 0.7.

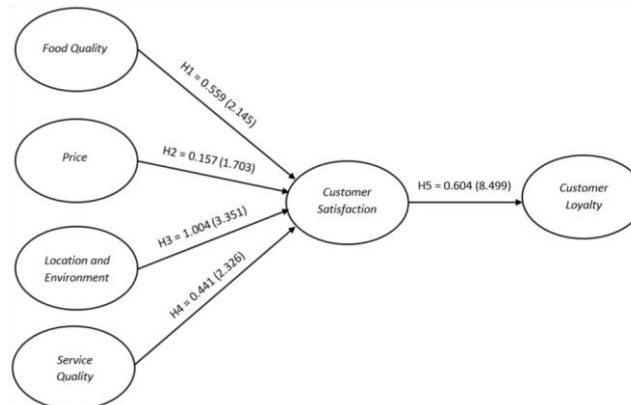
**Table 4.5 Reliability Test**

Variable	Indicator	FL	FL <sup>2</sup>	Error	Construct Reliability
Food Quality	FQ1	0.534	0.285	0.715	0.75188
	FQ2	0.442	0.195	0.805	
	FQ3	0.420	0.176	0.824	
	FQ4	0.499	0.249	0.751	
	FQ5	0.322	0.104	0.896	
Price	P1	0.682	0.465	0.535	0.777977
	P2	0.608	0.370	0.630	
	P3	0.458	0.210	0.790	
	P4	0.593	0.352	0.648	
Location and Environment	LnE1	0.597	0.356	0.644	0.752076
	LnE2	0.484	0.234	0.766	
	LnE3	0.500	0.250	0.750	
	LnE4	0.414	0.171	0.829	
	LnE5	0.609	0.371	0.629	
Service Quality	SQ1	0.682	0.465	0.535	0.734824
	SQ2	0.560	0.314	0.686	
	SQ3	0.742	0.524	0.476	
	SQ4	0.576	0.332	0.668	
Customer Satisfaction	CS1	0.734	0.539	0.461	0.81959
	CS2	0.731	0.534	0.466	
	CS3	0.729	0.531	0.469	
	CS4	0.723	0.523	0.477	
Customer Loyalty	CL1	0.748	0.560	0.440	0.838866
	CL2	0.728	0.530	0.470	
	CL3	0.769	0.590	0.410	
	CL4	0.763	0.582	0.418	

Source: Text Output Amos 22.0 (2021)

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Based on the table of data reliability measurement results, the data reliability value in this study has a construct reliability value greater than 0.7 for all variables. And the variance extracted in table 4.5 shows that the value is greater than 0.5 so it can be concluded that the data passed the variance extracted test.



**Figure 5 Research Result H1: Food Quality has a significant effect on Customer Satisfaction.**

Food Quality is formed from five indicators, namely Burger King Surabaya Restaurant provides an attractive food menu display, Food from Burger King Surabaya restaurant has a good taste, Burger King Surabaya Restaurant has a variety of interesting menu variations, Burger King Surabaya Restaurant uses fresh food ingredients, Burger King Surabaya restaurant serves the right temperature of food.

The results of the parameter estimation of the relationship between food quality and customer satisfaction show significant results where the positive direction is with a CR value of 2.145 and a regression coefficient of 0.559 with the accepted hypothesis standard, namely CR  $\pm 2.00$  with a significance limit of  $<0.05$  (5%), it can be said that hypothesis 1 or H1 can be accepted.

### **H2: Price has a significant effect on Customer Satisfaction.**

Price is formed from four indicators, namely Burger King Surabaya Restaurant has affordable food prices, The price of food from Burger King Surabaya Restaurant is reasonable, The payment system from Burger King Surabaya Restaurant is easy (ie cash or card), Burger King Surabaya Restaurant provides promos that interest in the product.

The result of the parameter estimation of the relationship between price and customer satisfaction shows that it is not significant in a positive direction with a CR value of 1.703 and a regression coefficient of 0.157 with the accepted hypothesis standard, namely CR  $\pm 2.00$  with a significance limit of  $<0.05$  (5%), it can be said that hypothesis 2 or H2 can be said to be rejected.

### **H3: Location and Environment berpengaruh signifikan terhadap Customer Satisfaction.**

Location and Environment is formed from five indicators, namely Burger King Surabaya Restaurant has adequate parking space, Burger King Surabaya Restaurant has comfortable seating arrangements, Burger King Surabaya Restaurant has an attractive children's play area, Burger King Surabaya Restaurant has a convenient location. Strategically, Burger King Surabaya Restaurant has an attractive decoration.

The results of the parameter estimation of the relationship between location and environment and customer satisfaction show significant results where the positive direction is with a CR value of 3.351 and a regression coefficient of 1.004 with the accepted hypothesis standard, namely CR  $\pm 2.00$  with a significance limit of  $<0.05$  (5%), it can be said that hypothesis 3 or H3 can be accepted.

### **H4: Service Quality has a significant effect on Customer Satisfaction.**

Service Quality is formed from four indicators, namely Burger King Surabaya Restaurant has courteous staff members, Burger King Surabaya Restaurant staff members have good knowledge of the food offered, Burger King Surabaya Restaurant can provide services according to health protocols, Burger King Surabaya Restaurant has excellent service friendly.

The result of the parameter estimation of the relationship between service quality and customer satisfaction shows significant results where in a positive direction with a CR value of 2.326 and a regression coefficient of 0.441 with a standard hypothesis accepted, namely CR  $\pm 2.00$  with a significance limit of  $<0.05$  (5%), it can be said that hypothesis 4 or H4 can be accepted.

### **H5: Customer Satisfaction berpengaruh signifikan terhadap Customer Loyalty.**

Customer Satisfaction is formed from four indicators, namely I am satisfied with choosing Burger King Surabaya restaurant, I am satisfied with the service provided by Burger King Surabaya restaurant, Overall I am satisfied with Burger King Surabaya restaurant,

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*I am satisfied with the payment method of Burger King Surabaya. While Customer Loyalty is formed from four indicators, namely I will visit Burger King Surabaya restaurant in the future, I will recommend Burger King Surabaya restaurant to others, I will try various types of food that are on the Burger King Surabaya restaurant menu in the future, I think, Burger King Surabaya restaurant is the best alternative in fast food.*

*The results of the parameter estimation of the relationship between service quality and customer satisfaction show significant results where in a positive direction with a CR value of 8.449 and a regression coefficient of 0.604 with the accepted hypothesis standard, namely CR  $\pm 2.00$  with a significance limit of  $< 0.05$  (5%), it can be said that hypothesis 5 or H5 can be accepted.*

### **5. CONCLUSION**

#### **Research Summary**

The model in this study was developed in the context of researching customer loyalty at Burger King restaurants in Surabaya. The model in this study was formed by the relationship between the influence of the customer satisfaction variable, where the customer satisfaction variable is influenced by the variables of food quality, price, location and environment, and service quality. The formulation of the problem in the research is, "what are the factors that have a significant influence on the customer loyalty variable through customer satisfaction at the Burger King restaurant in Surabaya". The research is expected to be able to answer the research questions, namely, do food quality, price, location and environment, service quality, and customer satisfaction have a significant influence on customer loyalty at Burger King restaurants in Surabaya?.

Based on the data analysis process that has been discussed in Chapter IV, the results are summarized as follows:

The results of data processing using the AMOS 22.0 software application show the five hypotheses that have been in this study with the results described as follows, the food quality variable has a significant effect on customer satisfaction with a regression coefficient value of 0.559 and a C.R value of 2.145; the price variable has a significant effect on customer satisfaction with a regression coefficient value of 0.157 and a C.R value of 1.703; location and environment variables have a significant effect on customer satisfaction with a regression coefficient value of 1.004 and a C.R value of 3.351; service quality variable has a significant effect on customer satisfaction with a regression coefficient value of 0.441 and a C.R value of 2.326; The customer satisfaction variable has a significant effect on customer loyalty with a regression coefficient value of 0.604 and a C.R value of 8.449.

Based on the results of data processing that has been carried out, four hypotheses are accepted and 1 hypothesis is rejected. There is a fairly positive relationship between food quality, location and environment, and service quality to customer satisfaction, and customer satisfaction to customer loyalty. While the price hypothesis on customer satisfaction is rejected because it has a C.R value of less than 2.

#### **Conclusion on Research Problems**

This writing is structured in which as an effort to test the effect of food quality, price, location and environment, and service quality on customer loyalty through customer satisfaction variables at Burger King restaurant customers in Surabaya. Through the research that has been carried out on 132 male and female respondents who have an age range of 18-60 years and the literature review that has been carried out, it is obtained significant support that the food quality variable has a significant effect on the customer satisfaction variable with a regression coefficient value of 0.559; the price variable has a significant effect on the customer satisfaction variable with the regression coefficient value of 0.157; location and environment variables have a significant effect on customer satisfaction variables with a regression coefficient value of 1.004; the service quality variable has a significant effect on the customer satisfaction variable with a regression coefficient value of 0.441; The customer satisfaction variable has a significant effect on the customer loyalty variable with a regression coefficient value of 0.604. This study has provided evidence that the variables of food quality, price, location and environment, and service quality have a significant effect on the customer satisfaction variable, and the variable of customer satisfaction has a significant effect on the customer loyalty variable.

#### **Managerial Implications**

Based on the research results, the variables of food quality, price, location and environment, and service quality have an important influence on customer satisfaction of Burger King customers in Surabaya. after that the customer satisfaction variable has a very important influence on the customer loyalty variable of Burger King in Surabaya, so that the managerial implications of this finding can be obtained based on the theory that has been developed as follows:

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**First**, location and environment is one of the most important variables that can affect the level of customer satisfaction at Burger King restaurants in Surabaya. Here's how to improve the existing indicators, change the design according to the theme on that date, for example, Christmas and New Year, etc. So that customers don't feel bored with the same design all the time; provide a sign for the burger king customer parking area so that customers other than burger king do not park on the right and provide a parking attendant so that they can help customers park their vehicles neatly. So that the customer is satisfied with the place he visited; decorating the children's play area with animated famous cartoons such as those of disney, frozen, etc., so that when children feel happier while playing they can see their favorite cartoon shop; changing the seating arrangement there is one for four with a rather large table there is a table for yourself and there is one for two people, this is to make them more happy if they (customers) want four and if not they can adjust to several people they come ; Burger King Surabaya already has strategic locations in Surabaya, one way is by placing it in mall places such as Galaxy Mall, Tunjungan Plaza, etc. However, malls like Plaza Marina can be a good place to push the place to sell so many smartphones where many people visit to maybe just replace the anti-scratch, buy a broken charger, etc., it can also be seen that there is a mcd in that place and it's quite many visitors.

**Second**, food quality is one of the most important variables that can affect the level of customer satisfaction at Burger King restaurants in Surabaya. the following is how to improve existing indicators, giving an attractive appearance to the menu behind the love, such as the cooking video or the recommended menu in the video, which aims to attract more attention to the main menu with a large image on the back of the cashier; store vegetables at fairly cold temperatures ranging from 10°C-15°C which is suitable for storing vegetables and fruit used in the burger menu; make new sauces that match the menu, for example the curry mayo sauce which may suit Indonesian tongues. So that customers are satisfied with the different flavors; decorate the existing menu list, for example providing an animated version of the burger king mascot image which is more interesting when viewed as well as the determination of the menu background which should not be too bright because it can disturb people who want to see the menu.

**Third**, service quality is one of the most important variables that can affect the level of customer satisfaction at Burger King restaurants in Surabaya. here's how to improve existing indicators, provide hand sanitizer using an automatic machine near the cashier or restaurant entrance which aims to be used because if you use an automatic machine, people will prefer to use it because hands don't touch the place just by holding out their hands hand sanitiser goes down by itself; provide further training to employees, for example there is a dirty table that wants to be cleaned, tells the customer to ask for permission to clean the table so that it can be used by the customer, so that the customer feels that the employees of the Burger King restaurant have good politeness values; giving rewards to friendly employees, for example displaying photos of employees who are most liked by customers. So where employees are happy to have photos on display, customers are happy that there is good service from Burger King; provide training on the food and beverages sold and to recommend menus to customers, so that customers are not confused when asking for the menu if they want it, besides that there may be customers who cannot eat certain foods or are allergic so they don't need to buy the ones they are allergic to .

**Fourth**, price is one of the important variables that can affect the level of customer satisfaction at Burger King restaurants in Surabaya. the following is how to improve the existing indicators, the existence of a thrifty package menu or bokek package where the price of this food is cheaper than the regular menu, so that customers see a burger king menu that is still affordable and not too expensive; so that it makes sense, many food menus are bundled to make it look more reasonable if they are expensive, but there are still items if people want to buy unbundled ones so that consumers can choose what makes them happier; providing promos such as the one on 12.12 next maybe on 22.2.2022 where that date draws twin numbers, so that with promotions like this customers are satisfied with the promos on certain dates; many cooperation in payment methods, as well as preparing cash denominations so that when customers pay with big money they are ready for change which can reduce the number of queues, so that customers are satisfied with the existing payment system.

**Fifth**, customer satisfaction is one of the most important variables that can affect the level of customer loyalty of Burger King restaurant customers in Surabaya. the following is how to improve existing indicators, provide discounted events or buy 2 get free 1, because it can spur value for customers buying at Burger King restaurants in Surabaya and make them feel more satisfied and feel right to choose the restaurant; provide the best possible service, such as cleaning the table if there are traces of people's food that has not been summarized, cleaning the floor so that customers walk comfortably so that this makes the service provided good and customers feel satisfied with the existing cleaning services; changing the design of the room according to themes that exist in Indonesia such as the Christmas menu, new year, Eid al-Adha, and so on so that the atmosphere is not boring because it is always the same (burger king rarely designs according to the theme), or there are changes in place so that it can make customers feel more comfortable. satisfied when they come to Burger King restaurant in Surabaya with changing themes; multiply the

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existing payment methods, if they can make a system like its competitor, namely McD, where they can order and make payments through the machine or at the cashier, so that it doesn't become a long queue.

**Sixth**, customer loyalty is a very important variable in this study. Here's how to improve the indicators and how to maintain them, create a menu that is unique and different from other burgers, maybe from a recipe or an event at a certain time so a special edition menu, for example the burger bun is made of rice compressed by frying, then beef or the chicken used can also be replaced with tuna or mutton so that customers can choose the type of menu they want and this makes the customer satisfied and finally loyal to come back to buy the menu; provide good and fast service, besides that it can also give greetings when someone comes in order to make customers who come have a good impression of burger king so that this can increase the image that burger king in Surabaya is a burger restaurant is the best choice for fast food restaurants; create a member system that can attract several customers, and can see who rarely goes to Burger King, can be given messages via members who are connected to smartphones, then Burger King can provide promos so that they are interested in coming back to the restaurant; maintain an image through rating the Burger King application and asking consumers for opinions if they want via boxes or comments, so Burger King Surabaya can see what is lacking and the majority voices what can be improved.

### **Recommendation**

Looking at the results of the research that has been done, it can be seen that there are still many limitations to the research conducted by the author, therefore the recommendations that can be submitted by the author are as follows:

1. This study aims to increase Customer Loyalty from Burger King in Surabaya, but the formation of Customer Loyalty from Customer Satisfaction, and to increase Customer Satisfaction must be from the variables that make it up, namely Food Quality, Location and Environment, and Service Quality, from all variables The most important thing is the Location and Environment variable, how to increase the Location and Environment variable through the most important indicator, namely by designing and decorating the room so that customers don't get bored, especially with the same duration, it must be adjusted to the existing theme at that time, for example, at Christmas, employees wear red hats. during the big day of Christmas, etc. that adjusts to the existing theme.
2. Seeing the limitations of the research object that took from the respondents of Burger King customers in Surabaya, it is hoped that future research will either use the same model or modify the model so that the model can be applied to different objects to produce more general results on the factors that can affect Customer Loyalty.
3. Further research is expected to be able to complement the existing variables in this study so that it can improve the understanding of factors that affect customer loyalty, for example, adding variables such as word of mouth, trust, application, design, advertisement, brand image and so on.
4. Further research can be developed by connecting the factors that affect Customer Loyalty such as based on customer experience, level of income or monthly expenses, and categorizing gender, for example, men and women separately. Future research can be carried out in different areas where the research carried out in this study or research can be carried out more broadly in scope, so that further research conducted can provide a broader picture of Customer Loyalty.

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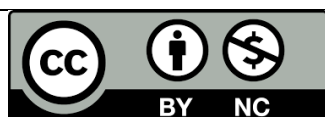
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## Analysis of the Effect of Food Quality, Price, Location and Environment, and Service Quality on Customer Loyalty through Customer Satisfaction of Burger King Customers in Surabaya during the Pandemic

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## The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application



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**ABSTRACT:** The spread of the Covid-19 virus which is still increasing requires the Indonesian government to issue a policy to limit mobility for the sake of the nation's recovery. In the end, community activity in public places decreased and community activity in the house increased. This causes an increase in internet usage traffic, including digital transactions. Banking is one of the industries that also plays a major role in digital transactions, one of which is Bank BCA which has been the largest and most trusted private bank in Indonesia since 1957. The study will use six variables, namely product quality, service quality, environment quality, product assortment, customer satisfaction, and customer loyalty on the BCA Mobile application.

This study uses a quantitative approach with Structural Equation Model (SEM) analysis techniques and AMOS 22.0 software. Collecting data in this study using an online questionnaire to 100 respondents with the characteristics of men and women who live in Surabaya and aged 18-60 years who have used the BCA Mobile application at least three times in the last six months.

The results of this study indicate that product quality has a significant effect on customer satisfaction with a regression coefficient of 0.354 but product quality has no significant effect on customer loyalty with a regression coefficient of 0.059, service quality has a significant effect on customer satisfaction with a regression coefficient of 0.520 and service quality also has a significant effect on customer loyalty with a regression coefficient of 0.283, environment quality has a significant effect on customer satisfaction with a regression coefficient of 0.480 and environment quality also has a significant effect on customer loyalty with a regression coefficient of 0.287, product assortment has no significant effect on customer satisfaction with a regression coefficient of 0.060 and product assortment also has no significant effect on customer loyalty with a regression coefficient of 0.097, and customer satisfaction has an effect significant to customer loyalty with a regression coefficient of 0.312.

**KEYWORDS:** Product Quality, Service Quality, Environment Quality, Product Assortment, Customer Satisfaction, Customer Loyalty, BCA Mobile Application

### I. INTRODUCTION

Referring to data from the World Health Organization or WHO, in the period 12 to 18 July 2021, Covid-19 cases globally experienced an increase of 12% compared to the previous week to reach 3.42 million cases of transmission, with an average of 400,000 cases per day increasing to 490,000 cases per day. This was also followed by the death rate during that period which also increased by 1% compared to the previous week to reach 56,767 cases of death per day. The number of Covid-19 cases globally accounts for more than 190 million cases and it is very likely to exceed the 200 million mark in the next three weeks (<https://newssetup.kontan.co.id> downloaded on July 25, 2021).

In the same period, this also happened in the Western Pacific region which also experienced an increase of up to 30% and Europe 21%. Table 1.1 shows that the increase in the number of virus transmission has put Indonesia in the rank of one country in the world with the highest Covid-19 cases. A drastic increase of 44% compared to the previous time, in the period 12 to 18 July 2021 the transmission of the Covid-19 virus had reached 350,273 cases (<https://newssetup.kontan.co.id> downloaded on 25 July 2021).

It's been about a year and a half that the Covid-19 virus has hit Indonesia, but that doesn't stop the virus from spreading, and the cases are still growing. Even on July 24, 2021, as many as 45,416 people were infected with the Covid-19 virus again, so

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that the number of Covid-19 victims in Indonesia reached 3,127,826 since March 2020, where this virus began to enter and hit the country. This is also followed by the number of patients dying from Covid-19 in Indonesia, which is still increasing. On the same day, there were still 1,415 additional deaths due to Covid-19 per day, bringing the total number of Covid-19 victims who died in Indonesia has reached 82,013 people (<https://nasional.kompas.com> downloaded on July 25, 2021).

With the increase in cases of the new variant of Covid19 growing very quickly, therefore the government finally decided to impose an PPKM Darurat (Pemberlakuan Pembatasan Kegiatan Masyarakat) which initially started on July 3 to 20, 2021 for the Java and Bali regions, has now been extended and even applies for areas outside Java-Bali. President Joko Widodo announcing this and confirms that this decision is based on studies from ministers, health experts, to regional heads and aims to save the Indonesian nation by preventing an increase in the transmission of the Covid-19 virus. Jokowi hopes that the public remains calm and alert and disciplined in complying with provisions such as implementing health protocols and supporting state officials and volunteers in dealing with the Covid-19 pandemic (<https://setkab.go.id> downloaded on July 25, 2021).

The decrease in community activities outside the home caused by the PPKM Darurat which was implemented since July 3, 2021. Activities in public open spaces decreased by 12.6% and public transportation decreased by 36%. In addition, activity in shopping centers and tourist attractions also decreased by 11.7% and the same with activity in the workplace which also decreased by 25% due to the implementation of WFH (work from home) or working from home in several work sectors determined by the government. This is supported by an increase in mobility in residential or housing, which is 10.7%, but the mobility of people to supermarkets and pharmacies increases by 19%, this is possible because people pay more attention to their needs when they are at home and buy medicines and vitamins to maintain their health. However, the public must also remain disciplined in implementing the 3M health protocol, namely maintaining distance, wearing masks, and washing hands (<https://databoks.katadata.co.id> downloaded on 25 July 2021).

It can be estimated that the PPKM Darurat which has been in effect since July 3, 2020 will increase traffic using the internet by up to 20% due to the increasing number of online activities. Data from BPS (Badan Pusat Statistik) states that 10.92% internet users in 2010 increased significantly to 43.52% in 2019. This PPKM Darurat is increasing the trend of digital economy transactions because people are increasingly thinking about how to keep their needs met. even under these conditions. Based on data from Google and the Ministry of Commerce, since the beginning of the pandemic in March 2020, digital consumers have increased by 37% throughout 2020. This has caused the valuation of Indonesia's digital economy to increase by more than 40% per year since 2015, even digital service providers have processing transactions totaling US\$ 40 billion by mid-2020 (<https://www.Suaramerdeka.com> downloaded on 26 July 2021).

This was also followed by digital banking transactions in Indonesia, which also accelerated as a result of increased public activities for shopping online. Bank Indonesia (BI) stated that digital banking transactions in April 2021 increased by 60.27% from the previous year to reach 572.8 million transactions. Likewise, the transaction value reached Rp 3,114.1 trillion, or jumped 46.36%. In the midst of these conditions, BI will continue to push the digitalization system of the economy towards more inclusive and efficient finance. In addition, BI is also expanding the electrification of the distribution of social assistance and local government financial transactions (<https://keuangan.kontan.co.id> downloaded on July 31, 2021).

One of the largest private banks and has been trusted by millions of Indonesians, namely Bank Central Asia or Bank BCA which originally came from the name NV Bank which has officially changed its name to PT Bank Central Asia on February 21, 1957, founded by Soedono Salim or who is also known as Liem Sioe Liong and is part of the Salim Group, is now fully owned by Robert Budi Hartono and Michael Bambang Hartono who are also one of the owners of cigarette manufacturers in Indonesia, namely Djarum (<https://www.cnnindonesia.com/Ekonomi> downloaded on July 31, 2021).

In 1977, Bank BCA became a foreign exchange bank because it had merged with other banks, one of which was the Bank of the Indonesian Armed Forces Welfare Foundation, namely Bank Gemari. In the 1980s, with the status of a foreign exchange bank, Bank BCA asked for permission from Bank Indonesia to launch a credit card that would be applied internationally. In the same year, Bank BCA also issued Tabungan Hari Depan or Tahapan BCA. Continuous development is carried out such as expanding the information technology system, expanding the branch office network, maximizing ATM technology, continuing to develop various products and services with the aim of reaching more people. By the early 2000s, BCA had gone much further by developing many of its business systems. Bank BCA also continues to make drastic developments, such as launching the Flazz prepaid card, mobile banking, internet banking, as well as disbursing home, car and other loans through Bank BCA's subsidiary, BCA Finance. Currently, Bank BCA has eight banking subsidiaries engaged in various other sectors (<https://www.cnnindonesia.com/economy> downloaded on July 31, 2021).

Bank BCA is the number one private bank with the third largest and most trusted in Indonesia, but this does not prevent Bank BCA from also feeling the impact of the Covid19 pandemic, for example, many bad loans and certainly very detrimental to

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the bank. However, this does not make Bank BCA careless, precisely because Bank BCA has been trusted by millions of people, BCA must take part in saving the people's economy. Therefore, Bank BCA continues to strive so that the community's economic activities can continue to run normally amidst the PPKM which is being implemented by the government for the sake of the nation's recovery. Bank BCA's operational activities must continue, but Bank BCA continues to implement health protocols for customers and employees, for example, such as physical distancing, checking body temperature, and implementing rotating work from home and so on (<https://www.cnbcindonesia.com> downloaded on July 31, 2021).

In accordance with Bank BCA's commitment to always being by the customer's side and providing the best service to customers, Bank BCA has heard of the increasing need for customers to transact digitally because of the PPKM. Bank BCA conducts the #BankingFromHome campaign by trying to maximize banking services through various online channels with the aim of providing customer satisfaction. What Bank BCA does is increase the daily transaction limit, including mobile banking through BCA Mobile and internet banking through Klik BCA to Rp 500 million, which is equipped with a BCA Key as a security system to ensure the security of customer transactions. In addition to making large transfers and paying bills, customers can also enjoy various features, such as blocking ATM cards, opening accounts, viewing account mutations for the last five years, and buying investment products, all of which can be done online so that customers can make payments. digital transactions more easily because they can be done anywhere and anytime. Now customers can feel the convenience of transacting in just one hand without the need to go to ATMs or branch offices as well as Halo BCA services that are ready to serve customers 24 hours (<https://www.theeconomics.com> downloaded on July 31, 2021).

Bank BCA's digital application performance is ranked second in Indonesian banking, so the authors see that there is continuity in academic research on customer satisfaction and customer loyalty. Therefore, the authors include several variables in this study such as product quality, service quality, environment quality, and product assortment from BCA Mobile.

Product quality is the strength of a product showing its overall ability, both in terms of durability, reliability, accuracy, ease of use, and product repair (Kotler and Armstrong, 2008). Product quality can be used as a strategy that can beat competitors. The products offered by BCA Mobile are application products of good quality, both in terms of the ease of use of the application, the speed of the application, and the application is not easy to error.

Service quality is related to the size of the comparison between the level of service provided and customer expectations (Wijaya, 2014). The services provided by BCA Mobile are transfer services in real time, display transaction data accurately, and provide security for customer transaction data.

Environment quality is everything that is judged by sight, for example, such as color, shape, model, and others (Lovelock et al., 2010). The appearance of the BCA Mobile application uses a blue color that is comfortable to look at and unobtrusive, the use of icons according to the features provided, and the appearance of the application looks simple and uncomplicated.

Product assortment is the entire product offered by sellers to consumers (Kotler and Keller, 2015). BCA Mobile has a variety of features to suit customer needs. It can be concluded that BCA Mobile provides various banking transactions such as balance checks, account mutation checks, transfers, bill payments, new account openings, and others; providing various non-banking transactions such as daily shopping, airline/train tickets, hotels, donations, and others; has a variety of interesting features such as cardless transactions.

Customer satisfaction is behavior where consumers compare service performance with consumer expectations (Kotler in Indrata et al., 2017). Meanwhile, customer loyalty is the willingness of consumers to make repeated purchases of the same brand (Tjiptono, 2011). BCA Mobile customer loyalty will be created from product quality, service quality, environment quality, and product assortment perceived by consumers through customer satisfaction.

From the background that has been written, the author is interested in conducting research on the BCA Mobile application because this application contains all the variables to be studied and also because the use of the BCA Mobile application is currently still increasing and is increasingly needed, especially because of the Covid-19 pandemic that has not yet been released. completed, coupled with the implementation of mobility restrictions that require people to reduce activities outside the home and maximize activities at home, including digital transactions.

In addition, this research is also motivated by a research gap as in previous research conducted by Bei and Chiao (2006) which stated that product quality did not significantly affect customer satisfaction in the banking industry, while research conducted by Agus et al. (2016) show that product quality has a significant effect on customer satisfaction in the RTS (Rail Ticketing System) application. There is also a research gap between Bei and Chiao's (2006) research which states that service quality has no significant effect on customer loyalty in the gas station industry, while research conducted by Dwi Aryani et al. (2012) which states that service quality has a significant effect on customer loyalty in restaurants.

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Therefore, the authors decided to conduct this research in order to determine the effect of product quality, service quality, environment quality, and product assortment on customer loyalty through customer satisfaction on the BCA Mobile application.

## II. LITERATURE REVIEW

### A. Product Quality

Product quality is the strength of a product that shows its overall ability, both in terms of durability, reliability, accuracy, ease of use, and product repair (Kotler and Armstrong, 2008). Meanwhile, according to Assauri in Arumsari (2012), product quality includes things that affect an item to suit the purpose of making the item. Kotler and Armstrong (2018) also mention that the purpose of product quality is to get attention, use or consumption that can provide satisfaction and meet customer needs. According to Daniel Hunt in Sony Santosa (2010), product quality is the suitability of product use in meeting needs and desires that will create customer satisfaction. There are four ratings of the quality of a product, including low, medium, good, and very good quality (Kotler in Arumsari, 2012).

**H1: Product quality has a significant effect on customer satisfaction.**

**H2: Product quality has a significant effect on customer loyalty.**

### B. Service Quality

Service quality consists of two words, namely quality and service. Tjiptono and Sunyoto (2012) explain that quality is related to products, services, processes, environments that are in accordance with or even more than expected. Service is an activity provided by one party to another (Kotler in Liu, 2016). Meanwhile, according to Tjiptono (2011) service is a collection of activities that are not visible, usually occur in service providers who provide solutions to consumer needs. Comparison of service quality arises from the comparison of a service provider with a service provider, seen from the attitudes and expertise of its employees (Lovelock and Wirtz, 2011). The theory is also present from Wijaya (2014) which explains that service quality is a measure of how the level of service provided is compared to customer expectations. **H3: Service quality has a significant effect on customer satisfaction.**

**H4: Service quality has a significant effect on customer loyalty.**

### C. Environment Quality

The physical environment or physical appearance is the first element that is felt in the use of the product (Tuzunkan, D. et al., 2016). Physical appearance is related to the exterior and interior facilities of a product (Wood, 2009). Display quality is everything that is judged by sight, for example, such as color, shape, model, and others (Lovelock et al., 2010). According to Ryu (2005) physical appearance is very influential for consumers, designing the display will produce a person's feeling in making a purchase. The creation of a beautiful physical appearance can make consumers interested in buying or using it (Kotler, 2007). Physical appearance conditions will provide an experience that can increase or even reduce the level of consumer satisfaction (Lovelock et al., 2010).

**H5: Environment quality has a significant effect on customer satisfaction.**

**H6: Environment quality has a significant effect on customer loyalty.**

### D. Product Assortment

Product assortment is the design and management of variants carried out by a company or seller of a product group (Vinci, 2009). According to Kotler and Keller (2015) product assortment is all products offered by sellers to consumers. Product assortment can be distinguished based on appearance, size, price, and so on (Tjiptono, 2008). Mikell P. Groover (2010) states that product variations are referred to as products with different types or designs and are produced by 15 companies. So, product assortment has many different types and designs that are produced or provided by a company (Grover, 2010). In the end, when making transactions, consumers often make transactions that were not previously planned. It can also be concluded that product assortment can influence consumer purchasing decisions (Madiha Zaffou, 2010).

**H7: Product assortment has a significant effect on customer satisfaction.**

**H8: Product assortment has a significant effect on customer loyalty.**

### E. Customer Satisfaction

Satisfaction is a feeling that arises after a person experiences an experience (Lovelock and Wirtz, 2011). Consumer satisfaction is a behavior where consumers compare service performance with consumer expectations (Kotler in Indrata et al., 2017). According to Kotler and Keller (2007), customers will feel happy when they are satisfied and conversely, customers will feel disappointed when they are not satisfied. Customers will feel disappointed when the performance results that occur are

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below their expectations. On the other hand, customers will feel happy if the performance results that occur meet and even exceed their expectations which ultimately make customers feel satisfied (Kotler, 2006). Of course, consumers will feel satisfied when their needs and desires can be fulfilled in accordance with their expectations (Tjiptono, 2012) because business actors who focus on customer satisfaction will help the company have a positive image (Felix, 2017).

**H9: Customer Satisfaction has a significant effect on customer loyalty.**

### **F. Customer Loyalty**

Loyalty relates to feelings of security, support, belonging, and building a bond of one's feelings (Kartajaya, 2007). According to Gibson (2005), customer loyalty is the motivation to make repeated purchases of goods/services created or provided by a company. Tjiptono and Chandra (2011) state that customer loyalty is a customer's commitment to a brand or store based on his consistent attitude in making repeated purchases. Customer loyalty, which can also be referred to as customer loyalty, is the willingness of consumers to make repeated purchases of the same brand (Tjiptono, 2011). Sutisna (2003) also said that loyalty is a feeling of pleasure towards a particular brand so that they make repeated purchases for a long time. According to Griffin (2005), doing a way with the aim of giving satisfaction is related to customer attitudes, while customer loyalty is related to behavior resulting from customer attitudes.

### **G. Previous Research**

This study uses a reference journal by Porral and Mangin (2016) with the title "Specialty Food Retailing: The Role of Purchase Frequency and Determinants of Customer Satisfaction and Loyalty".

The reference journal discusses the functions of purchase frequency, determinants of satisfaction, and customer loyalty. Almost the same as the latest research which also discusses the determinants of customer satisfaction and loyalty but does not discuss the frequency of purchases. However, the most visible difference is that previous studies used the object of a specialty food retailer store, while the object used in this study was a digital banking application.

The variables used in the previous research discussed product perceived quality, service, environment, assortment to customer loyalty through customer satisfaction. Recent research has replaced product perceived quality into product quality.

The difference is in the sample due to differences in objects and locations or countries. The sample of the previous study used customers and occasional consumers of whole foods or whole foods specialist stores in the United States, while the current study used BCA Mobile customers in Surabaya.

Both studies are causal studies that discuss the relationship between independent variables and variables. Both of these studies also used quantitative methods which were carried out by distributing questionnaires. Previous researchers got 592 valid questionnaires. While the number of samples used in the latest research is 100.

The results of previous studies show that all independent variables (product perceived quality, service, environment, and assortment) have a significant impact on the dependent variable (customer satisfaction and customer loyalty).

## **III. RESEARCH METHODS**

### **A. Type of Research and Data**

This type of research is a type of causal research that shows the relationship and measures the strength of the independent variables with related variables (Silalahi, 2012). This research uses quantitative methods which will study the relationship between variables and will be measured and analyzed using statistical procedures with the aim of testing existing theories (Noor, 2011).

This study uses primary data types. Primary data is based on first-hand information, namely the researchers themselves, obtained from individual respondents, focus groups, and online questionnaires (Uma Sekaran, 2011). In this study, data will be obtained through the distribution of online questionnaires to respondents who have used the BCA Mobile application.

### **B. Population and Sample**

The population discusses the place or area of generalization of objects or subjects with characteristics that have been determined by researchers to be studied with the aim of drawing conclusions (Sugiyono, 2017). The population used in this study is BCA Mobile customers who live in the city of Surabaya.

The sample is part of the number and characteristics of the population that have been determined by the researcher. If the population is deemed too broad, in the end it is impossible for researchers to study everything because of limitations on researchers, both energy, time, costs and others, so researchers can take samples from a predetermined population (Sugiyono, 2017).

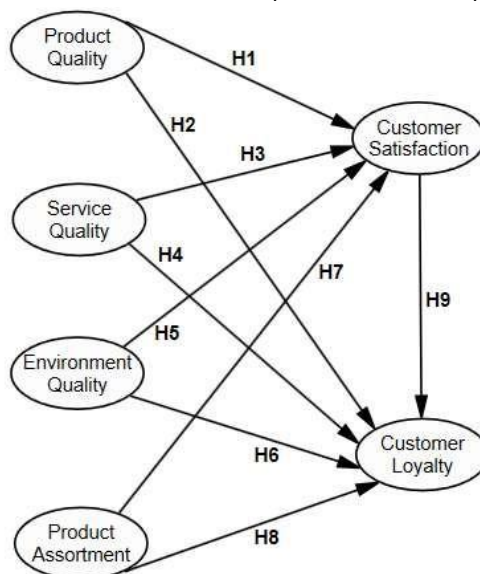
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Actually there are two types of sampling methods, namely probability sampling and non-probability sampling. In this study, the author uses the nonprobability sampling method, meaning that not all members have the opportunity to be selected as samples (Sujoko Efferin, 2019). The researcher uses this method because the researcher does not know in detail the number of populations who use the BCA Mobile application, meaning that the samples taken are not necessarily found in all respondents.

The technique used by the researcher is snowball sampling in which the initial sample determination is small, then the sample is directed to choose friends to serve as other samples (Sujoko Efferin, 2019). Questionnaires were distributed to BCA Mobile customers who were selected as samples and started by distributing them to samples known to the researcher. The distribution will be carried out in this way. The area where the questionnaire was distributed is the city of Surabaya.

The characteristics of the respondents determined were male and female respondents with domicile in Surabaya aged 18-60 years where that age was early adulthood (Kotler and Armstrong, 2010) and had used the BCA Mobile application at least three times in the last six months.

The basis of sample size depends on the number of indicators on all variables. The way to determine the number of samples is the number of indicators used in this study multiplied by five to 20 with an estimate of 100-200 samples (Ferdinand, 2002). There are 18 indicators in this study, so the estimated number of samples is 90-180 samples. This study will use 100 samples.



**Figure 1. Research Method**  
Source: Processed data (2021)

### C. Method of Collecting Data

In collecting data, the researcher used a questionnaire method. The questionnaire will be given a number of questions that are given to respondents to be answered (Sugiyono, 2011). In the midst of a pandemic like this, it is not possible to distribute the questionnaires directly, so the distribution of the questionnaires will be done online via Google Form with the aim of making it easier to reach a wider range of respondents. The questionnaire is considered valid if the questionnaire is completed completely and in accordance with the instructions for filling out. After the selection stage, the questionnaire that is considered valid will be processed further.

In this study, the questionnaire will be divided into two parts. The first or initial section contains questions about the general information of the respondents to ensure that the characteristics of the respondents are in accordance with the predetermined sample criteria. The question in the second part is aimed at obtaining research data, namely the effect of product quality, service quality, environment quality, and product assortment on customer loyalty through customer satisfaction. The researcher provides a Likert scale from 1-5, namely from strongly disagree (STS = Sangat Tidak Setuju) to strongly agree (SS = Sangat Setuju).

# The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

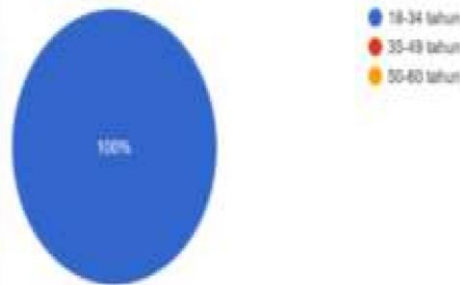
## IV. RESEARCH RESULT

### A. General Description of Respondents

**Table 1. Respondent Profile by Age**

No.	Age	Frequency	Percentage
1.	18-34 years old	100 people	100%
2.	35-49 years old	0 people	0%
3.	50-60 years old	0 people	0%
	<b>Total</b>	<b>100 people</b>	<b>100%</b>

Source: Processing of questionnaire data using SPSS 22.0 (2021)



**Figure 2. Diagram of Respondent Profile by Age**

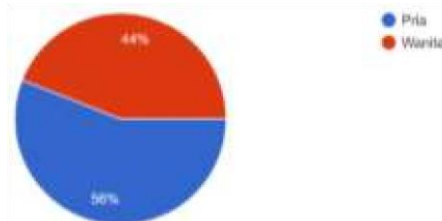
Source: Processing of questionnaire data using Google Form (2021)

Table 1 and Figure 2 show that all 100 respondents were aged between 18 and 34 years.

**Table 2. Respondent Profile by Gender**

No.	Gender	Frequency	Percentage
1.	Man	44 people	44%
2.	Woman	56 people	56%
	<b>Total</b>	<b>100 people</b>	<b>100%</b>

Source: Processing of questionnaire data using SPSS 22.0 (2021)



**Figure 3. Diagram of Respondent Profile by Gender**

Source: Processing of questionnaire data using Google Form (2021)

Table 2 and Figure 3 show that the majority of respondents are female with a percentage of 56% with a total of 56 people out of a total of 100 people. While male respondents as many as 44 people or 44%.

**Table 3. Respondent Profile by Domicile**

No.	Domiciled in Surabaya	Frequency	Percentage
1.	Yes	100 people	100%
2.	No	0 people	0%
	<b>Total</b>	<b>100 people</b>	<b>100%</b>

Source: Processing of questionnaire data using SPSS 22.0 (2021)

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**Figure 4. Diagram of Respondent Profile by Domicile**

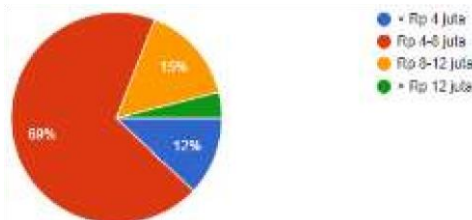
Source: Processing of questionnaire data using Google Form (2021)

Table 3 and Figure 4 show that all 100 respondents domiciled in Surabaya, according to the specified criteria.

**Table 4. Respondent Profile by Income**

No.	Age	Frequency	Percentage
1.	< Rp 4 million	12 people	12%
2.	Rp 4 – 8 million	69 people	69%
3.	Rp 8 – 12 million	15 people	15%
4.	> Rp 12 million	4 people	4%
	<b>Total</b>	<b>100 people</b>	<b>100%</b>

Source: Processing of questionnaire data using SPSS 22.0 (2021)



**Figure 5. Diagram of Respondent Profile by Income**

Source: Processing of questionnaire data using Google Form (2021)

Table 4 and Figure 5 show that more than half of the total respondents, namely 69 people, have an income of IDR 4-8 million and have a percentage of 69%. Respondents with an income of IDR 8-12 million are in second place with a percentage of 15% or as many as 15 people. Respondents with income below IDR 4 million are in the third rank, namely 12% or as many as 12 people. Respondents who earn above Rp 12 million are in the last rank with a percentage of 4% or as many as four people.

**B. Validity Test**

The validity test uses CFA (confirmatory factor analysis) with a minimum value of  $\geq 0.40$ . Statements with appropriate CFA values are considered valid.

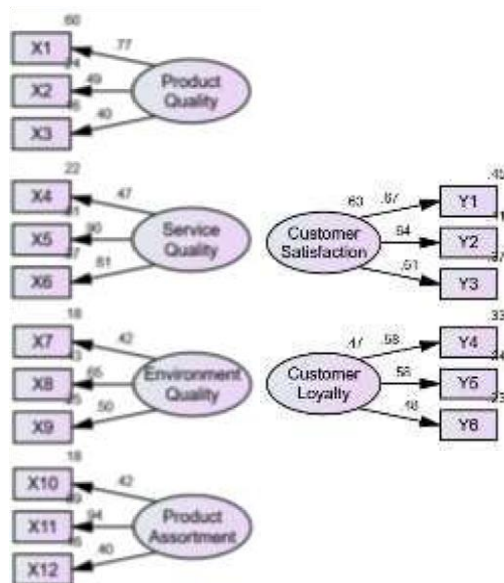
<b>Customer Satisfaction</b>			
1.	Saya puas dengan pelayanan BCA Mobile.	0,67	Valid
2.	Saya puas dengan biaya yang ditawarkan BCA Mobile.	0,64	Valid
3.	Saya puas dengan fitur BCA Mobile secara keseluruhan.	0,61	Valid
<b>Customer Loyalty</b>			
1.	Saya mau terus menggunakan BCA Mobile.	0,58	Valid
2.	BCA Mobile merupakan satusatunya <i>mobile banking</i> pilihan utama saya.	0,58	Valid
3.	Saya akan merekomendasikan BCA Mobile kepada orang lain.	0,48	Valid

Source: Processed data (2021)



# The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

All statements in this study are valid, as evidenced by Figure 6 and table 5 where the CFA value of all variables has a value of 0.40.



Source: Data processing using AMOS 22 (2021)

Figure 6. CFA Value

### C. Reliability Test

This is the construct reliability formula used to test the

Table 5. Validity Test

No.	Statement	CFA	Desc.
<b>Product Quality</b>			
1.	BCA Mobile mudah untuk digunakan.	0,77	Valid
2.	BCA Mobile bekerja dengan cepat.	0,49	Valid
3.	BCA Mobile memiliki tingkat <i>error</i> yang rendah.	0,40	Valid
<b>Service Quality</b>			
1.	BCA Mobile memberikan layanan transfer secara <i>real time</i> .	0,47	Valid
2.	BCA Mobile menampilkan detail transaksi saya dengan akurat.	0,90	Valid
3.	BCA Mobile memberikan jaminan keamanan data transaksi saya.	0,61	Valid
<b>Environment Quality</b>			
1.	BCA Mobile menggunakan warna yang nyaman untuk dipandang.	0,42	Valid
2.	Penggunaan <i>icon</i> fitur BCA Mobile sesuai dengan fitur yang diberikan.	0,65	Valid
3.	Tampilan BCA Mobile tidak rumit.	0,50	Valid
<b>Product Assortment</b>			
1.	BCA Mobile menyediakan transaksi perbankan yang bervariasi (cek saldo, cek mutasi rekening, transfer, pembayaran tagihan, pembukaan rekening baru, dll).	0,42	Valid
2.	BCA Mobile menyediakan transaksi non-perbankan yang bervariasi (belanja harian, tiket pesawat/kereta, hotel, donasi, dll).	0,94	Valid
3.	BCA Mobile memiliki beragam fitur yang menarik ( <i>cardless transaction</i> ).	0,40	Valid

## The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

All statements in this study are valid, as evidenced by Figure 6 and table 5 where the CFA value of all variables has a value of 0.40.

### C. Reliability Test

This is the construct reliability formula used to test the level of reliability on each variable and what is acceptable is  $\geq 0.7$ .

$$CR = \frac{[\sum \text{Standardize Loading}]^2}{[\sum \text{Standardize Loading}]^2 + \sum \varepsilon_j}$$

$\lambda$  = The known loading factor value in the research variable

$e$  = *Measurement error* is calculated by the formula  $(1 - \lambda^2)$

**Table 6. Reliability Test**

Indicator	$\lambda$	$\lambda^2$	Error	Construct Reliability
<b>Product Quality</b>				
PQ1	0,772	0,5960	0,4040	0,7533221
PQ2	0,490	0,2401	0,7599	
PQ3	0,401	0,1608	0,8392	
Total ( $\Sigma$ )	1,663		2,4209	
<b>Service Quality</b>				
SC1	0,467	0,2181	0,7819	0,7635576
SC2	0,899	0,8082	0,1918	
SC3	0,610	0,3721	0,6279	
Total ( $\Sigma$ )	1,976		2,2389	
<b>Environment Quality</b>				
EQ1	0,419	0,1756	0,8244	0,7175424
EQ2	0,654	0,4277	0,5723	
EQ3	0,497	0,2470	0,7523	
Total ( $\Sigma$ )	1,570		2,2521	
<b>Product Assortment</b>				
PA1	0,424	0,1798	0,8202	0,7268512
PA2	0,944	0,8911	0,3775	
PA3	0,403	0,1624	0,8376	
Total ( $\Sigma$ )	1,771		1,9410	
<b>Customer Satisfaction</b>				
CS1	0,668	0,4462	0,5538	0,7064922
CS2	0,642	0,4122	0,7034	
CS3	0,608	0,3697	0,6303	
Total ( $\Sigma$ )	1,918		1,8499	
<b>Customer Loyalty</b>				
CL1	0,578	0,3341	0,6659	0,7479345
CL2	0,584	0,3411	0,6589	
CL3	0,480	0,2304	0,7696	
Total ( $\Sigma$ )	1,642		2,1003	

Source: Processed data (2021)

All variables in this study were declared reliable and acceptable, as evidenced by table 6 which shows all variables have a construct reliability value of  $\geq 0.7$ .

# The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

## D. Normality Test

The normality test aims to examine whether the data distribution is normal or not. The test is seen from the C.R (Critical Ratio) value with a limit of  $\pm 2.58$  and a significance level of 1%. However, if the C.R value is outside  $\pm 2.58$ , it is stated that normality is not met. The following are the results of the normality test of data processing using AMOS 22.0.

**Table 7. Data Normality Test**

Var	Min	Max	Skew	C.R.	Kurtosis	C.R.
Y6	1.000	5.000	-.486	-1.986	.550	1.122
Y5	1.000	5.000	-.506	-2.068	-.323	-.660
Y4	1.000	5.000	-1.375	-1.615	3.674	2.499
Y3	2.000	5.000	-.615	-2.509	-.426	-.869
Y2	3.000	5.000	-.312	-1.272	-.683	-1.393
Y1	2.000	5.000	-.876	-2.576	.283	.577
X10	2.000	5.000	-.085	-.348	-.580	-1.183
X11	2.000	5.000	-.427	-1.742	.099	.201
X12	3.000	5.000	.182	.742	-.688	-1.405
X7	2.000	5.000	-1.068	-2.361	1.302	1.657
X8	2.000	5.000	-.528	-2.155	-.355	-.725
X9	2.000	5.000	-.410	-1.674	-.402	-.820
X4	3.000	5.000	-.265	-1.082	-.635	-1.297
X5	2.000	5.000	-.452	-1.846	.091	.186
X6	1.000	5.000	-.826	-2.372	.970	1.981
X1	1.000	5.000	-.990	-2.042	.582	1.187
X2	3.000	5.000	-.338	-1.380	-.899	-1.835
X3	3.000	5.000	-.130	-.531	-1.006	-2.054
<b>Multivariate</b>					<b>15.823</b>	<b>2.007</b>

Source: Processed data (2021)

Table 4.20 states that all C.R values are in the range of -2.58 to 2.58. This shows that the data distribution meets the criteria for normality and is suitable for use in subsequent evaluations.

## E. Goodness of Fit Index

**Table 8. Evaluation of the Goodness of Fit Index Criteria**

Criteria	Critical Value	Result	Model Evaluation
$\chi^2$ - Chi Square	Smaller the better	216,033	Marginal
Probability	$\geq 0,05$	0,000	Marginal
RMSEA	$\leq 0,08$	0,070	Fit
GFI	$\geq 0,90$	0,816	Marginal
AGFI	$\geq 0,90$	0,756	Marginal
CMIND/DF	$\leq 2,00$	1,511	Fit
TLI	$\geq 0,95$	0,798	Marginal
CFI	$\geq 0,95$	0,831	Marginal

Source: Processed data (2021)

Table 7 states that almost all measurements of the Goodness of Fit Index are good or fit. Therefore, the research model developed from the conceptual theory is stated to have been supported by data from the results of filling out questionnaires by respondents.

## F. Outliers Evaluation

Outliers are unique data among other observations, seen from the form of extreme values in single or combination variables (Ghozali, 2011). Evaluation of outliers is divided into two, namely the analysis of univariate outliers and multivariate outliers.

**The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application**

**1) Univariate Outliers**

The univariate outliers test is carried out by determining the threshold value that will be used as an outlier by converting the research data values into a standard score or z-score which has an average of zero with a standard deviation of one. The guideline for large samples (above 80 observations) is that the z-score threshold range is -4 to 4.

**Table 9. Statistic Descriptive Z-score**

	N	Minimum	Maximum	Mean	Std. Deviation
Zscore(X1)	100	-2.80620	1.23150	.0000000	1.0000000
Zscore(X2)	100	-1.77181	1.10918	.0000000	1.0000000
Zscore(X3)	100	-1.53086	1.27806	.0000000	1.0000000
Zscore(X4)	100	-2.06169	1.15970	.0000000	1.0000000
Zscore(X5)	100	-3.30000	1.20000	.0000000	1.0000000
Zscore(X6)	100	-3.67239	1.15970	.0000000	1.0000000
Zscore(X7)	100	-3.21154	.92349	.0000000	1.0000000
Zscore(X8)	100	-2.79095	1.10340	.0000000	1.0000000
Zscore(X9)	100	-2.73260	1.20865	.0000000	1.0000000
Zscore(X10)	100	-2.08502	1.57291	.0000000	1.0000000
Zscore(X11)	100	-2.54912	1.47580	.0000000	1.0000000
Zscore(X12)	100	-1.27263	1.79395	.0000000	1.0000000
Zscore(Y1)	100	-2.73640	.96144	.0000000	1.0000000
Zscore(Y2)	100	-2.00970	1.13045	.0000000	1.0000000
Zscore(Y3)	100	-2.78000	1.01091	.0000000	1.0000000
Zscore(Y4)	100	-3.77715	.87628	.0000000	1.0000000
Zscore(Y5)	100	-3.23592	1.10760	.0000000	1.0000000
Zscore(Y6)	100	-3.80943	1.28680	.0000000	1.0000000
Valid N (listwise)	100				

Source: Data processing using SPSS 22.0 (2021)

Table 9 shows that all the minimum and maximum values in the z-score conversion results in this study are in the range of -4 to 4 so that there are no univariate outliers in this study.

**2) Multivariate Outliers**

Multivariate outliers are obtained from the mahalanobis distance test which explains the distance of an observation from the average of all variables in a multidimensional space. The criterion for the mahalanobis distance is that it is at the level of  $p < 0.001$ . The mahalanobis distance test uses  $X^2$  to a degree equal to the number of indicators, which is 48. If the mahalanobis distance  $< 84.4031$ , it can be said that the data are multivariate outliers.

**Table 10. Mahalanobis Distance**

Observation number	Mahalanobis d-squared
25	62.638
13	34.593
66	33.517
63	32.667
19	31.488
22	31.289
40	30.554
18	27.997
2	27.742
58	27.239

Source: Data processing using AMOS 22.0 (2021)

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Table 10 is part of the evaluation of the mahalanobis distance sorted by the d-squared mahalanobis value. The data shows that the value of mahalanobis d-squared <84.4031 so that there are no multivariate outliers in this study.

## G. Confirmatory Factor Analysis

### 1) CFA of Exogenous Variables

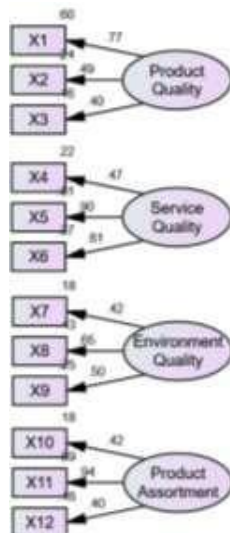


Figure 7. Exogenous Variables

Source: Data processing using AMOS 22 (2021)

Confirmatory analysis of exogenous variables was carried out to evaluate the suitability of the model and the unidimensionality of the constructs. The measurement model includes four independent variables, namely product quality, service quality, environment quality, and product assortment.

Table 11. Value Test and Lamda Loading Weight of Exogenous Variables

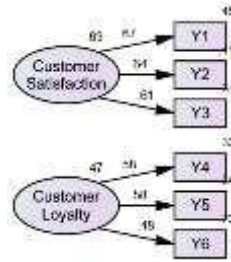
	Estimate	C.R.	P	Std. Estimate
X3 <--- PQ	1.000			.401
X2 <--- PQ	1.189	2.756	.006	.490
X1 <--- PQ	2.676	2.070	.038	.772
X6 <--- SQ	1.000			.610
X5 <--- SQ	1.188	3.473	***	.899
X4 <--- SQ	.575	3.474	***	.467
X9 <--- EQ	1.000			.497
X8 <--- EQ	1.333	2.577	.010	.654
X7 <--- EQ	.804	2.434	.015	.419
X12 <--- PA	1.000			.403
X11 <--- PA	2.675	2.511	.031	.944
X10 <--- PA	1.322	3.014	.003	.424

Source: Data processing using AMOS 22.0 (2021)

Table 11 shows that all exogenous variables consisting of product quality, service quality, environment quality, and product assortment have a C.R value of more than 2.00. So that all indicators are significantly indicators of latent factors so that all indicators can be accepted. The value of lamda loading on all variables is  $\geq 0.40$  so all indicators present the unidimensionality of the latent variable.

# The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

## 2) CFA of Endogen Variables



**Figure 8. Endogen Variables**

Source: Data processing using AMOS 22 (2021)

Confirmatory analysis of endogenous variables was carried out to evaluate the suitability of the model and the unidimensionality of the constructs. The measurement model includes four dependent variables, namely customer satisfaction and customer loyalty.

**Table 12. Value Test and Lamda Loading Weight of Endogen Variables**

	Estimate	C.R.	P	Std. Estimate
Y1 <--- CS	1.000			.668
Y2 <--- CS	.757	5.415	***	.642
Y3 <--- CS	.896	5.320	***	.608
Y4 <--- CL	1.000			.578
Y5 <--- CL	1.314	3.371	***	.584
Y6 <--- CL	.929	3.252	.001	.480

Source: Data processing using AMOS 22.0 (2021)

Table 12 shows that all endogenous variables consisting of customer satisfaction and customer loyalty have a C.R value of more than 2.00. So that all indicators are significantly indicators of latent factors so that all indicators can be accepted. The value of lamda loading on all of these variables is  $\geq 0.40$  so all indicators present the unidimensionality of the latent variable.

### H. Measurement and Structural Model Analysis 1) Measurement Analysis

**Table 13. Product Quality Measurement Model Analysis**

Standardized Regression Weights	Estimates
PQ1 <--- Product Quality	0,772
PQ2 <--- Product Quality	0,490
PQ3 <--- Product Quality	0,401

Source: Data processing using AMOS 22.0 (2021)

Table 13 shows that the first statement has the highest estimated value of 0.772, meaning that the statement that BCA Mobile is easy to use is considered the indicator that is most capable of explaining product quality.

**Table 14. Service Quality Measurement Model Analysis**

Standardized Regression Weights	Estimates
SQ1 <--- Service Quality	0,467
SQ2 <--- Service Quality	0,899
SQ3 <--- Service Quality	0,610

Source: Data processing using AMOS 22.0 (2021)

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Table 15 shows that the second statement has the highest estimated value of 0.899, meaning that the statement that BCA Mobile accurately displays my transaction details is considered the indicator that is most capable of explaining service quality.

**Table 16. Environment Quality Measurement Model Analysis**

<i>Standardized Regression Weights</i>	<i>Estimates</i>
EQ1 <--- Environment Quality	0,419
EQ2 <--- Environment Quality	0,654
EQ3 <--- Environment Quality	0,497

Source: Data processing using AMOS 22.0 (2021)

Table 16 shows that the second statement has the highest estimate value, which is 0.654, meaning that the statement that the use of the BCA Mobile feature icon is in accordance with the features provided is considered the most capable indicator of explaining environment quality.

**Table 17. Product Assortment Measurement Model Analysis**

<i>Standardized Regression Weights</i>	<i>Estimates</i>
PA1 <--- Product Assortment	0,424
PA2 <--- Product Assortment	0,944
PA3 <--- Product Assortment	0,403

Source: Data processing using AMOS 22.0 (2021)

Table 18 shows that the second statement has the highest estimated value, which is 0.944, meaning that the statement that BCA Mobile provides various non-banking transactions (daily shopping, airplane/train tickets, hotels, donations, etc.) is considered the most capable indicator of explaining product assortment.

**Table 18. Customer Satisfaction Measurement Model Analysis**

<i>Standardized Regression Weights</i>	<i>Estimates</i>
CS1 <--- Customer Satisfaction	0,668
CS2 <--- Customer Satisfaction	0,642
CS3 <--- Customer Satisfaction	0,608

Source: Data processing using AMOS 22.0 (2021)

Table 18 shows that the first statement has the highest estimated value of 0.668, meaning that the statement that I am satisfied with BCA Mobile services is considered the indicator that is most able to explain customer satisfaction.

**Table 19. Customer Loyalty Measurement Model Analysis**

<i>Standardized Regression Weights</i>	<i>Estimates</i>
CL1 <--- Customer Loyalty	0,578
CL2 <--- Customer Loyalty	0,584
CL3 <--- Customer Loyalty	0,480

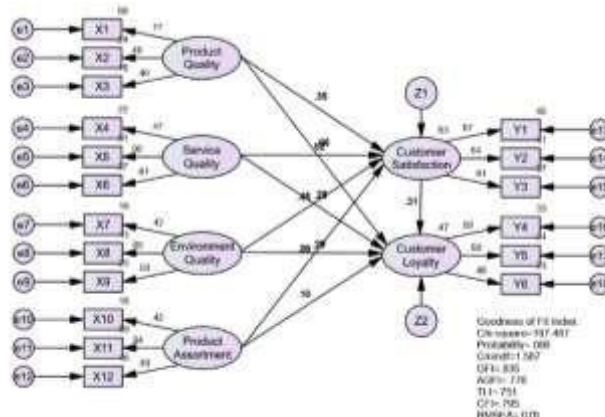
Source: Data processing using AMOS 22.0 (2021)

Table 19 shows that the second statement has the highest estimated value of 0.584, meaning that the statement that BCA Mobile is the only mobile banking of my choice is considered the indicator that is most able to explain customer loyalty.

### 2) Structural Model Analysis

Structural model analysis was conducted with the aim of showing a causal relationship or causality between variables. This relationship will explain the effect of product quality, service quality, environment quality, and product assortment on customer loyalty through customer satisfaction.

# The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application



**Figure 9. Regression Weights Full Structural Equation Model**

**Source:** Data processing using AMOS 22 (2021)

Product quality has a coefficient value of 0.354 which means that there is a positive relationship to customer satisfaction. So the higher or lower the respondent's assessment of product quality, the higher or lower the respondent's assessment of customer satisfaction.

Product quality has a coefficient value of 0.059 which means that there is a positive relationship with customer loyalty. So the higher or lower the respondent's assessment of product quality, the higher or lower the respondent's assessment of customer loyalty.

Service quality has a coefficient value of 0.520 which means that there is a positive relationship to customer satisfaction. So the higher or lower the respondent's assessment of service quality, the higher or lower the respondent's assessment of customer satisfaction.

Service quality has a coefficient value of 0.283 which means that there is a positive relationship with customer loyalty. So the higher or lower the respondent's assessment of service quality, the higher or lower the respondent's assessment of customer loyalty.

Environment quality has a coefficient value of 0.480 which means there is a positive relationship to customer satisfaction. So the higher or lower the respondent's assessment of environment quality, the higher or lower the respondent's assessment of customer satisfaction.

Environment quality has a coefficient value of 0.287, which means that there is a positive relationship with customer loyalty. So the higher or lower the respondent's assessment of environment quality, the higher or lower the respondent's assessment of customer loyalty.

Product assortment has a coefficient value of 0.060 which means that there is a positive relationship with customer satisfaction. So the higher or lower the respondent's assessment of product assortment, the higher or lower the respondent's assessment of customer satisfaction.

Product assortment has a coefficient value of 0.097 which means that there is a positive relationship with customer loyalty. So the higher or lower the respondent's assessment of product assortment, the higher or lower the respondent's assessment of customer loyalty.

Customer satisfaction has a coefficient value of 0.212, which means that there is a positive relationship with customer loyalty. So the higher or lower the respondent's assessment of customer satisfaction, the higher or lower the respondent's assessment of customer loyalty.

**Table 20. Regression Weights Full Structural Equation Model**

	Estimate	S.E.	C.R.	P	Std. Estimate
Customer Satisfaction <- -- Service Quality	.530	.148	3.582	***	.520
Customer Satisfaction <- -- Environment Quality	.652	.260	2.510	.012	.480
Customer Satisfaction <- -- Product Assortment	.118	.266	.445	.656	.060



## The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

<i>Customer Satisfaction &lt;-- Product Quality</i>	.636	.350	2.819	.069	.354
<i>Customer Loyalty &lt;--- Environment Quality</i>	.303	.305	2.995	.320	.287
<i>Customer Loyalty &lt;--- Product Assortment</i>	.148	.206	.717	.473	.097
<i>Customer Loyalty &lt;--- Service Quality</i>	.224	.191	2.176	.240	.283
<i>Customer Loyalty &lt;--- Product Quality</i>	.082	.309	.267	.789	.059
<i>Customer Loyalty &lt;--- Customer Satisfaction</i>	.243	.311	2.779	.436	.312

X3 <--- Product Quality 1.000 .401

Source: Data processing using AMOS 22.0 (2021)

In addition to showing the full structural equation, table 20 also shows the C.R value for each relationship between variables. The causal relationship between variables which include product quality on customer satisfaction, service quality on customer satisfaction, service quality on customer loyalty, environment quality on customer satisfaction, environment quality on customer loyalty, and customer satisfaction on customer loyalty has a significant relationship because it has a CR value. above 2.00. While the causal relationship between variables which include product quality on customer loyalty, product assortment on customer satisfaction, and product assortment on customer loyalty has a C.R value below 2.00 so the relationship is not significant.

### V. CONCLUSION

#### A. Research Summary

This research model was compiled and developed with the aim of examining the effect of product quality, service quality, environment quality, product assortment on customer loyalty through customer satisfaction on BCA Mobile customers. This research model is formed from the relationship of influence by six constructs, namely product quality, service quality, environment quality, product assortment, customer satisfaction, and customer loyalty.

The model was tested based on the results of questionnaire data by 100 male and female respondents who had used the BCA Mobile application at least three times in the last six months. Banking is an industry related to finance where most of the users must already have an income so that all respondents are 18-34 years old where that age is the productive age to work and almost 70% of all respondents have an income of IDR 4-8 million rupiah per month. it is also supported by one of the characteristics of the respondent who is a resident of Surabaya where the 2021 Surabaya UMK is IDR 4.3 million.

However, from the results of this study, it cannot be concluded that BCA Mobile is a banking application for the middle class because the questionnaire was distributed using the snowball sampling method, which was initiated by distributing a known sample where the age of the researcher was 22 years old, which is the age to start working.

Based on the results of descriptive statistical processing, it is known that the highest mean value indicates that the respondents strongly agree with the customer satisfaction variable. However, the results show that the average respondents agree on almost all variables, namely service quality, environment quality, customer loyalty, product quality, and finally the product assortment variable with the lowest value. This shows that the average customer perception of each construct is satisfactory. So what the company needs to do is maintain or even improve it so that customers are more satisfied with BCA Mobile and change the response from agreeing to strongly agreeing on each construct.

Before testing the hypothesis, an evaluation of the data that will be used is carried out to ensure that the data meets the tests of validity, reliability, normality, goodness of fit, and outlier tests consisting of multicollinearity and singularity. Based on this assessment, the data used in this study meet all of these assumptions.

Then, confirmatory factor analysis was conducted to test for unidimensionality and measure the strength of the dimensions that explained each latent factor. In addition, factor loading and regression weight analysis was carried out and it was found that all variables in the endogenous construct were considered to have dimensions with other variables to explain latent variables.

## **The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application**

Analysis of the full structural equation model and goodness of fit index shows that the model as a whole meets the requirements and is acceptable so that there is no need to make further modifications to the research model. The results of causality testing in this research model prove that there are six relationships that are accepted and there are three relationships that are rejected.

### **B. Conclusion on Research Problems**

The results of this study explain that product quality only has a significant effect on customer satisfaction but has no significant effect on customer loyalty, service quality and environment quality has a significant effect on customer satisfaction and customer loyalty, product assortment has no significant effect on customer satisfaction and customer loyalty, and it can be concluded also that customer satisfaction has a significant effect on customer loyalty BCA Mobile.

This study proves that the significant influence of the service quality variable on customer satisfaction is the first biggest influence when compared to the influence of other variables because the banking industry is closely related to finance, therefore customers really need trust such as transparency and data confidentiality.

The second highest influence is the significant effect of the environment quality variable on customer satisfaction because the clarity of the appearance and application features are also one of the reasons for convenience for customers in making transactions.

The third highest influence is the significant effect of the product quality variable on customer satisfaction because consumers' thinking is getting more mature in considering the quality of a product so that companies are also required to continue to improve the quality of their products.

The fourth highest influence is the significant influence of the customer satisfaction variable on customer loyalty because satisfaction is an important factor that affects loyalty. Customers who feel increased satisfaction will also experience loyalty.

The fifth highest effect is the significant effect of the environment quality variable on customers because customers feel that BCA Mobile is the clearest and uncomplicated application compared to other banking applications, so customers choose to transact using BCA Mobile.

The sixth highest effect is the significant effect of the service quality variable on customer loyalty because customer trust in the performance of banking applications makes customers continue to be loyal to using the application.

The seventh highest effect, namely the insignificant effect of the product assessment variable on customer loyalty, is also supported by the insignificant effect of the product assessment variable on customer satisfaction which is the eighth highest influence because product variations, for example, things that are not too related to finance are not the main thing. In banking because customers are more focused on conducting financial transactions.

This study also proves that the insignificant effect of the product quality variable on customer loyalty and being the ninth highest variable or the one with the least effect compared to the influence of other variables, can occur because the products offered by BCA Mobile are relatively the same as the products offered by other banking applications.

Product quality only has a significant effect on customer satisfaction, but has no significant effect on customer loyalty. This shows that product quality is able to influence customer loyalty, but it cannot directly, but must go through customer satisfaction first because product quality needs to form an emotional form of satisfaction felt by customers first, then new customers will be able to feel loyal to BCA Mobile. So, even though product quality does not have a significant effect on customer loyalty, product quality must still be improved because it still has an effect even though the effect is very small. In addition, because product quality has a significant effect on customer satisfaction, which in the end customer satisfaction can also increase customer loyalty in the BCA Mobile application.

### **C. Implication**

#### **1) Theoretical Implications**

Theoretical implications are carried out to compare previous research and current research with the aim of strengthening the findings of previous studies.

The results of the study stated that product quality only had a significant effect on customer satisfaction but had no significant effect on customer loyalty. This means that recent research only supports Porral and Mangin's (2016) research that product quality has a significant effect on customer satisfaction but does not support Porral and Mangin's (2016) research that product quality has a significant effect on customer loyalty.

The results of the study stated that service quality had a significant effect on customer satisfaction and had a significant effect on customer loyalty. That is, recent research supports Porral and Mangin's (2016) research that service quality has a

## **The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application**

significant effect on customer satisfaction and supports Porral and Mangin's (2016) research that service quality has a significant effect on customer loyalty.

The results of the study stated that environment quality had a significant effect on customer satisfaction and had a significant effect on customer loyalty. That is, recent research supports Porral and Mangin's (2016) research that environment quality has a significant effect on customer satisfaction and supports Porral and Mangin's (2016) research that environment quality has a significant effect on customer loyalty.

The results of the study stated that product assortment had no significant effect on customer satisfaction and no significant effect on customer loyalty. That is, recent research does not support Porral and Mangin's (2016) research that product assortment has a significant effect on customer satisfaction and does not support Porral and Mangin's (2016) research that product assortment has a significant effect on customer loyalty.

The results of the study also state that customer satisfaction has a significant effect on customer loyalty. That is, the current research supports Porral and Mangin's (2016) research that customer satisfaction has a significant effect on customer loyalty.

### **2) Managerial Implications**

Managerial implications discuss management policies that should be paid more attention to based on research results. This managerial implication has practicality in application so that it can be used as a guide for restaurant management in improving the quality of applications from several aspects.

First, product quality can be improved by focusing on simplicity of use, analyzing error and defect data, and regularly updating applications.

Second, service quality can be improved by increasing the transaction mutation period from 30 days to five years, such as BCA internet banking, following BI standards in the duration of money transfers, and maintaining the security of customer transaction data.

Third, the environment quality can be improved by not focusing on unnecessary colors and ornaments that confuse customers, the display must be kept simple so that customers can understand it easily.

Fourth, product assortment can be increased by maintaining existing banking or non-banking transactions and attractive features.

Fifth, customer satisfaction can be improved by improving product quality, service quality, and the display quality of the BCA Mobile application, maintaining the variety of existing products, and prioritizing the service quality of the application because that is the customer's main goal.

Sixth, customer loyalty can be improved by increasing customer satisfaction by improving product quality, service quality, and the display quality of the BCA Mobile application, and satisfaction will increase customer loyalty.

Based on the research results, the most important indicator in the most important variable (service quality) is X5 (BCA Mobile displays my transaction details accurately). Therefore, this indicator is the most important thing to pay attention to and improve with the aim of maintaining trust so that customers become satisfied and loyal to BCA Mobile. This can be improved in one way, namely increasing the mutation period, where currently BCA Mobile can only see mutations for the last 30 days, which can be increased to the last five years, as is the case with BCA internet banking. In addition, the following are some steps that can be taken to increase the level of service quality of the BCA Mobile application.

### **D. Research Limitations**

Researchers found that this study still has limitations. Researchers only use respondents who are domiciled in Surabaya, so that further research can use a wider range of respondents to get more general results regarding the factors that affect customer loyalty.

The results of the questionnaire in this study also showed that all respondents aged 18-34 years and almost 70% of respondents had an income of IDR 4-8 million. However, when compared with the reality, BCA Mobile application users are not only limited to their age and income. This is evidenced because researchers work at BCA and get customers aged 18-60 years or less than 18 years or even more than 60 years. In addition, researchers also found customers with less income and even more than IDR 4-8 million. However, because this study applies the snowball sampling method, which distributes questionnaires to known people where the age of the researcher is in the 18-34 age group and has just started a job and has an income of IDR 4-8 million, so that the respondents in this study are limited to that age. In future research, it is better not to use the snowball sampling method for sampling, but can distribute questionnaires in public places so that the respondents in the study are much wider.

## The Effect of Product Quality, Service Quality, Environment Quality, and Product Assortment on Customer Loyalty through Customer Satisfaction of BCA Mobile Application

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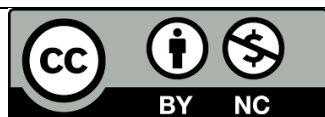
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## Analysis of the Influence of Efficiency Factors, Requirement Fulfillment, System Accessibility, and Privacy in Establishing Customer Satisfaction and Customer Loyalty on Customer Shopee in Surabaya



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**ABSTRACT:** With the development of the era, there are more changes that occur in the market, where the name E-Commerce appears. where the understanding of E-Commerce is a future transaction model, where everything is done online and eliminates face-to-face between sellers and buyers. The industry of e-commerce has grown very rapidly in Indonesia. Some e-commerce also have applications that can be installed directly on the cell phone. One of the E-Commerce in Indonesia, which will be discussed in this research is Shopee. In 2015, Shopee was first launched in Singapore and eventually expanded to other countries, including Indonesia The purpose of this study was to determine the effect of efficiency, requirement fulfillment, system accessibility, and privacy in developing customer satisfaction and customer loyalty .The expected benefits of this research is to increase the repertoire of knowledge in the field of management, especially how large the influence of efficiency, requirement fulfillment, system accessibility, and privacy in developing customer satisfaction and customer loyalty for Shopee customers in Surabaya. This study is causal. The method used is quantitative methods of processing the data using AMOS. Data was collected by distributing questionnaires to 123 respondents with the characteristics of male and female respondents aged 18-60 years, and bought at shopee in the last six months. The results showed that efficiency with regression coefficient of 0.97 positive and not significantly affect customer satisfaction; requirement fulfillment with regression coefficient of 0.241, sy stem accessibility with regression coefficient of 0.402, and privacy with regression coefficient of 0.437, positive and significantly affect customer satisfaction; efficiency with regression coefficient of 0.003; requirement fulfillment with regression coefficient of 0.093, system accessibility with regression coefficient of 0.013, and privacy with regression coefficient of 0.041, positive and not significantly affect customer loyalty; customer satisfaction with regression coefficient of 0.557 positive and significant tly affect customer loyalty.

**KEYWORDS:** Efficiency, Requirement Fulfillment, System Accessibility, Privacy, Customer Satisfaction, Customer Loyalty

### I. INTRODUCTION

In general, the market is a place where people treat buying and selling activities. The history of the market for the first time in prehistoric times used a barter system where the payment process was carried out by exchanging goods with one another, in its development the barter system experienced many obstacles in it where the value of the goods exchanged sometimes did not match the value of the goods received. With the passage of time, the use of the barter system was considered inefficient in conducting transactions, so that along with the times, money appeared, where money replaced the barter system. With money, people feel more helped because the value obtained is in accordance with the goods being sold or bought, the place where people buy and sell is called the market. In the previous understanding of the market, it can be seen that the characteristics of the market are those that have prospective buyers and sellers, goods or services, supply and demand processes and interactions or transactions between sellers and buyers.

Over time there are changes that occur in the market, where the development of the traditional market into a modern market. The modern market is one type of market whose products can be sold at the right price so that the bargaining process carried out in traditional markets will not occur in modern markets. The products sold in the modern market have been tested for quality and the price has been priced accordingly, and the modern market is located in a comfortable and clean urban area.

Examples of this modern market are Ramayana, Matahari Dept. Store, Carefour, Hypermart, Alfamidi, Indomaret, Alfamart.

# Analysis of the Influence of Efficiency Factors, Requirement Fulfillment, System Accessibility, and Privacy in Establishing Customer Satisfaction and Customer Loyalty on Customer Shopee in Surabaya

With the development of the times, there are more changes that occur in the market, where the name E-Commerce appears. E-Commerce is an abbreviation of electronic commerce, where the understanding of E-Commerce is a future transaction model, where everything is done online and eliminates face-to-face between sellers and buyers. The industry of e-commerce has grown very rapidly in Indonesia. In 2018, e-commerce in Indonesia had a 78% growth. Of this figure, 17.7% are hotel booking transactions and airline ticket reservations. In addition, purchases of footwear and clothing accounted for around 11.9% while 10% came from health products and also beauty or cosmetic products.

E-commerce is a means for a consumer to make offers of goods or services to the company. Technological developments will make this possible. E-Commerce has advantages and disadvantages, the advantages of E-Commerce are: 1. No need for a physical store, to be able to sell products online, no need to rent or build a physical shop. This reduces rent and shopkeeper labor costs. This is the reason why goods or services sold online in e-commerce have lower prices than stores; 2. Easy to develop, this is the implication of the first point. One of the advantages of e-commerce is that it can quickly and easily develop a business, because the costs incurred are not as much as when building an offline store. In addition, the level of practicality provided by e-commerce also makes some consumers prefer to shop online; 3. Do not drop out of contact, when shopping online, buyers will be asked to fill in complete personal data. If the buyer is approved by the customer, the buyer can use this contact as a means of obtaining information about promotions.

In addition, some e-commerce also have applications that can be installed directly on the cellphone. The use of this notification feature is also an effective promotional tool. While the disadvantages of E-Commerce are: 1. Unable to see physical goods, online purchases will make customers unable to see directly the goods or services. That is why there are some customers who are not interested and are less willing to take risks in e-commerce purchases. Even though there is a rating system or testimony provided, some people still feel that this does not guarantee that the goods or services that will be obtained will be of the same quality as promised; 2. Big risk, the lack of e-commerce which is due to the implications of the first point is to have a big enough risk. Especially if you go through unofficial and unsecured e-commerce websites, such as Facebook, Instagram, and Whatsapp.

## II. RESEARCH METODELOGY

### Population and Sample

The population is a generalization area consisting of certain qualities and characteristics determined by researchers to study and draw conclusions (Sugiyono in Sarwono, 2010). Population theory according to Arikunto (2006) states that the population is the entire subject of research. Hartono (2011) says that there are a finite number of populations with certain characteristics and an infinite number of them. From this understanding, it can be understood that the population is an area that is determined to be studied by studying and drawing conclusions from the results of the study. In this study, the research population was Shopee users in Surabaya.

According by Sugiyono (2010) the sample is part of the number and characteristics possessed by the population. If the researcher conducts research on a large population, while the researcher wants to examine the population and the researcher has limited funds, manpower and time, then the researcher uses a sampling technique, so that generalizations are made to the population being studied. There are two sampling methods, namely probability sampling and non -probability sampling (Sekaran, 2006).

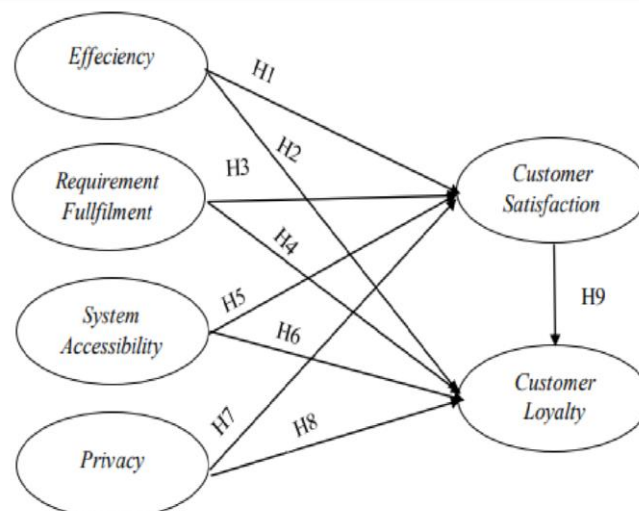


Figure 2.1 Research Model



## **Analysis of the Influence of Efficiency Factors, Requirement Fulfillment, System Accessibility, and Privacy in Establishing Customer Satisfaction and Customer Loyalty on Customer Shopee in Surabaya**

1. According to Sedarmayanti (2014) Efficiency is a measure of the level of resource use in a process. Mulyadi (2007) suggests that efficiency is the accuracy of the way (effort, work) in running something without wasting time, effort and money. Efficiency is the ability of an organizational unit to achieve the desired goals, efficiency is always associated with organizational goals that must be achieved by the agency. (Agus Maulana, 2005).
2. According to Parasuraman, et al., (2005) that Requirement Fulfillment is defined as a quality dimension of electronic service fulfillment defined as the level of fulfillment of promises provided by the site. According to Tan, Sukapto and Sitompul (2014) requirement fulfillment is the ability of a service to meet consumer needs.  
Sheng and Liu (2010) define Requirement Fulfillment is a fulfillment that can have a positive influence on Customer Satisfaction, where consumers will feel satisfied when fulfillment on a site is achieved. Requirement fulfillment according to Yang and Fang (2004) is the promises of a site that can be fulfilled. Requirement fulfillment in Santouridis (2012) is the most important factor for assessing an online business, because keeping promises in terms of service and accurate order fulfillment is an element of service quality or dissatisfaction.
3. System Accessibility is the ability of users to access information and services from the web, depending on the content format, hardware and software settings, and internet connection used by the user (Goodwin -Jones, 2001; Hackett & Parmanto, 2009). Wojowasito (1991) system accessibility is something that is easy to achieve, which means that accessibility is not just about the willingness of everything, but also the availability that is easily achieved.  
System Accessibility is the right to access which is a basic travel service. In this case, accessibility must be provided by the government regardless of the use of the transportation capital provided by the community (Bambang Sutantono, 2004). System Accessibility is a measure of the potential or ease of people to reach their destination on a trip (Bambang Sutantono, 2004).
4. According to Dibyo Hartono (1986), privacy is a level of interaction or openness to other people desired by someone in certain situations or conditions. Privacy according to Parasuraman, et al., (2005) is the level of security and protection of customer information offered by a website. Privacy is an individual's ability to obtain, control and use personal information (Flavia'n and Guinal'u, 2006).  
According to Amos Rapoport (1988), privacy is an ability to control interactions, the ability to obtain choices and the ability to achieve the desired interaction. According to Irwin Altman (1975), privacy is a process of selective control over access to oneself and access to others. According to Alfred Marshall (1981), privacy is a condition that indicates a choice to avoid involvement with other people and their social environment.
5. According to Kotler, et al (2015) customer satisfaction is a person's feelings of pleasure or disappointment arising from comparing the perceived performance of the product (or original) against their expectations. Tjiptono, et al (2015) said that customer satisfaction is the customer's response to the evaluation of the perceived discrepancy between expectations before purchase and the actual performance of the product felt after its use.  
Tjiptono, et al (2015) say that customer satisfaction is a feeling of pleasure or disappointment that a person gets from comparing the perceived performance (or outcome) of a product and its expectations. Customer Satisfaction or customer satisfaction can be defined as the result of the performance of an item or service in meeting customer expectations (Kotler and Armstrong 2012).
6. Priansa (2017) says that customer loyalty is a long-term customer commitment, which is implemented in the form of loyal behavior and attitudes towards the company and its products, by consuming regularly and repeatedly, so that the company and its products become an important part of the consumption process carried out by customers. where it will affect the existence of the company. Tjiptono and Candra (in Priansa, 2017) define customer loyalty as a customer's commitment to a product or service which is reflected in a very positive attitude and repeat purchase behavior made by the customer consistently over a long period of time.

According to Selang (2013), customer loyalty is the strength of the relationship between an individual's relative attitude towards an entity (brand, service, store, or supplier) and repeat purchases. Lupiyoadi (2013) says that customer loyalty is a customer attitude that supports a brand more than several other alternatives and re-subscribes.

### **III. CHARACTERISTICS OF RESPONDENTS**

Respondents in this study were customers who bought shopee products with the conditions as explained above.

Questionnaires have been distributed via Google Form and of the questionnaires filled in 123 and can be processed. Therefore, all questionnaire data processing will use 123 respondent data. The respondents have criteria, namely male and female, who live in

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Surabaya and have made their own purchases of shopee products in the last 6 months. The instrument used in this research is a list of statements (questionnaire). The total number of questions is two five statements consisting of four questions about efficiency, five questions about requirement fulfillment, four questions about system accessibility, three questions about privacy, three questions about customer satisfaction, and four questions about customer loyalty.

Respondents in this study were shopee users in Surabaya. The profile of the respondents in this study will be described by age. The following table profile of respondents obtained from this study:

**TABLE 4.1**

	Age	Frequency	Percent	Cumulative Percent
Valid	< 18	0	0	0
	18 – 35	90	73	73
	35 – 50	20	16	16
	50 – 60	13	11	11
	> 60	0	0	100
	Total	123	100	

Based ob Table 4.1, It is known That most of the shopee users in Surabaya are 73% or 90 respondents are respondents aged 19-35 years.

Respondents in this study were shopee users in Surabaya. The profile of the respondents in this study will be described by gender. The following table profile of respondents obtained from this study:

**TABLE 4.2**

	Gender	Frequency	Percent	Cumulative Percent
Valid	Men	58	47	47
	Woman	65	53	100
	Total	123	100	

Based on table 4.2, it is known that most of the sexes of shopee users in Surabaya are 53% or 65 respondents are women while the remaining 47% or 58 respondents are men. So in this study, the majority of shopee users in Surabaya are women.

### Reliability test

VARIABEL	INDIKATOR	FACTOR LOADING (FL)	FL2	ERROR	CONSTRUCT RELIABILITY
<i>Efficiency</i>	X1	0,969	0,938961	0,061039	0,970331455
	X2	0,924	0,853776	0,146224	
	X3	0,989	0,978121	0,021879	
	X4	0,891	0,793881	0,206119	
	X5	0,683	0,466489	0,533511	0,788384064

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<b>Requirement Fulfillment</b>	X6	0,679	0,461041	0,538959	
	X7	0,683	0,466489	0,533511	
	X8	0,624	0,389376	0,610624	
	X9	0,596	0,355216	0,644784	
<b>System Accesbility</b>	X10	0,717	0,514089	0,485911	0,772884139
	X11	0,721	0,519841	0,480159	
	X12	0,696	0,484416	0,515584	
	X13	0,573	0,328329	0,671671	
<b>Privacy</b>	X14	0,84	0,7056	0,2944	0,890809741
	X15	0,854	0,729316	0,270684	
	X16	0,871	0,758641	0,241359	
<b>Customer Satisfaction</b>	Y1	0,717	0,514089	0,485911	0,793327704
	Y2	0,68	0,4624	0,5376	
	Y3	0,845	0,714025	0,285975	
<b>Customer Loyalty</b>	Y4	0,856	0,732736	0,267264	0,903342445
	Y5	0,916	0,839056	0,160944	
	Y6	0,823	0,677329	0,322671	
	Y7	0,746	0,556516	0,443484	

**Hypothesis test**

<b>Hipotesis</b>	<b>Analisis</b>
H1 : <i>Efficiency</i> memiliki pengaruh signifikan terhadap <i>Customer Satisfaction</i>	Ditolak
H2: <i>Efficiency</i> memiliki pengaruh signifikan terhadap <i>Customer Loyalty</i>	Ditolak
H3 : <i>Requirement Fulfillment</i> memiliki pengaruh signifikan terhadap <i>Customer Satisfaction</i>	Diterima
H4: <i>Requirement Fulfillment</i> memiliki pengaruh signifikan terhadap <i>Customer Loyalty</i>	Ditolak

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H5 : <i>System Accesbility</i> memiliki pengaruh signifikan terhadap <i>Customer Satisfaction</i>	Diterima
H6: <i>System Accesbility</i> memiliki pengaruh signifikan terhadap <i>Customer Loyalty</i>	Ditolak
H7 : <i>Privacy</i> memiliki pengaruh signifikan terhadap <i>Customer Satisfaction</i>	Diterima
H8: <i>Privacy</i> memiliki pengaruh signifikan terhadap <i>Customer Loyalty</i>	Ditolak
H9: <i>Customer Satisfaction</i> memiliki pengaruh signifikan terhadap <i>Customer Loyalty</i>	Diterima

In testing the hypothesis, the data from the questionnaire results will be processed using SEM (standard Equation Models) analysis techniques. According to Ferdinand (2000) in agung (2006), SEM is a set of statistical techniques that allows testing a series of relatively complex relationships simultaneously. Simultaneous models are formed through more than one dependent variable described by one or several independent variables and where a dependent variable at the same time acts as an independent variable for other tiered relationships. According to Ferdinand (2002), the advantage of the application of SEM is because of its ability to confirm the dimensions of a concept or factor (which is very commonly used in management) and its ability to measure the influence of theoretical relationships.

### CONCLUSIONS

This model was developed in the context of customer loyalty shopee research in Surabaya. This research model is formed from the relationship between efficiency, requirement fulfillment, system accessibility and privacy on customer satisfaction and customer loyalty. The formulation of the problem in this study is whether the efficiency variable has a significant effect on customer satisfaction, the efficiency variable has a significant effect on customer loyalty, the requirements fulfillment variable has a significant effect on customer satisfaction, requirements fulfillment has a significant effect on customer loyalty, system accessibility has a significant effect on customer satisfaction, system accessibility has a significant effect on customer loyalty, the privacy variable has a significant effect on customer satisfaction, the privacy variable has a significant effect on customer loyalty and the customer satisfaction variable has a significant effect on customer loyalty. Based on the data processing carried out, the final result is that of the 9 hypotheses proposed, 4 hypotheses are accepted and 5 hypotheses are rejected.

### RECOMENDATION

Looking at the results of existing research where there are still many limitations to the research conducted by the author, the recommendations that can be conveyed by the author are as follows:

1. Seeing the limitations of the research object that only took respondents, namely shopee customers in Surabaya, it is hoped that future research using the same or modified model can be applied to different objects to get more general results on the factors that affect customer satisfaction and customer loyalty
2. Further research is expected to be able to complement the existing variables in this research so that it can further refine the understanding of the factors that influence customer satisfaction and customer loyalty, such as advertising, customer satisfaction, and celebrity endorsements.
3. Further research can be developed by connecting the factors that influence customer satisfaction and customer loyalty based on income levels. Future research can also expand the scope of respondents to be studied, or conduct their research in different areas from the current research. So that further research is carried out to provide a broader picture of customer satisfaction and customer loyalty.
4. In addition, it is also expected to be able to use the Structural Equational Model (SEM) but by using the Lisrel software in further research.

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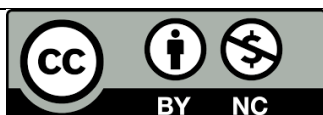
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## Analysis of the Influence of Environment Quality, Delivery Quality, and Outcome Quality Factors on Behavioral Intention through Customer Satisfaction on Shopee Apps Users in Surabaya



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**ABSTRACT:** Shopee Apps is one of the most frequently used e-commerce applications with the number of transactions increasing by up to 130% in 2020. Shopee Apps is also the community's top e-commerce application for shopping online during the Covid-19 pandemic. Therefore, it is important for Shopee Apps to be able to determine the quality of services that can be offered that have an influence on consumer satisfaction and behavioral intentions of consumers. The service quality studied is e-service quality which consists of three factors, namely environment quality, delivery quality, and outcome quality. This research was conducted with a causal research type and a quantitative research approach. This research was conducted on Shopee Apps users who live in the city of Surabaya. Data was collected by distributing questionnaires to each consumer. The sampling technique was carried out by snowball sampling. Then the analysis technique used is structural equation modeling (SEM) with the help of AMOS and the Sobel test. The results of the study prove that environment quality, delivery quality, and outcome quality have a significant positive effect on customer satisfaction and behavioral intention. The results of the study also explain that customer satisfaction has a positive effect on behavioral intention. On the indirect effect, the research results show that environment quality, delivery quality, and outcome quality have a significant effect on behavioral intention through customer satisfaction on Shopee Apps users in Surabaya.

**KEYWORDS:** Environment quality, Delivery quality, Outcome quality, Customer satisfaction, Behavioral intention, and Shopee Apps.

### INTRODUCTION

The current Covid-19 pandemic has had various impacts on consumer behavior. Research conducted by Inverture Indonesia explains that the first behavioral change is a stay at home lifestyle, which tends to do everything from home. The next behavior change is the back to bottom pyramid which refers to Maslow's pyramid of needs, where consumers shift the main needs to the bottom of the pyramid, namely physiological needs, such as food and health. The next behavioral change is digitalization, where consumers will reduce physical contact and do online shopping activities (Rabbi, 2021).

In relation to the shift in consumer behavior that tends to choose online shopping over direct shopping, it is known from the results of a study conducted by Google, Temasec, and Bain & Company in 2020, Indonesia became the country with the highest digital economy transaction value in Asean with a value of US\$44 billion (Tolok, 2020). The results of research conducted by Sirclo with the title Navigating Indonesia's E-Commerce Covid-19 Impact & The Rise of Social Commerce added that during the pandemic until November 2020 there were 12 million new e-commerce users. The research results also explain that 40% of them have made online shopping a habit (Jamaludin, 2020). Based on these results, it can be explained that the Covid-19 pandemic has encouraged consumer behavior to do shopping activities digitally or online so that the growth of e-commerce is so rapid.

The trend of online shopping that continues to increase has made MarkPlus Inc. conducted research to find out the competitive map of e-commerce applications in Indonesia during the pandemic in the third quarter of 2020. The research results show that Shopee is the most frequently used e-commerce by 90% of respondents. Next are Tokopedia with 58% of respondents, Lazada with 35% of respondents, Bukalapak with 22% of respondents, and Blibli with 14% of respondents. The results of the research also show that Shopee is the top-of-mind e-commerce or e-commerce that is most remembered by 71% of respondents, followed by Tokopedia by 15% of respondents, Lazada by 8% of respondents, Bukalapak by 2% of respondents, and Blibli by 1% respondent (Rahayu, 2020). Similar research results were also shown by DailySocial and Populix, which are market research

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platforms, explaining that the most widely accessed e-commerce application by consumers is Shopee with 85% of respondents, followed by Tokopedia with 66% of respondents, Lazada by 49% of respondents, Bukalapak by 41% of respondents, JD.id and Blibli each 27% of respondents (Nabila, 2020).

The two research results explain that in the 2020 period, Shopee has become the most frequently used and most memorable e-commerce for the Indonesian people. Research conducted by the Institute for Development and Finance (INDEF) revealed that Shopee Apps during April to June 2020 recorded more than 260 million orders with an average number of transactions per day of 2.8 million. The number of these orders has increased by 130% on an annual basis (Katadata, 2019).

Based on the description of the facts that have been explained, it is known that the high interest in using Shopee Apps from the public as an e-commerce tool during the pandemic shows that the application offers quality services so that it can lead to satisfaction for the people who use it. Not only feeling satisfaction, people who have used Shopee Apps to fulfill their online shopping needs also feel other impacts which can then affect the behavioral intentions of the community.

The results of previous studies, it is known that Carlson and O' Cass (2011) explain that environment quality, delivery quality, and outcome quality are dimensions of e-service quality that have a positive effect on customer satisfaction. Different results are shown in the research of Chandra and Juliani (2018) which states that the dimensions of e-service quality have no significant effect on customer satisfaction. This is because the object is a local brand, which consumers are not familiar with the local brand, so even though every aspect of service quality is good, it does not determine that consumers will be satisfied with local brand services, users are fewer and rarely exposed, therefore e-commerce service quality cannot directly affect satisfaction, but must pass customer value. Customer value is a condition when consumers feel good service quality, then consumers will feel more value than local brands with other e-commerce, when consumers can feel that, their satisfaction will be affected.

This study seeks to provide support for one of the studies whether the current research supports the research of Carlson and O' Cass (2011) or Chandra and Juliani (2018). Therefore, the researcher conducted a study that aims to determine the service quality factors that can be offered by Shopee Apps on customer satisfaction and behavioral intention. The quality of the service studied is e-service quality which consists of aspects, namely environment quality, delivery quality, and outcome quality.

### **LITERATURE REVIEW**

#### **Effect Of Environment Quality On Customer Satisfaction**

Environment quality describes the visual picture or what is seen for the first time by consumers in using e-commerce applications. The better the quality of the visual environment of the user interface shown by an e-commerce application will encourage consumers who use it to experience satisfaction (Zhao et al., 2012). Carlson and O' Cass (2011) explain that a neat and clear menu display will make consumers feel more satisfied using e-commerce applications. The results of research conducted by Chuang et al. (2016) also explained that environment quality has a significant positive effect on consumer satisfaction. These results explain that the better the environment quality of an e-commerce application, the better satisfaction for consumers.

H1: Environment Quality has a significant effect on Customer Satisfaction

#### **Effect Of Delivery Quality On Customer Satisfaction**

Delivery quality can be explained as the quality of all interaction processes that exist between consumers and e-commerce applications. Hossain and Kim (2018) explain that delivery quality is related to how applications can meet the information needs and choice of products and services expected by consumers. The more complete each information and choice of products and services offered, consumers will evaluate that the e-commerce application has been able to meet expectations and consumers will feel better satisfaction. Chuang et al. (2016) also explained that the ability of e-commerce applications to provide a pleasant use experience will have a major influence on consumer satisfaction. Carlson and O' Cass (2011) explain that the delivery quality shown by better e-commerce applications will encourage better service quality improvements, such conditions can increase consumer satisfaction while using e-commerce applications.

H2: Delivery Quality has a significant effect on Customer Satisfaction

#### **Effect Of Outcome Quality On Customer Satisfaction**

Outcome quality describes the ability of e-commerce applications to provide reliability and benefits as long as consumers use the application. Zhao et al. (2012) explained the research results that consumer satisfaction can be influenced dominantly by outcome quality. The effect is when consumers can feel a pleasant experience to make consumers comfortable using e-commerce applications, indicating that consumers have high satisfaction with the services available in e-commerce applications (Chuang et al., 2016). Carlson and O' Cass (2011) explain that a change in responses regarding outcome quality can affect the e-service quality provided by an e-commerce apps, the impact will be able to affect the satisfaction of consumers who use e-commerce applications.



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H3: Outcome Quality has a significant effect on Customer Satisfaction

### **Effect Of Environment Quality On Behavioral Intention**

Behavioral intention can be explained as an intention or form of consumer desire to make a consumer towards a product or service. According to Carlson and O' Cass (2011), it is explained that behavioral intention can be determined by service quality. This explains that consumers who can experience quality service according to their expectations will tend to influence their desire to reuse and give a positive response to the e-commerce applications used. Dabholkar et al. (2000) explains that the better environment quality of services that can be provided through e-commerce applications will be able to influence consumer behavioral intentions towards the apps. Caruana (2000) also explains that the quality of service is getting better, which means that the environment quality in it is also in better condition to be one of the factors that can determine the attitude of consumers who are loyal to a product or service.

H4: Environment Quality has a significant effect on Behavioral Intention

### **Effect Of Delivery Quality On Behavioral Intention**

Behavioral intention is a form of consumer intention to behave towards a product or service. Carlson and O' Cass (2011) explain in their research results that delivery quality related to the interactions that exist between e-commerce applications and consumers while using these applications determines consumer behavior in the future. This future consumer behavior is described in the form of their desire to reuse, give a good rating, to recommend to others. This is also explained by Caruana (2000) that the loyal attitude shown by consumers can be directly influenced by the quality of the product or service used. Rita (2019) explains that e-service quality has a significant positive influence on consumer behavior. These results explain that every aspect of e-service quality, including the quality of interactions that occur as long as consumers use e-commerce applications can determine consumer behavior for the better and more profitable for companies providing e-commerce applications.

H5: Delivery Quality has a significant effect on Behavioral Intention

### **Effect Outcome Quality On Behavioral Intention**

Behavioral intention which describes the consumer's intention to use a product or service can also be determined directly by outcome quality. The results of research by Carlson and O'Cass (2011) explain that consumers who can feel comfortable while using e-commerce applications will have a greater intention to reuse the apps in the future. This is also explained in the research results of Rita et al. (2019) that e-service quality can have a significant positive effect on consumer behavioral intentions which are shown through reusing behavior and word of mouth. These results explain that the behavioral intentions of consumers will be determined by aspects of service quality, including those related to outcome quality.

H6: Outcome Quality has a significant effect on Behavioral Intention

### **Effect Customer Satisfaction On Behavioral Intention**

Customer satisfaction is the result of evaluations made by consumers on the quality of services offered in an e-commerce application with consumer expectations. If the quality of service provided is better than expectations, then consumers will feel better satisfaction, such conditions will be a driving factor for consumers in determining behavior towards e-commerce applications (Zeglat et al., 2016). The behavior is behavior in the form of reusing the application to recommending it to others. This is also expressed in research conducted by Caruana (2000) that consumers who feel better satisfaction will tend to show an attitude of loyalty to a service or product that is being used. Carlson and O' Cass (2011) also explain in their research that satisfaction is one of the factors that can be used to predict consumer behavior in the future. H7: Customer Satisfaction has a significant effect on Behavioral Intention

### **Indirect Effect Of Environment Quality On Behavioral Intention Through Customer Satisfaction**

The indirect effect explains the mediating role of the intervening variable which in this study is customer satisfaction on the influence of environmental quality aspects on behavioral intention. Dabholkar et al. (2000) explained that customer satisfaction can mediate the influence of service quality aspects on behavioral intention. These results explain that the better service quality of the product or service will be able to increase consumer satisfaction which can then affect the behavioral intention of consumers to always use the product or service. Caruana (2000) also explains that service quality will have a positive effect on consumer loyalty when there is a mediating role of satisfaction. Carlson and O' Cass (2011) explain that environment quality is an important issue that can determine consumer satisfaction so that it can influence consumer behavioral intentions in using e-commerce applications. The results of this study explain that the quality that can be provided by the digital environment in an e-commerce

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application can determine consumer satisfaction and influence consumer behavior towards the e-commerce application. H8: Environment Quality has a significant effect on Behavioral Intention through Customer Satisfaction

### Indirect Effect Of Delivery Quality On Behavioral Intention Through Customer Satisfaction

The next indirect effect is related to delivery quality, which is explained as part of the interaction process that occurs between consumers and e-commerce application services. Carlson and O' Cass (2011) explain that the better delivery quality in the interaction process between consumers and e-commerce applications will be able to lead to greater satisfaction for consumers, because it can exceed consumer expectations. As a result, consumers will have an incentive to show behavioral intentions that tend to provide benefits for applications and companies that provide e-commerce applications. This is also explained in the research results of Ismail et al. (2017) that customer satisfaction can mediate the effect of service quality on behavioral intention. These results explain that consumers who feel better satisfaction with the perceived service quality, including satisfaction with well-established interactions while using an e-commerce application, will have a tendency to behave in loyalty to the company's e-commerce application. Dabholkar et al. (2000) also explain the results of his research that customer satisfaction has a strong mediating role on the effect of service quality on behavioral intention. These results explain that customer satisfaction is one of the factors that has a more dominant influence, while service quality is a factor that consumers evaluate about a service or product that has been used.

H9: Delivery Quality has a significant effect on Behavioral Intention through Customer Satisfaction

### Indirect Effect Of Outcome Quality On Behavioral Intention Through Customer Satisfaction

The next indirect effect is on outcome quality related to the reliability and benefits that can be felt by consumers while using e-commerce applications on customer satisfaction and behavioral intention. According to Carlson & O' Cass (2011), e-commerce applications that can provide reliable and consistent services will make consumers interested in the quality of services offered by ecommerce applications. This condition then affects consumer satisfaction for the better and can encourage consumers to show behavior that can benefit e-commerce application providers. Rita et al. (2019) also explains that e-service quality has a significant positive effect on customer satisfaction and then affects repurchase intention, word of mouth, and site revisit on an e-commerce website. Research results Rita et al. (2019) explains that good quality electronic services, including outcome quality, will determine consumer satisfaction to cause consumers to carry out behaviors that lead to increased loyalty to electronic services, such as websites or e-commerce applications. Dabholkar et al. (2000) added that customer satisfaction has a large mediating role on the effect of service quality on behavioral intention.

H10: Outcome Quality has a significant effect on Behavioral Intention through Customer Satisfaction

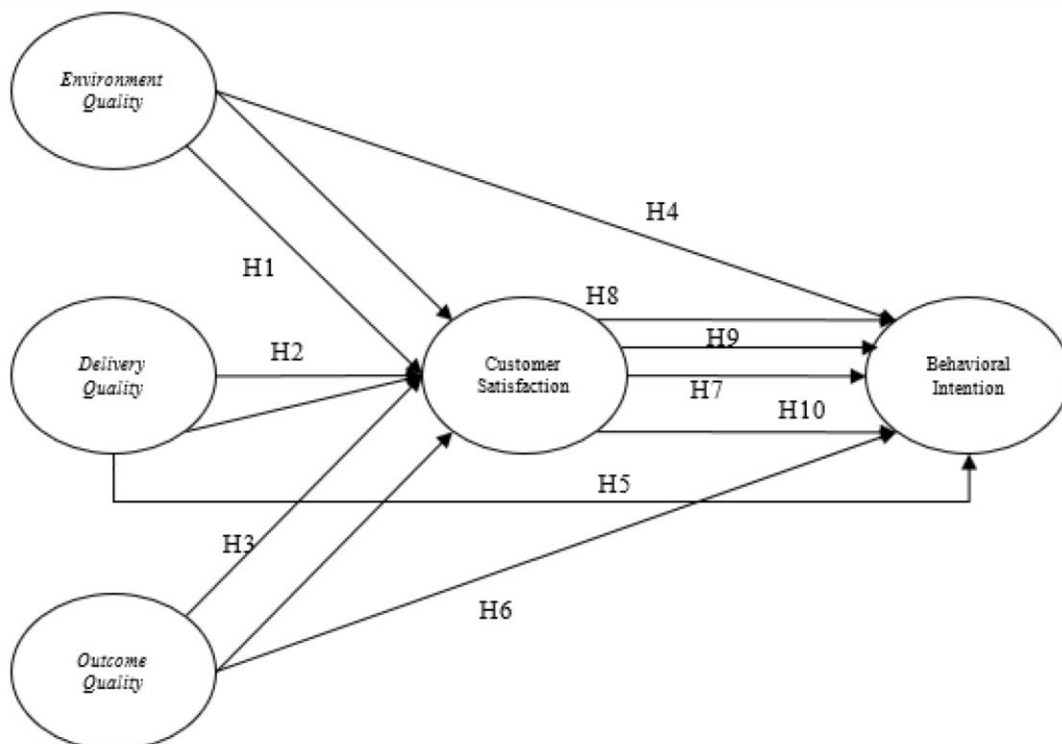


Figure 1. Research Framework

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## METHODS

### Research Approach

This study uses a type of causal research with a quantitative approach. This study uses data in the form of numbers obtained from survey results using a questionnaire instrument that has been distributed to research respondents and then analyzed using statistical analysis (Sugiyono, 2017). This study uses a quantitative approach because this study uses data in the form of survey results which are then analyzed using statistical analysis with SEM AMOS.

### Population and Sample

In this study, the population used were Shopee Apps users, both based on Android or IOS, who were domiciled in the city of Surabaya. Determination of the sample used in this study using snowball sampling which is included in non-probability sampling. This study uses a snowball sampling technique with the aim of anticipating the limitations of researchers in obtaining information to determine the research sample. The application of the snowball sampling technique in this research is to ask for recommendations from respondents who have been given a questionnaire regarding relatives that can be used as samples for the next research. This study limits the distribution area of the questionnaire, namely for those who are domiciled in the city of Surabaya. In addition to using the snowball sampling technique, the determination of the research sample also uses criteria, namely men and women aged 18 to 60 years who have done online shopping using Shopee Apps. The criteria with this age range were chosen because they are included in the adult age, where respondents have good awareness to be able to make choices or actions to be taken. This study also uses criteria such as those who have done online shopping using Shopee Apps at least 6 times in the last 6 months or once a month. This criterion is used to provide the assumption that consumers have good knowledge about the services provided in Shopee Apps to support online shopping activities so that they can determine the satisfaction and behavioral intention of consumers.

### Data Collection Method and Data Analysis

Collecting data in this study using a questionnaire instrument. The distribution of the questionnaires was done online using Google Form. The aim is to make it easier for researchers to reach research respondents who belong to predetermined population criteria. The questionnaire used in this study also uses a measurement scale to determine the value of the responses or answers from respondents. The measurement scale used is an ordinal Likert scale with a range of strongly disagree to strongly agree or a scale of 1 to 5. The data analysis method used is a structural equation model (SEM) with AMOS version 22.

## RESULT AND DISCUSSION

This study uses respondents who are Shopee Apps users who live in the city of Surabaya and have shopped through Shopee Apps. The number of respondents used in this study were 140 Shopee Apps users with respondent profiles consisting of gender, age, occupation, and frequency of purchases through Shopee Apps.

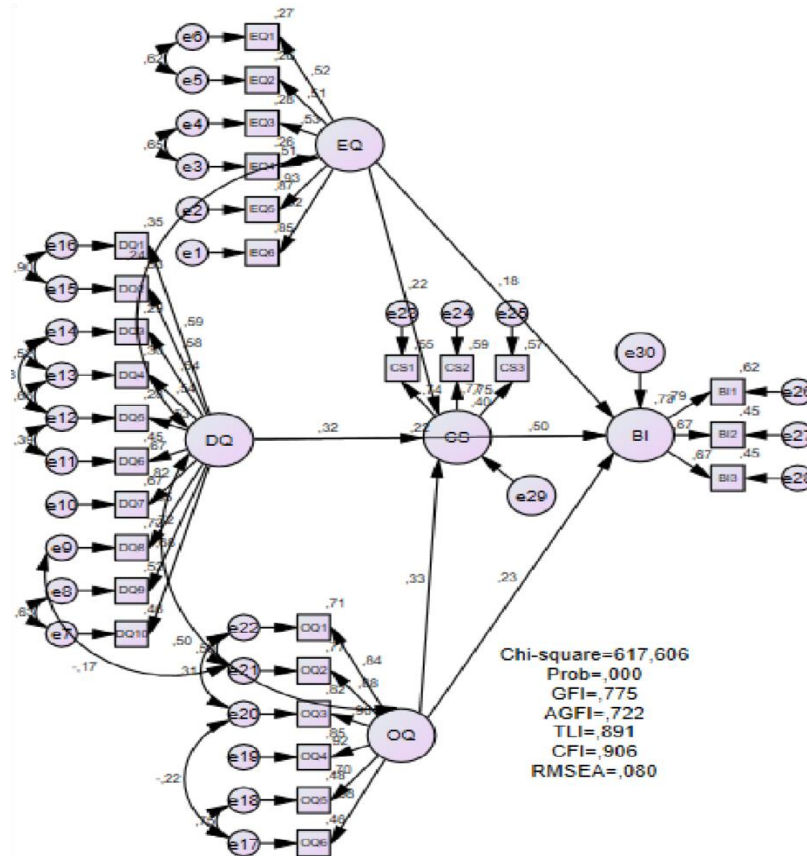
Table 1. Respondent Characteristic

No	Description	Frequency	Percentage
1	<b>Gender</b>		
	Men	42	30.0
	Women	98	70.0
2	<b>Age</b>		
	18-35 years old	90	64.3
	35-50 years old	40	28.6
	50-60 years old	10	7.1
3	<b>Occupation</b>		
	Student	78	55.7
	State Civil Apparatus	1	0.7
	Entrepreneur	32	22.9
	Private Sector Employee	24	17.1
	Housewife	5	3.6

# Analysis of the Influence of Environment Quality, Delivery Quality, and Outcome Quality Factors on Behavioral Intention through Customer Satisfaction on Shopee Apps Users in Surabaya

4 Frequently Using Shopee Apps			
	7 times	95	67.9
	8 times	20	14.3
	> 8 times	25	17.9
	<b>Amount</b>	<b>140</b>	<b>100.0</b>

This study conducted a direct effect test using SEM analysis with the following model.



The results of the analysis of the goodness of fit value in the SEM model used can be shown in Table 2 below.

Table 2. Goodness Of Fit Model

Goodness of Fit Index	Cut Off Value	Result	Description
Probability Chi-square	$\geq 0.05$	0.000	Poor fit
Cmin/DF	$\leq 2.00$	1.883	Good fit
GFI	$\geq 0.90$	0.775	Poor fit
RMSEA	$\geq 0.08$	0.080	Good fit
TLI	$\leq 0.95$	0.891	Marginal fit
CFI	$\geq 0.95$	0.906	Marginal fit
AGFI	$\geq 0.90$	0.722	Poor fit

The results of the comparison of the goodness of fit value in the modified SEM model show that of the 7 criteria studied, 4 of them have shown good fit and marginal fit or have met the requirements and three other criteria, namely Probability Chi-square, GFI, and AGFI which show poor fit or does not meet the criteria. Overall, the modified SEM model has met the goodness of fit criteria.

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**Table 3. Direct Effect Hypothesis Test Results**

Hip.		Estimate	S.E.	C.R.	P	Label
H1	CustomerSatisfaction <-- EnvironmentQuality	0.208	0.082	2.522	0.012	par_24
	-					
H2	CustomerSatisfaction <-- DeliveryQuality	0.394	0.145	2.725	0.006	par_25
	-					
H3	CustomerSatisfaction <-- OutcomeQuality	0.303	0.098	3.096	0.002	par_26
	-					
H4	BehavioralIntention <-- EnvironmentQuality	0.150	0.068	2.203	0.028	par_27
	-					
H5	BehavioralIntention <-- DeliveryQuality	0.245	0.116	2.116	0.034	par_28
	-					
H6	BehavioralIntention <-- OutcomeQuality	0.193	0.080	2.397	0.017	par_29
	-					
H7	BehavioralIntention <-- CustomerSatisfaction	0.454	0.116	3.925	0.000	par_30
	-					

The results shown in Table 3 show that hypotheses 1 to 7 proposed in this study can be accepted. These results explain that environment quality, delivery quality, and outcome quality have an effect on customer satisfaction and behavioral intention. In addition, customer satisfaction has an effect on behavioral intention.

Analysis through the Sobel test was carried out in this study to determine the mediating role of the customer satisfaction variable in the research model. Sobel test is a statistical test used to prove variables that are suspected to mediate or have a significant mediating effect or not. The criteria used in the sobel test is to compare the p-value of the sobel test with a critical value of 0.05.

**Table 4. Indirect Effect Hypothesis Test Results**

Hip.	Effect Between Variables	Test statistic	Standard errors	P value
H8	<i>Environment quality → customer satisfaction → behavioral intention</i>	2.129	0.044	0.033
H9	<i>Delivery quality → customer satisfaction → behavioral intention</i>	2.232	0.080	0.026
H10	<i>Outcome quality → customer satisfaction → behavioral intention</i>	2.426	0.057	0.015

The results in Table 4 show the p value to prove the mediating role on the influence of environment quality, delivery quality, and outcome quality on behavioral intention. The Sobel test in this study was carried out with the help of a calculation tool provided by quantpsy through the website <http://quantpsy.org/sobel/sobel.htm>. The results shown in Table 4 are the results by including the regression coefficient value and standard error value on the direct influence of environment quality, delivery quality, and outcome quality on customer satisfaction and behavioral intention.

Based on the results of the analysis that has been carried out, it can be explained that behavioral intention is influenced by customer satisfaction and e-service quality variables consisting of environment quality, delivery quality, and outcome quality. The variable that has a dominant influence on behavioral intention is the customer satisfaction variable with a regression coefficient of 0.454. These results explain that in order to improve the shopping behavior of Shopee Apps users, it is necessary to increase the satisfaction of users while using Shopee Apps. When Shopee Apps users feel happy while shopping and have a pleasant shopping experience through Shopee Apps, users will increasingly use Shopee Apps as the main choice for shopping. In addition, the behavioral intention of Shopee Apps users can also be directly influenced by the variables included in e-service quality, which consist of environment quality, delivery quality, and outcome quality.

Customer satisfaction from Shopee Apps users is also directly influenced by the variables included in e-service quality. The variable that has a dominant influence on customer satisfaction and behavioral intention of Shopee Apps users is delivery quality

## **Analysis of the Influence of Environment Quality, Delivery Quality, and Outcome Quality Factors on Behavioral Intention through Customer Satisfaction on Shopee Apps Users in Surabaya**

with a regression coefficient value of 0.394 for customer satisfaction and a regression coefficient value of 0.245 for behavioral intention. These results explain that if Shopee Apps managers want to improve consumer satisfaction and behavior in using Shopee Apps, then efforts can be made to improve the technical capabilities of Shopee Apps. The technical ability itself is related to the ability of Shopee Apps to be able to meet the shopping needs of application users easily and quickly. The technical capabilities can be in the form of providing a wide and complete selection of products or services so that Shopee Apps users can find what suits their needs. Apart from providing complete products and services, it is also possible to provide up-to-date information that is easy to understand by users, so that users can experience pleasure and a pleasant experience while shopping using Shopee Apps.

Delivery quality has a dominant influence on customer satisfaction and behavioral intention because the majority of Shopee Apps users are female users with an age range of 18 to 35 years who tend to be interested in shopping for new and up to date products and do not want to experience shopping difficulties. This means that Shopee users take advantage of shopping through Shopee Apps to get convenience and speed in purchasing the products they need. Therefore, the provision of various and complete products and services supported by easy-to-understand information is a matter that needs to be considered by Shopee Apps managers. As an example, users tend to use Shopee Apps to shop for their needs, but besides that, users also do not rule out the possibility to search or just see interesting products or services, which can be seen in the quality of products and services through the availability of clear information, so that consumers become easier. in shopping. This can provide a pleasant shopping experience for Shopee Apps users, thus leading to increased satisfaction and behavior to reuse Shopee Apps in the future. In the delivery quality variable, the results of the study show that the speed of shopping at Shopee Apps is one of the important things to be able to improve delivery quality for the better. Efforts that can be made by the Shopee Apps manager is to display products on the application's main page based on the user's location. The goal is that the product displayed on the home page or on the product search page that the application user wants is a measure of the closest location to the user's location. This can be done by using the user location checking feature. So that users can shop more easily and quickly because every product displayed on the main page is a product that is located not far apart and can reduce the process of sending products to the user's place. This can provide satisfaction for users who shop through Shopee Apps.

The next variable that has a major influence on customer satisfaction and behavioral intention is the outcome quality variable with a regression coefficient value of 0.303 for the customer satisfaction variable and a regression coefficient value of 0.193 for the behavioral intention variable. These results explain that Shopee Apps is one of the applications that has provided benefits that can be felt by application users. If the Shopee Apps manager wants to improve outcome quality, then the manager can maintain the reliability of the application. The reliability can be used in any conditions, such as for example there are consumers who urgently need a product or service immediately, Shopee Apps can provide it without experiencing problems. The outcome quality variable has the second largest influence on customer satisfaction and behavioral intention because the majority of consumers who use Shopee Apps are female users and are students with a minimum monthly purchase frequency of shopping through Shopee Apps. Female consumers have a tendency to feel happy when they can shop easily and reliably at any time in uncertain conditions. This is because women, especially students, tend to be reluctant to experience difficult shopping, especially with the intensity of spending that tends to be routine. Therefore, the reliability of Shopee Apps to be reliable without experiencing problems, both technical and non-technical is a matter that is also considered to be able to provide satisfaction to users so that users have a tendency to use Shopee Apps again for shopping needs in the future. In the outcome quality variable, the results of the study show that the ability to provide service needs is the main thing to be able to improve outcome quality on Shopee Apps. Based on these results, an effort that can be made is to offer a short questionnaire to Shopee users that can be displayed on the application's home page, to find out the needs that users are looking for but are not yet available on Shopee Apps. The goal is that managers can consider improving services to users so that users do not use e-commerce applications other than Shopee Apps to meet their desired needs.

The last variable of e-service quality that has an influence on customer satisfaction and behavioral intention is environment quality with a regression coefficient value of 0.208 for customer satisfaction and a coefficient value of 0.150 for behavioral intention. These results explain that the better the user interface provided by Shopee Apps can provide users with a pleasant shopping experience so that it creates satisfaction and behavior to use Shopee Apps in meeting future needs. Therefore, the Shopee Apps management can pay attention to every aspect that is visually presented in the apps, such as a layout that can make it easier for users to find their needs, the size and type of text that is easy to read, easily recognizable symbols or logos to images of the products displayed. also in good quality. The goal is to make it easier for users to find their needs and provide comfort while using Shopee Apps to meet their needs. The magnitude of the influence of environment quality on customer satisfaction and behavioral intention is due to the majority of Shopee Apps users aged 18 to 35 years who are still students. Users with this profile have a tendency to be attracted by the visual appearance of the apps that is attractive but also interactive and clear, so that when

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users are looking for needs on Shopee Apps, it doesn't take a long time. The visual appearance of the apps is an important matter, because it is the first thing that Shopee Apps users see, if the visual appearance of the apps is attractive, informative and can help users meet their needs easily and quickly, users can feel more satisfied and cause behavior to use Shopee Apps. in the future. The results of the study show that the most important indicator that needs to be considered in order to improve the environment quality on Shopee Apps is related to the menu display in Shopee Apps. These results explain that Shopee Apps users are basically comfortable with the clear appearance of the Shopee Apps page. However, the Shopee Apps manager can update some details, such as entering the help menu option on the application's home page, which is intended for users who cannot find the product or service they need. The goal is for users to feel the ease and satisfaction in shopping. The results of the study also explain that the layout can also determine the environment quality in Shopee Apps. Efforts that can be made are to rearrange the layout of products and services into several groups that have uniform characteristics. Such as placing payment services for various types of bills in one group, so that consumers can easily find out the position of the desired service, then product information that is being promoted is also placed in one group so that Shopee Apps users can easily be directed to products that are being promoted. This can trigger a pleasant shopping experience because of the convenience that Shopee Apps users feel.

The results of the Sobel test show the mediating role of customer satisfaction on the effect of e-service quality variables consisting of environment quality, delivery quality, and outcome quality on behavioral intention. The test results explain that customer satisfaction has a partial mediating role on the influence of environment quality, delivery quality, and outcome quality on behavioral intention. This is shown through the calculation of the VAF value which shows an indirect influence coefficient value of 0.094 and a probability value of 0.033 on the influence of environment quality on behavioral intention; the indirect influence coefficient value is 0.179 and the probability value is 0.026 on the effect of delivery quality on behavioral intention; The indirect influence coefficient value is 0.138 and the probability value is 0.015 on the effect of outcome quality on behavioral intention. These results explain that Shopee Apps can improve user behavior to continue using Shopee Apps in the long term when it can increase user satisfaction through improving environment quality, delivery quality, and outcome quality. Regarding the customer satisfaction variable, the results of the study explain that the Shopee Apps manager needs to be able to know things that can make Shopee Apps users feel comfortable when shopping with Shopee Apps. Efforts that can be made to find out about this are by providing a statement in the form of a questionnaire that can be displayed on the initial page of opening the application, which can be filled directly by the user, so that the manager can find out and maintain and even improve things that can provide shopping convenience for Shopee Apps users. In addition, Shopee Apps managers can also provide Shopee Games features that can provide user benefits in the form of coins that can be used for shopping. Another effort that has been made by Shoppe is to offer interactive shopping methods through monthly events on twin dates. Both of these things can be maintained so that users can still feel happy in using Shopee Apps to meet their needs. Furthermore, related to the behavioral intention variable, the results of the study explain that it is important for Shopee Apps managers to be able to provide satisfaction for Shopee Apps users in meeting their needs. One of the steps is to improve service quality through environment quality, delivery quality, and outcome quality. In addition, it is important for Shopee Apps managers to be able to provide a pleasant shopping experience to users, one of which can be done through improving service quality. The results also explain that users can provide long-term benefits to Shopee Apps managers, but with the condition that consumers can feel satisfaction in shopping using Shopee Apps. Therefore, it is important for managers to know every need of Shopee Apps users, so that they can prepare these various needs and provide better satisfaction to Shopee Apps users.

### **CONCLUSION AND RECOMMENDATION**

This research was conducted with the aim of explaining the effect of the e-service quality variables consisting of environment quality, delivery quality, and outcome quality on customer satisfaction and behavioral intention, as well as explaining the mediating role of customer satisfaction on the influence of environment quality, delivery quality, and outcome quality on behavioral intention to Shopee Apps users in Surabaya. Based on the research objectives, the hypotheses proposed in this study amounted to 10 hypotheses. The results of data processing and analysis that have been carried out show that of the 10 proposed hypotheses all can be accepted. Referring to the research results, it is known that e-service quality which consists of environment quality, delivery quality, and outcome quality is an important factor that can determine customer satisfaction and behavioral intention of Shopee Apps users in Surabaya. The results also show that there is a mediating role for customer satisfaction on the influence of environment quality, delivery quality, and outcome quality on the behavioral intention of Shopee Apps users in Surabaya.

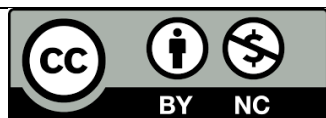
Efforts that can be made by Shopee Apps managers to increase customer satisfaction and behavioral intention of Shopee Apps users in Surabaya are to improve aspects of delivery quality. The delivery quality aspect itself is related to the technical

## Analysis of the Influence of Environment Quality, Delivery Quality, and Outcome Quality Factors on Behavioral Intention through Customer Satisfaction on Shopee Apps Users in Surabaya

capabilities of Shopee Apps in providing fulfillment of the shopping needs of apps users. Therefore, the effort that can be done is to add a user location detection feature to be able to offer the product that the user wants according to the nearest location, maintain the available payment transaction options, and carry out regular updates and maintenance to maintain apps reliability and make apps storage efficiency so that can be used by various groups of people.

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## Analysis of the Effect of Atmospherics, Food Quality, Service Quality and Other Customer on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust of Sushi Tei Restaurant Consumers at Galaxy Mall Surabaya



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**ABSTRACT:** Food is the main basic need that must be met at all times by humans. By looking at the current developments in the era of globalization, it can be concluded that the business in the culinary field tends to continue to increase, therefore many new business actors have emerged who are trying to enter the culinary business. Furthermore, the effects of globalization have also led to the entry of foreign cultures into Indonesia, including Japanese culture. Currently, many Japanese restaurants are present in various cities in Indonesia, including in the city of Surabaya, one of which is Sushi Tei restaurant. Sushi Tei was founded in 1994 in Singapore. Until now, Sushi Tei already has outlets spread across several countries. This study aims to determine how the influence of Atmospherics, Food Quality, Service Quality, and Other Customers on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust. This study uses quantitative research with Structural Equation Model (SEM) analysis techniques and AMOS 22.0 software. Data was collected by distributing online questionnaires to 165 respondents with the characteristics of male and female respondents aged 18-60 years, having visited Sushi Tei at least 2 times in the last two years, and had interacted with restaurant waiters. The results showed that the Atmospherics variable had no significant effect on Brand Image with a regression coefficient of 0.054; Atmospherics variable has no significant effect on Customer Satisfaction with a regression coefficient of 0.035; Food Quality variable has a significant effect on Brand Image with a regression coefficient of 0.808; Food Quality variable has a significant effect on Customer Satisfaction with a regression coefficient of 0.306; Service Quality variable has no significant effect on Brand Image with a regression coefficient of 0.032; Service Quality variable has no significant effect on Customer Satisfaction with a regression coefficient of 0.148; Other Customer variables have no significant effect on Brand Image with a regression coefficient of 0.064; Other Customer variables have no significant effect on Customer Satisfaction with a regression coefficient of 0.339; Brand Image variable has a significant effect on Customer Satisfaction with a regression coefficient of 0.209; Brand Image variable has no significant effect on Brand Trust with a regression coefficient of 0.345; Customer Satisfaction variable has a significant effect on Brand Trust with a regression coefficient of 0.610; Brand Trust variable has a significant effect on Brand Preference with a regression coefficient of 0.666.

**KEYWORDS:** Atmospherics, Food Quality, Service Quality, Other Customer, Brand Image, Customer Satisfaction, Brand Trust, Brand Preference.

### I. INTRODUCTION

Food is the main basic need that must be met at all times by humans. In fact, the right to obtain food has become one of the human rights in order to maintain the continuity of life with its function, namely to provide nutrition for human growth. Previously, food was only to complete the needs of four healthy five perfect. However, along with the development of the 2021 times, the function of food is not only as a provider of nutrients to the body, but also as a life gratification such as delicious food and also as a lifestyle. Many people also start to make food as a part of self-actualization. ([www.bulog.co.id](http://www.bulog.co.id), downloaded on the 26<sup>th</sup> July 2021)

By looking at the current developments in the era of globalization, it can be concluded that the culinary business tends to continue to increase, therefore many new business actors have emerged who are trying to explore the culinary business which is

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proven to increase every day. Kementerian Perindustrian (Kemenperin) projects that the growth of the food and beverage industry will reach 5-6 percent in the second quarter of 2021. Previously, in the first quarter of 2021, this sector only grew 2.4 percent. (www.Ekonomi.bisnis.com, downloaded on July 26, 2021). The increasing number of business people entering the culinary world has made culinary developments in Indonesia more diverse. Various kinds of food are offered ranging from traditional food, fast food, as well as food from abroad, such as food from Japan. Furthermore, the effects of globalization have also led to the entry of foreign cultures into Indonesia, including Japanese culture, which is already quite well known and has more or less influenced the lifestyle of Indonesians. One of the significant influences is in terms of food (Silaen, 2018). Japanese food is one of the most popular foods in the community. Based on a survey conducted by JETRO in 2013 of 3000 people, it shows that 83% (2,490 people) choose Japanese food as their favorite foreign food because Japanese food is considered to have a delicious and healthy taste (Wibisono, 2017). Japanese food has its own distinctive sensation, which is not only delicious but also presents awards and does not forget its nutritional value, and represents its culture and traditions so as to attract consumers to (Husain & Madjid, 2017). With the characteristics possessed by this Japanese food, making Japanese restaurants increasingly in demand by culinary lovers in Indonesia.

Currently, many Japanese restaurants are present in various cities in Indonesia, including in the city of Surabaya. This is because Japanese food has a unique characteristic, namely Japanese food is unique in the presentation of food and has a distinctive taste and contains a fairly high nutritional value. This can also be seen from the increasing number of Japanese restaurants located in malls, hotels, and those with their own buildings, such as Ichiban Sushi, Marugame Udon, Hanamasa, Sushi Tei, Kintan Shaburi and others. This proves that Japanese restaurants are quite in demand by the citizens of Surabaya.

## **II. LITERATURE REVIEW**

### ***Atmospherics***

According to research by Hu et al (2009); Line et al.,(2016); Ostrowski et al., (1993) stated that positive customer experiences with restaurant atmospheric not only affect satisfaction and trust, but also significantly help develop brand image. Baker et al. (1994) also showed a significant effect of service firm atmospheric in enhancing brand image and stimulating purchasing behavior. In terms of the restaurant industry, Stevens et al. (1995) pointed out the importance of atmospheric in the aspect of service quality provided by restaurants. They found that the quality of atmospheric, service and food were indicators that had a significant effect on brand image.

#### **H1: Atmospheric has a significant effect on Brand Image**

The results of research by Berry et al., (2006) stated that atmospheric as a very important factor, the atmosphere is very influential in the restaurant arrangement considering that a positive first impression is a significant opportunity to create customer satisfaction. The quality of atmospheric is also an important predictor that has a positive influence on customer perceived value (customer satisfaction). Finally, many researchers have studied how perceived restaurant atmosphere affects diner satisfaction. For example, Liu and Jang (2009) found that interior design, decoration and aroma (atmospheric) significantly affect restaurant customer satisfaction. Several studies have claimed that the atmosphere of a company is important to attract customers because they sometimes go to a restaurant just to feel the atmosphere (Ryu et al., 2012).

#### **H2: Atmospheric has a significant effect on Customer Satisfaction**

### ***Food Quality***

The research results of Tse et al. (2002) found that busy restaurants tend to signal high food quality and convey a favorable brand image for Chinese restaurants in Hong Kong, implying a positive relationship between food quality and brand image. Ryu et al. (2008) reported that food quality, service quality, interior design and decoration, restaurant location, and waiting time are the main drivers of restaurant brand image. Therefore, maintaining food quality and good service is the most important part of maintaining a restaurant's brand image. When an organization has a high quality brand image, it should not be a problem positioning its own product or brand at a premium level (Kim et al., 2013). Therefore, food quality is a key driver for the success of tourism branding and positively influences perceived brand image (Atilgan et al., 2003; Herstein et al., 2014).

#### **H3: Food Quality has a significant effect on Brand Image**

According to the research results of Ha and Jang, (2010); Namkung and Jang (2007); Sulek and Hensley (2004) mention that of all aspects of the consumer experience with restaurants, food quality is the most important factor to know and the choice of consumers from the aspect of customer satisfaction with restaurants. In particular, all of these attributes represent influential

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aspects in customer attitudes and behavior. In a study by Ryu et al. (2012) regarding the relationship between three parts of quality (food, service, physical environment), price, satisfaction and behavioral intention in fast-casual restaurants, the findings show that food quality is a significant determinant of customer satisfaction. Thus, food quality has been considered as some of the most significant aspects in customer assessment of fast food service quality and a key factor in increasing customer satisfaction (Wu and Mohi, 2015).

### **H4: Food Quality has a significant effect on Customer Satisfaction**

#### ***Service Quality***

Selnes research (1993) shows that service quality affects the general evaluation of a brand. Similarly, the research results of Ostrowski et al. (1993) argue that a positive experience over time following several other positive experiences will ultimately have a positive effect on brand image. In the restaurant industry, consumers' judgments about a restaurant's brand image tend to reflect the cumulative consumption experience of the customer. Among the many components, one of which is the consumer consumption experience which is the service quality of the restaurant, which makes it a prominent element. Thus, it makes sense to obtain research results that restaurant service quality directly affects brand image perceptions. Booms and Bitner (1982) from their research stated that the service scape (service quality) of a company has a large impact on the intention to revisit customers and the restaurant brand image. Nguyen and LeBlanc (1998) also show that service quality is a very significant factor in building a company's brand image. They state that the higher the level of service quality received by customers from a company, the higher the brand image of the organization will be implanted in the minds of customers.

### **H5: Service Quality has a significant effect on Brand Image**

Based on the research results of Wilson et al. (2012), the relationship between service quality and customer satisfaction shows a significant relationship. This is also in accordance with research conducted by Rahhal (2015), Service Quality has a positive and significant effect on Customer Satisfaction. In terms of the fast food industry, according to the research results of Heung et al. (2000), Jain and Gupta (2004), Qin and Prybutok (2009), and Khan et al. (2013), price, product quality and service quality are directly related to customer satisfaction because the perceived service quality factor plays the most important role in overall customer satisfaction. Research from Susskind and Chan, (2000); Mattila and Wirtz, (2001) also support the statement that Service Quality is a key factor in Customer Satisfaction. In another study on Customer Satisfaction with Service Quality in Korean restaurants, high quality service was found to have a positive effect on Customer Satisfaction (Ha and Jang, 2010). Ladhari et al. (2011) identified that there is a positive and significant correlation between the dimensions of Service Quality and Customer Satisfaction as a whole.

### **H6: Service Quality has a significant effect on Customer Satisfaction**

#### **Other Customer**

Jang et al (2015) support the theory that other customers in service settings have been found to significantly influence customer behavior and corporate brand image. The research of Shao et al., (2017) also finds that Other Customers have a significant effect on Brand Image. In their research, Shao et al., (2017) discusses the effect of Other Customer's clothing on a service company and finds the fact that the dress code of service personnel at service meetings affects customer perceptions of the service company.

### **H7: Other Customers have a significant effect on Brand Image**

Based on the results of previous studies by Miao et al. (2011) ; Wu and Mattila (2013) stated that the presence of other customers in the service room has a significant influence on customer satisfaction. In relation to these findings, one of the factors that influence the emotional experience of the work that has been sought to be served is for example, the number of people in the restaurant (Hwang et al., 2012), customer appearance (Choi and Mattila, 2016), and behavior. Other customers affect customer satisfaction (Miao et al., 2011). Therefore, according to the research of Wu and Liang, (2009), sharing the same environment with other customers during service delivery significantly affects customer satisfaction based on their research through emotional experiences in the restaurant industry.

### **H8: Other Customers have a significant effect on Customer Satisfaction**

#### ***Brand Image***

Ryu et al. (2008) revealed their findings that the brand image perceived by customers of a product has a significant influence on customer satisfaction. Castro et al. (2007) found that brand image influences future tourist behavior through service quality and customer satisfaction. Ryu et al. (2008) examined the relationship between overall restaurant brand image, customer perceived

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value, customer satisfaction, and behavioral intentions in the restaurant industry. They argue that the overall brand image of a restaurant is a significant determinant of customer perceived value and customer satisfaction. Lai et al. (2009) revealed that brand image affects customer satisfaction and customer perception value. In particular, for the restaurant industry, brand image is a significant predictor of customer satisfaction (Jin et al., 2012; Ryu et al., 2012).

## H9: Brand Image has a significant effect on Customer Satisfaction

In line with this study, De Matos and Rossi (2008) obtained research results which stated that the higher the Brand Image, the more likely customers will believe in the brand (brand trust). While the importance of Brand Image in influencing Brand Trust has been conceptually proposed by scholars (De Matos and Rossi, 2008; Van Doorn et al., 2010), previous empirical research failed to demonstrate this relationship (Hapsari et al., 2017). Yarmen et al. (2016) showed that the Brand Trust owned by the patient was significantly influenced by the hospital's brand image. In the field of restaurant studies, Ryu et al.,(2008) found a significant effect on restaurant brand image on customer brand trust.

## H10: Brand Image has a significant effect on Brand Trust

### Customer Satisfaction

The results of research by Han and Ryu (2009) found that customer satisfaction positively affects brand trust in the restaurant industry. Hyun (2010) also stated the results of his research that customer satisfaction either directly or indirectly can have an impact on brand trust. This study provides support for satisfaction influencing trust through satisfaction. On the other hand, Jani and Han (2011) did not find a significant effect of customer satisfaction on commitment but stated that the effect can be obtained significantly through brand trust because satisfaction has an impact on trust that the brand will keep its promises as stated in promotion (Ballester and Aleman, 1999). Similarly, the involvement of customer satisfaction with store personnel has become a very strong factor due to its strong influence on brand trust (Brodie et al., 2011).

## H11: Customer Satisfaction has a significant effect on Brand Trust

### Brand Trust

Bart et al., (2005); Chinomona, (2013) has examined the influence of Customer Satisfaction on Brand Preference which illustrates that the experience of a brand-literature experience, Brand Trust and consumer satisfaction as elements of Brand Preference that have a significant effect. The results of research by Chiou and Droge, (2006); Hsu et al., (2012); Sirdeshmukh et al., (2002) stated that the most significant behavioral outcomes of Brand Trust were Brand Preference, brand attachment, and brand loyalty.

## H12: Brand Trust has a significant effect on Brand Preference

### Research Model

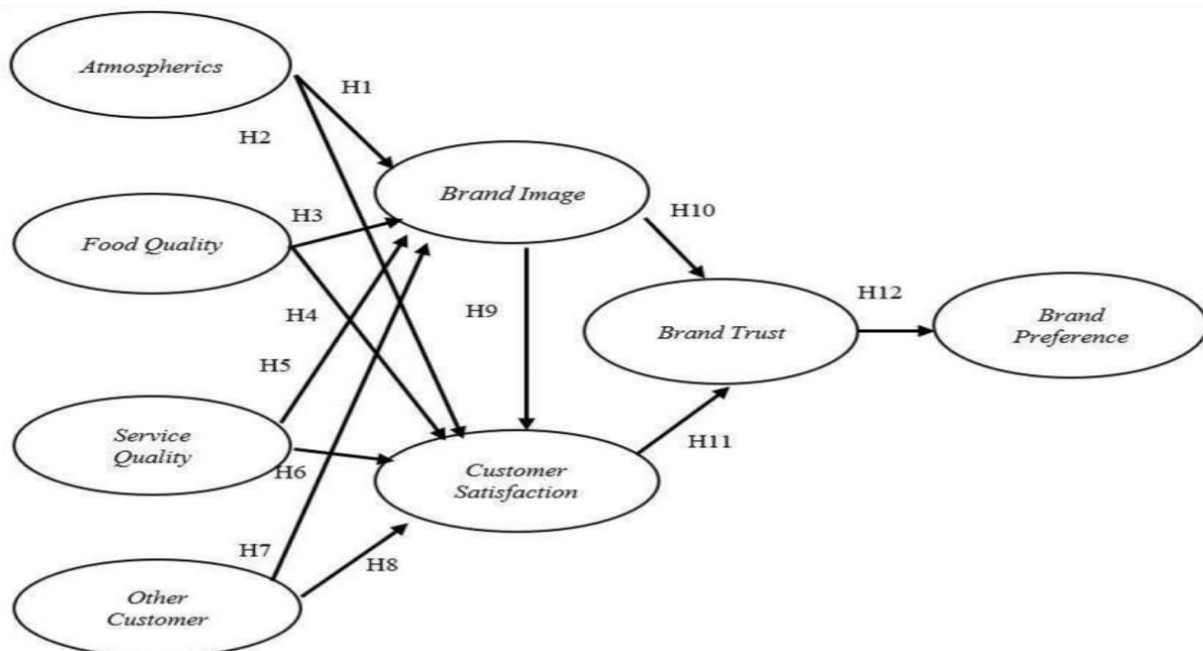


Figure 2.1 Research Model

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## III. RESEARCH METHODS

This research is causal because it is a causal relationship, therefore there are independent variables (influence) and dependent variables (influenced) (Sugiyono, 2012). The research method used in this study is a quantitative method, which uses data in the form of numbers as analysis material to explain what you want to know (Kasiram, 2008). According to Jonathan Sarwono (2006), quantitative research methods are scientific research that is systematically arranged related to parts and phenomena and their relationship to a variable. Quantitative research methods are used to examine a particular population or sample, in general the sampling technique is done randomly, while the data collection uses research instruments, quantitative/statistical data analysis is used in order to test hypotheses and solve problems that have been identified in the previous chapter (Sugiyono, 2013). The quantitative method was chosen because the results of the analysis are very accurate when applied according to the rules, can measure the interaction of the relationship between two or more variables and can simplify the reality of complex and complicated problems in a model (Syamrilaode, 2011). The method used in this study refers more to references that can carry out simultaneous analysis processes related to the multi-variable research model, namely the Structural Equation Model (SEM) using AMOS 20.0 software. This research model is expected to be able to explain the interaction of the relationship between variables in order to understand the factors that influence the brand preference of Sushi Tei Galaxy Mall Surabaya consumers as well as make an implication whose results will approach the requirements of a measurement that will be described through a research design. The population that will be used in this study are all Sushi Tei Galaxy Mall Surabaya customers. It is assumed that consumers have good knowledge about the services that have been provided by Sushi Tei Galaxy Mall Surabaya so that they can create brand preferences. In addition, consumers at that age are assumed to be able to think well in filling out questionnaires, so that the data obtained are valid. The sampling technique that the researcher will use is non-probability sampling. The choice of this technique is because the total population of the object under study is unknown. There are various techniques in non-probability sampling, one of which is snowball sampling which was chosen by the researcher in this study. Snowball sampling is a sampling technique that is initially small in number, then this sample is distributed to friends who have the research sample criteria to be used as samples and so on, so that the number of samples is increasing because it is spread through the initial sample. (<https://www.statistikian.com>, downloaded on 11 August 2021). The application of the snowball sampling technique in this study was carried out by distributing questionnaires to a Sushi Tei Galaxy Mall Surabaya customer, and asking for his help in distributing the questionnaire to his friends who are also Sushi Tei Galaxy Mall Surabaya customers. The application of the snowball sampling technique in this study was carried out by distributing questionnaires to be distributed to Sushi Tei Galaxy Mall Surabaya customers who were selected as samples. The area used as a place for distributing questionnaires is the city of Surabaya, so that the respondents selected are in accordance with what is expected.

## IV. RESULTS AND DISCUSSION

### Results

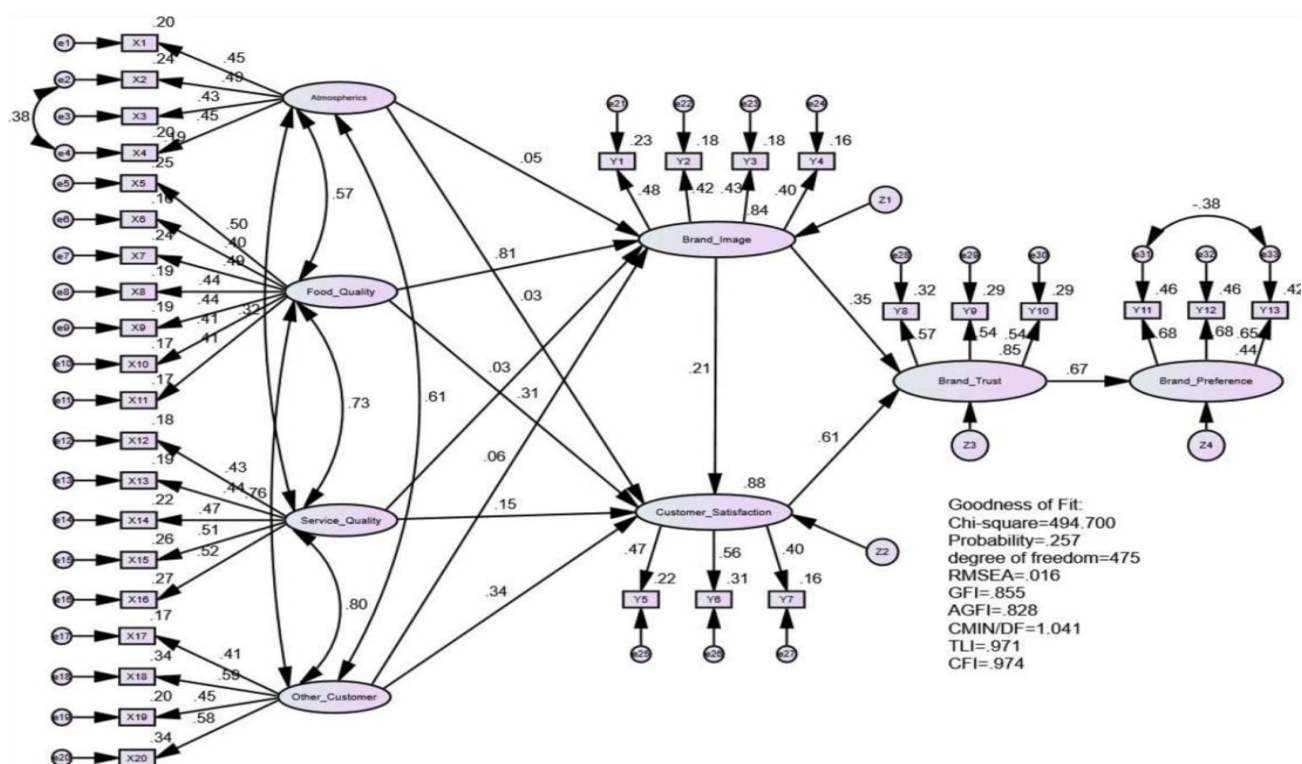


Figure 4.1 Full Structural Model

**Analysis of the Effect of Atmospherics, Food Quality, Service Quality and Other Customer on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust of Sushi Tei Restaurant Consumers at Galaxy Mall Surabaya**

**Table 4.1 Regression Weight Full Structural Equation Model**

			Estimate	S.E.	C.R.	P	Std. Estimate
Brand_Image	<---	Atmospherics	.067	.401	.168	.867	.054
Brand_Image	<---	Food_Quality	1.019	.484	2.107	.035	.808
Brand_Image	<---	Service_Quality	.032	.490	.066	.947	.032
Brand_Image	<---	Other_Customer	.056	.502	.112	.911	.064
Customer_Satisfaction	<---	Atmospherics	.033	.278	.119	.905	.035
Customer_Satisfaction	<---	Food_Quality	.295	.666	2.043	.038	.306
Customer_Satisfaction	<---	Service_Quality	.114	.336	.339	.735	.148
Customer_Satisfaction	<---	Other_Customer	.229	.321	.713	.476	.339
Customer_Satisfaction	<---	Brand_Image	.160	.549	2.091	.041	.209
Brand_Trust	<---	Customer_Satisfaction	.824	.630	2.309	.191	.610
Brand_Trust	<---	Brand_Image	.357	.496	.721	.471	.345
Brand_Preference	<---	Brand_Trust	.851	.176	4.824	***	.666
X16	<---	Service_Quality	1.000				.518
X15	<---	Service_Quality	.995	.227	4.378	***	.506
X14	<---	Service_Quality	.921	.221	4.176	***	.474
X13	<---	Service_Quality	.846	.217	3.902	***	.439
X12	<---	Service_Quality	.921	.235	3.912	***	.428
X11	<---	Food_Quality	1.000				.413
X10	<---	Food_Quality	1.112	.308	3.612	***	.411
X9	<---	Food_Quality	.938	.255	3.687	***	.439
X8	<---	Food_Quality	.969	.265	3.653	***	.438
X7	<---	Food_Quality	1.078	.268	4.014	***	.491
X6	<---	Food_Quality	1.044	.296	3.525	***	.401
X5	<---	Food_Quality	1.083	.270	4.011	***	.499
X4	<---	Atmospherics	1.000				.447
X3	<---	Atmospherics	.968	.342	2.833	.005	.433
X2	<---	Atmospherics	1.084	.393	2.758	.006	.491
X1	<---	Atmospherics	1.319	.411	3.210	.001	.446
X20	<---	Other_Customer	1.083	.263	4.123	***	.582
X19	<---	Other_Customer	.781	.216	3.608	***	.453
X18	<---	Other_Customer	.995	.241	4.123	***	.587
X17	<---	Other_Customer	1.000				.407
Y1	<---	Brand_Image	1.000				.476
Y2	<---	Brand_Image	.856	.219	3.909	***	.423
Y3	<---	Brand_Image	.804	.210	3.829	***	.430
Y4	<---	Brand_Image	.897	.245	3.665	***	.402
Y7	<---	Customer_Satisfaction	1.000				.401
Y6	<---	Customer_Satisfaction	1.446	.351	4.122	***	.560
Y5	<---	Customer_Satisfaction	1.078	.279	3.868	***	.468
Y8	<---	Brand_Trust	1.000				.568
Y9	<---	Brand_Trust	1.031	.208	4.966	***	.542
Y10	<---	Brand_Trust	1.001	.190	5.276	***	.542
Y11	<---	Brand_Preference	1.000				.680
Y12	<---	Brand_Preference	1.019	.195	5.231	***	.680
Y13	<---	Brand_Preference	.907	.174	5.223	***	.652

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**Table 4.2 Hypothesis Test Results**

Hypothesis	Analysis
H1 : Atmospherics has a significant effect on Brand Image	Rejected
H2 : Atmospherics has a significant effect on Customer Satisfaction	Rejected
H3 : Food Quality has a significant effect on Brand Image	Accepted
H4 : Food Quality has a significant effect on Customer Satisfaction	Accepted
H5 : Service Quality has a significant effect on Brand Image	Rejected
H6 : Service Quality has a significant effect on Customer Satisfaction	Rejected
H7 : Other Customers have a significant effect on Brand Image	Rejected
H8 : Other Customers have a significant effect on Customer Satisfaction	Rejected
H9 : Brand Image has a significant effect on Customer Satisfaction	Accepted
H10: Brand Image has a significant effect on Brand Trust	Rejected
H11: Customer Satisfaction has a significant effect on Brand Trust	Accepted
H12: Brand Trust has a significant effect on Brand Preference	Accepted

## DISCUSSION

### H1: Atmospherics has no significant effect on Brand Image

Atmospherics is formed by four indicators, namely an attractive interior design, a clean dining area, employees are neatly dressed and have well-supported facilities. While the Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. The estimated parameter between Atmospherics and Brand Image shows insignificant results in a positive direction with a value of C.R = 0.168 and a regression coefficient of 0.054 with an acceptable hypothesis standard, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 1 (H1) is rejected. This is because when Sushi Tei Galaxy Mall customers see that the environmental conditions of Sushi Tei Galaxy Mall are clean and comfortable and the facilities provided are also supportive, it will create a positive perception of the brand. So that when the environmental conditions created by Sushi Tei Galaxy Mall are getting better, it will improve the brand image of Sushi Tei.

### H2: Atmospherics has no significant effect on Customer Satisfaction

Atmospherics is formed by four indicators, namely an attractive interior design, a clean dining area, employees are neatly dressed and have well-supported facilities. While Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant creates a good mood and enjoys yourself while in the restaurant. The estimated parameter between Atmospherics and Customer Satisfaction showed insignificant results in a positive direction with a C.R value = 0.119 and a regression coefficient of 0.035 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 2 (H2) is rejected. This is because when Sushi Tei Galaxy Mall customers see that the environmental conditions of Sushi Tei Galaxy Mall are clean and comfortable and the facilities provided are also supportive, it will create customer satisfaction. So that when the environmental conditions created by Sushi Tei Galaxy Mall are getting better, it will increase the satisfaction of their customers.

### H3: Food Quality has a significant effect on Brand Image

Food Quality is formed by seven indicators, namely the food served is delicious, the food is nutritious, offers various types of menus, the food is fresh, the aroma and appearance of the food is attractive. While the Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. The estimated parameter between Food Quality and Brand Image shows significant results in a positive direction with a value of C.R = 2.107 and a regression coefficient of 0.808 with an acceptable standard hypothesis, namely C.R.  $\pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 3 (H3) is accepted. This is because, when Sushi Tei Galaxy Mall customers feel that the quality of the food served is quality food and looks fresh, it will create a positive perception of the brand. So when the better the quality of the food served by Sushi Tei Galaxy Mall, it will improve the brand image of Sushi Tei.

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## **H4: Food Quality has a significant effect on Customer Satisfaction**

Food Quality is formed by seven indicators, namely the food served is delicious, the food is nutritious, offers various types of menus, the food is fresh, the aroma and appearance of the food is attractive. While Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant creates a good mood and enjoys yourself while in the restaurant. The estimated parameter between Food Quality and Customer Satisfaction showed insignificant results in a positive direction with a value of  $C.R = 2.043$  and a regression coefficient of  $0.306$  with an acceptable standard of hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 4 (H4) is accepted. This is because, when Sushi Tei Galaxy Mall customers feel that the quality of the food served is quality food and looks fresh, it will create a feeling of satisfaction for the customer. So that when the quality of the food served by Sushi Tei Galaxy Mall is getting better, it will increase the satisfaction of their customers.

## **H5: Service Quality has a significant effect on Brand Image**

Service Quality is formed by five indicators, namely food to order, proper service, fast service, waiters willing to help and feel comfortable in the services provided. While the Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. The estimated parameter between Service Quality and Brand Image shows insignificant results in a positive direction with a value of  $C.R = 0.066$  and a regression coefficient of  $0.032$  with an acceptable standard hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 5 (H5) is rejected. This is because, when Sushi Tei Galaxy Mall customers get good, fast and appropriate service, it will create a positive perception of the brand. So when the better the quality of service provided by Sushi Tei Galaxy Mall, it will improve the brand image of Sushi Tei.

## **H6: Service Quality has a significant effect on Customer Satisfaction**

Service Quality is formed by five indicators, namely food to order, proper service, fast service, waiters willing to help and feel comfortable in the services provided. While Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant creates a good mood and enjoys yourself while in the restaurant. The estimated parameter between Service Quality and Customer Satisfaction showed insignificant results in a positive direction with a value of  $C.R = 0.339$  and a regression coefficient of  $0.148$  with an acceptable standard of hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 6 (H6) is rejected. This is because, when Sushi Tei Galaxy Mall customers get good, fast and precise service, it will create a feeling of satisfaction for the customer. So when the better the quality of service provided by Sushi Tei Galaxy Mall, it will increase the satisfaction of their customers.

## **H7: Other Customers have a significant effect on Brand Image**

Other Customers are formed by four indicators, namely being able to accept the level of crowd, the appearance of other customers is good, can accept the average age of restaurant diners and feel the way other customers behave is appropriate. While the Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. The estimated parameter between Other Customers and Brand Image shows insignificant results in a positive direction with a value of  $C.R = 0.112$  and a regression coefficient of  $0.064$  with an acceptable standard hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 7 (H7) is rejected. This is because, when the crowd level of the Sushi Tei Galaxy Mall restaurant is acceptable and the behavior of other customers is good, it will create a positive perception of the brand. So that when the behavior of other customers from the Sushi Tei Galaxy Mall restaurant is getting better, it will improve the brand image of Sushi Tei.

## **H8: Other Customers have a significant effect on Customer Satisfaction**

Other Customers are formed by four indicators, namely being able to accept the level of crowd, the appearance of other customers is good, can accept the average age of restaurant diners and feel the way other customers behave is appropriate. While Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant creates a good mood and enjoys yourself while in the restaurant. The estimated parameter between Other Customers and Customer Satisfaction showed insignificant results in a positive direction with a value of  $C.R = 0.713$  and a regression coefficient of  $0.339$  with the standard hypothesis being accepted, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 8 (H8) is rejected. This is because, when the level of crowds from the Sushi Tei Galaxy Mall restaurant is acceptable and the behavior of other customers is good, it will create a feeling of satisfaction for the customer. So that when the behavior of other customers from the Sushi Tei Galaxy Mall restaurant is getting better, it will increase the satisfaction of their customers.



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## **H9: Brand Image has a significant effect on Customer Satisfaction**

Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. While Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant creates a good mood and enjoys yourself while in the restaurant. The estimation parameter between Brand Image and Customer Satisfaction shows insignificant results towards positive with a value of  $C.R = 2.091$  and a regression coefficient of 0.209 with an acceptable standard of hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 9 (H9) is accepted. This is because, when the reputation of the Sushi Tei Galaxy Mall restaurant is good for its quality and has a fashionable and trendy image so that it is known by many people, it will create a feeling of satisfaction for customers. So when the better the brand image of the Sushi Tei Galaxy Mall restaurant, it will increase the satisfaction of their customers.

## **H10: Brand Image has a significant effect on Brand Trust**

Brand Image is formed by four indicators, namely the restaurant has a fashionable image, has a trendy image, has a good reputation and is a familiar restaurant brand. While Brand Trust is formed by three indicators, namely believing that the restaurant is reliable, believing that the restaurant guarantees customer satisfaction and trusting the restaurant as a whole. The estimated parameter between Brand Image and Brand Trust showed insignificant results in a positive direction with a value of  $C.R = 0.721$  and a regression coefficient of 0.345 with an acceptable standard hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 10 (H10) is rejected. This is because, when the reputation of Sushi Tei Galaxy Mall restaurant is good for its quality and has a fashionable and trendy image so that it is known by many people, it will create a sense of trust in customers. So when the better the brand image of the Sushi Tei Galaxy Mall restaurant, it will increase the trust of their customers.

## **H11: Customer Satisfaction has a significant effect on Brand Trust**

Customer Satisfaction is formed by three indicators, namely feeling satisfied overall, the restaurant makes a good mood and enjoying yourself while in the restaurant. While Brand Trust is formed by three indicators, namely believing that the restaurant is reliable, believing that the restaurant guarantees customer satisfaction and trusting the restaurant as a whole. The estimated parameter between Customer Satisfaction and Brand Trust shows significant results in a positive direction with a value of  $C.R = 2.309$  and a regression coefficient of 0.610 with an acceptable standard of hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 11 (H11) is accepted. This is because, when Sushi Tei Galaxy Mall customers are satisfied with the service and food provided, it will create a feeling of trust in the customer. So that when consumers are more satisfied with the Sushi Tei Galaxy Mall restaurant, it will increase trust in their customers' brands.

## **H12: Brand Trust has a significant effect on Brand Preference**

Brand Trust is formed by three indicators, namely believing that the restaurant is reliable, believing that the restaurant guarantees customer satisfaction and trusting the restaurant as a whole. While the Brand Preference is formed by three indicators, namely this restaurant is a good choice, this restaurant meets my needs, and is more interested in this restaurant than its competitors. The estimated parameter between Brand Trust and Brand Preference shows significant results in a positive direction with a value of  $C.R = 4.824$  and a regression coefficient of 0.666 with an acceptable standard of hypothesis, namely  $C.R. \pm 2.00$  with a significance level of  $<0.05$  (5%), it can be said that hypothesis 12 (H12) is accepted. This is because, when Sushi Tei Galaxy Mall customers have confidence in Sushi Tei Galaxy Mall restaurant for their dining satisfaction, it will create a high preference for choosing Sushi Tei Galaxy Mall as a dining place. So that when consumers increasingly trust the Sushi Tei restaurant, Galaxy Mall will increase their preference for Sushi Tei restaurants.

## **V. CONCLUSION**

This model was developed in order to research the Brand Preference of Sushi Tei Galaxy Mall restaurant in Surabaya. This research model is formed from the relationship of influence between Atmospheric, Food Quality, Service Quality, Other Customers, on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust.

**Analysis of the Effect of Atmospherics, Food Quality, Service Quality and Other Customer on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust of Sushi Tei Restaurant Consumers at Galaxy Mall Surabaya**

**Table 5.1 Managerial Implications**

Research Now	Managerial Implications
Atmospherics is one of the elements that has an influence in the process to improve the Brand Image and Customer Satisfaction	<ul style="list-style-type: none"> <li>- Improve the design of the room to be more elegant and with the addition of a combination of lighting that can give an elegant and comfortable impression when customers linger in the restaurant area.</li> <li>- The restaurant management needs to ensure that all dining areas in the restaurant are neatly arranged and kept clean. During the current pandemic, maybe hand sanitizer can be provided at every dining table to increase the level of cleanliness while in the restaurant area.</li> </ul>
Food Quality is one element that has an influence in the process to improve Brand Image and Customer Satisfaction	<ul style="list-style-type: none"> <li>- Continue to innovate in creating new menus of dishes that are visually attractive and have delicious flavors, such as making seasonal menus</li> <li>- Maintain in using high quality raw materials in order to maintain the quality of food owned by Sushi Tei restaurants.</li> </ul>
Service Quality is one element that has an influence in the process to improve Brand Image and Customer Satisfaction	<ul style="list-style-type: none"> <li>- Sushi Tei must periodically evaluate each employee's performance in order to maintain employee performance in serving customers.</li> </ul>
Other Customers are one of the elements that have an influence in the process to improve Brand Image and Customer Satisfaction	<ul style="list-style-type: none"> <li>- Sushi Tei can adjust the layout of the dining table in order to maintain the comfort of visitors because it is not too crowded between the diners' tables</li> </ul>
Brand Image is one of the elements that has an influence in the process to increase customer Satisfaction and Brand Trust	<ul style="list-style-type: none"> <li>- Sushi Tei needs to periodically carry out promotions through social media in order to increase public awareness of Sushi Tei restaurants. Through this promotion, it can be displayed about the image of Sushi Tei so that it can attract customers to attend Sushi Tei.</li> </ul>
Customer Satisfaction is one element that has an influence in the process of increasing Brand Trust	<ul style="list-style-type: none"> <li>- Sushi Tei has the advantage of serving dishes of good quality and raw materials that are still fresh so that they have good nutritional value. And Sushi Tei's side needs to defend it.</li> </ul>
Brand Trust is one element that has an influence in the process of increasing Brand Preference	<ul style="list-style-type: none"> <li>- Sushi Tei must strive to ensure the satisfaction that customers will get so that customers believe that Sushi Tei is a restaurant that can solve the problem of customer dissatisfaction with other restaurant services.</li> </ul>

**RECOMMENDATION**

Looking at the results of existing research where there are still many limitations to the research conducted by the author, the recommendations that can be conveyed by the author are as follows:

- 1) Seeing the limitations of the research object that only took respondents, namely Sushi Tei Galaxy Mall customers in Surabaya, it is hoped that future research using the same or modified model can be applied to different objects to get more general results on the factors that affect Brand Preference.
- 2) Further research is expected to complement the existing variables in this research so that it can further enhance the understanding of the factors that influence Brand Preference, such as Price, Digital Marketing, and Location.
- 3) Further research can be developed by connecting the factors that influence Brand Preference based on education level. Future research can also expand the scope of respondents to be studied, or conduct their research in different areas from the current research. So that further research is carried out to provide a broad overview of Brand Preference.

## Analysis of the Effect of Atmospheric, Food Quality, Service Quality and Other Customer on Brand Preference through Brand Image, Customer Satisfaction, and Brand Trust of Sushi Tei Restaurant Consumers at Galaxy Mall Surabaya

- 4) In addition, it is also expected not only to use the Structural Equational Model (SEM) but to use Lisrel or SPSS software in further research.

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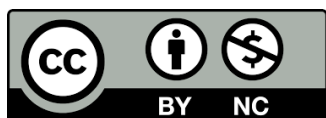
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## The Financial Performance of Companies Financed by Venture Capital



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**ABSTRACT:** One of the research questions while waiting for a solution is to know the impact of venture capital on the performance of companies. In the case of a significant effect on added value and on the performance of companies, venture capital is said to be a very relevant mode of financing. In this regard we test whether there is a financial added value realized by the capital companies within innovative companies and we examine different determinants favoring financial performance. Mainly, we study whether the participation of venture capital leads to a significant increase in the performance of the company.

**KEYWORDS :** venture capital - innovative companies - financial performance

### 1. INTRODUCTION

It is widely accepted that venture capital plays an important role in the economic growth of innovative firms. Venture capital is generally viewed by academics and practitioners as the most appropriate form of financing for businesses. Venture capital firms provide value-added services (Sorensen, 2007), such as coaching, mentoring and access to investment banks, which could have effects on financial performance. In addition, the companies financed by these companies benefit from a financial profitability which can be provided by the notoriety of the venture capital companies, (Hsu, 2006 and Lindsey, 2008).

The diverse past studies have estimated the influence of stable and upward-oriented venture capital funding on the performance of business. Particularly, a few studies have focused on the various contributions to business evolution, such as sales and job growth (Alemany and Marti, 2005; B. Bottazzi et al, 2008). Regarding productivity, Alemany and Marti (2006) focus on the effect of risk capital on the opportunities for fractional output (e.g. capital productivity and workforce productivity), while Chemmanur, (2011) and Colomb, (2012) have shown a favorable effect of this financing on the aspect of productivity despite what was pointed out by Gompers and Lerner (2001). In fact, the best performance to be found in companies is linked to the existence of venture capital in the company's funds, but it could also be demonstrated by the attraction of companies with better business opportunities. To clarify, companies financed by venture capital could be more profitable than those not financed by venture capital. If it is the case, the ability of selecting firms with strategic and financial characteristics could explain the major performance of venture capital funded companies. In addition, venture capital companies help improve business performance through added value on activities.

### 2. THE HYPOTHESES OF THE STUDY

Venture capital markets play a key role in financing innovation. Indeed, venture capital firms are investors who specialize in the finance of new ingenious companies which are at the cutting edge of technology and which have a risky profile. These companies are driving strong growth and creating jobs at a remarkable rate. We will study the financing needs of innovative companies and if it presents an essential element for the performance of innovative companies, then we will analyze their implications in terms of financial constraints. It is about a model which makes it possible to see the various financial aspects relating to the financing need and its constraints. It is, therefore, necessary to test the relationship between venture capital and innovative companies; in fact, one is supposed to study first the aptitude of the company to innovate and its impact on the financial performance. We highlight the role of venture capital expertise in the financing of innovative projects and the proper functioning of innovative companies.

The companies selected by venture capital companies thus have a number of specificities. This choice requires a very particular aspect; companies must operate in innovative activities. We are talking about innovative companies seeking rapid growth favoring the development of enterprises and the achievement of previous objectives.

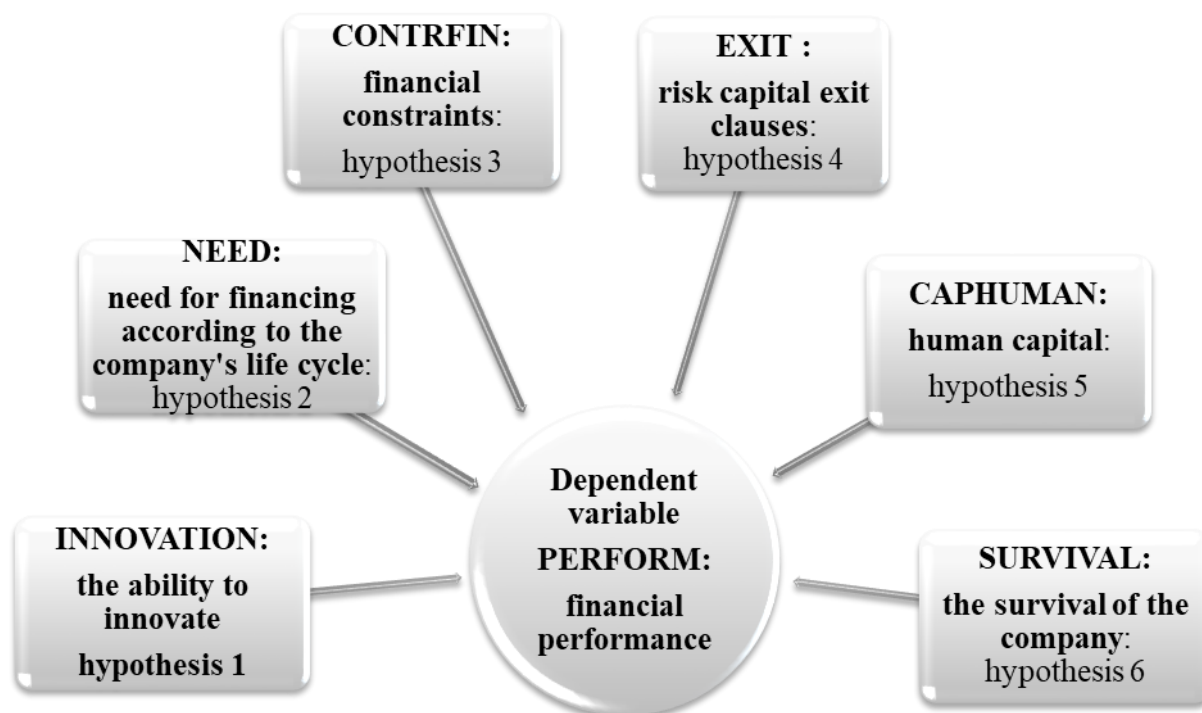


Figure 1: diagram representative of the hypothesis.

**2.1. Innovation:**

The multitude of innovation possibilities encourages venture capital firms to exploit these opportunities because venture capitalists have a very important contribution in terms of financial and managerial assistance. According to the industry organization literature, companies are more seemingly innovative than startups since the scale of possible innovation is large. Thus, the importance of innovation is related to funding at a favourable stage (Reinganum, 1983; Gans and Stern, 2000). Venture capital firms usually specialize in a small group of firms and, therefore, may have an advantage in valuing firms strictly (Land and Pyle, 1977). The function of venture capital companies in innovating and reaching development is supported by other proofs. As stated by the National Venture Capital Association (1998) and Hellmann and Puri (2000), VC-backed companies can get their products to market faster than other non-VC-backed companies, which suggested that investors can assist innovative corporations in finding opportunities and distributing channels.

According to Masayuki Hirukawa and Masako Ueda (2011), companies experience high sales growth as investors change the planning of their business wallet to take advantage of innovation. These authors find that innovation affects the performance of companies financed by venture capital. In particular, the evolution of lagged innovation is positively linked with venture capital financing.

The main objective is to see if innovation is a determining factor in the performance of innovative companies financed by venture capital. So we derive these theories:

*Hypothesis 1: Innovation and the financial performance of companies that are financed by venture capital are linked by a positive relationship.*

**2.2. Financial constraints:**

Czarnitzki (2006) studied the role of financial constraints in the performance of the innovative activity of German companies. His sample is composed of innovative companies. It uses a financial integrity index estimate of companies to measure their lack of access to external financing in the presence of financial constraints.

Czarnitzki (2006) is specifically interested in the constraints of financing innovation and measures the difficulties of access to external financing from a rate provided by a specialized agency. These rates are evaluations measuring the financial profitability of companies based on information relating to different levels. Venture capital firms, which rely on this synthetic information, provide financing at a reduced cost to companies with financial performance. He also discussed the role of financial constraints on the innovation spending of German companies. He introduced an indicator of financial reliability of companies to measure financing obstacles in relation to financial constraints that positively influence financial performance.



## The Financial Performance of Companies Financed by Venture Capital

*Hypothesis 2: the impact of financial constraints on the level of financial performance is positive.*

### **2.3. Financing need according to the company's life cycle:**

The venture capital financing mechanism is likely to reduce the agency problem between venture capital firms and entrepreneurs and, by its flexibility, it takes into account the financing needs of the company depending on its stage of development. development; This new method of financing is supported by support or a partnership (Etoundi, 2003).

Contemporary studies have taken into consideration the problem linked to the need for financing, depending on the company's life cycle, as a fundamental determinant for the performance of innovative companies in Belgium. Among these studies, research that established the importance of the need for financing in the start-up and growth phase (Pirnay, Surlemont and Degroof, 2006). Problems of financing by venture capital funds are mentioned in particular, both for "seed capital" (seed / start-up) and "early stage" (development). According to the literature we note that the life cycle of the company influences the performance of innovative companies financed by venture capital. This assumption is made with the aim of predicting a certain direction in the context of the relationship between venture capital and the innovative firm. Casamatta (2003),) has shown that performance is positively correlated with the need for financing, and mainly the stage of development. So the investment conditions introduce the volume of investment and the stage of development (Black and Gilson, 1998). Then, we go a little further in the analysis of the characteristics of the added value provided by venture capital companies. In fact, the consistency of the impact of venture capital on company's performance may be different especially in the early years following the entry of venture capital firms. Assuming that the admittance of a venture capitalist includes some sort of business renaissance, the most significant effect is expected to be in the first two years of venture capital funding (Bertoni et al, 2011). For his part, Sapienza and Gupta (1994) concluded that the phase of evolution of the company is one of the direct sources of risk. Venture capital firms are able to provide a business with particular growth during its early stages of development. Typically, venture capital funding is largely intended for the development and growth stages (Gabrielsson and Huse, 2002). According to Amit et al (1997) This contribution is low in the priming and starting stages. Nomo (2008) concluded that there is an evolution of the financing rate of the development phase which translates a positive impact on financial performance. In addition, traditionally in Canada, venture capital has is more oriented towards the stages of development or growth of the portfolio companies such as towards the start-up or start-up stages (Amit et al, 1997). Nomo (2008) reports that between 2001 and 2004, the average rate of venture capital invested in later stages of business development in Canada was 44%, rising to 47% in 2005 and 57% in 2006.

*Hypothesis 3: the need for financing according to the life cycle has a positive impact on the financial performance of companies financed by venture capital.*

### **2.4. Human capital:**

Investors find it quite complicated to locate the dangers and findings of innovative companies that lack experience and to look for developing ingenious technologies (Carpenter and Petersen, 2002a). Therefore, a negative effect related to the selection problem appears, as investors are not able to separate innovative companies with high quality projects. It is, also, quite difficult for investors to keep an eye on the behaviour of innovative entrepreneurs. In these conditions, there is an ethical hazard issue. Thus, obtaining an extrinsic financing can lead to entrepreneurs proceeding in an opportunistic manner.

The adverse selection mentioned above and the problems of (Berger and Udell, 1998). Sadly, the ostly of assets of innovative companies are intangible and / or specific to the company, of so that they have little of guarantees to offer. Consequently, innovative companies will struggle to secure a suitable foreign financing and most of them have to depend exclusively on personal funds (Berger and Udell, 1998).In turn, these constraining financial situations block innovative companies with high growth scope from seeking another adequate means of financing (Carpenter and Petersen, 2002 b). Venture capitalists are not as much exposed as other investors to the adverse selection of risk issues. Therefore, they are able to choose innovative companies with great possibilities and supply them with the financing and value-added services that are necessary to achieve the desired profitability (Gompers and Lerner, 2001, Denis, 2004). In conclusion, businesses backed by venture capital firms are growing faster than others. These companies, founded by people with eligible skills, have greater capacities than other companies. Unfortunately, the possibility linked with these capacities might stay untapped, or partly exploited, due to the deficiency of funding. To the scope that venture capitalists are able to recognize these potential, innovative companies with team spirit made of qualified experts, will attract venture capital investment than any other companies (Gompers and Lerner, 2001; Denis, 2004). Venture capital firms are early stage investors who may have more capacity than other investors and therefore they are able to choose companies having a well-structured human resources function. These investors can provide their expertise to companies with extra skills and human resources mainly performing a support function. Human capital is characterized by high skilled and competent people (the most educated at academic level in economics, management and

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experienced in the same sector) which will affect financial performance. Thus, the growth of companies financed by venture capital is directly affected by the impact of the human capital. However, we suppose the following hypothesis:

*Hypothesis 4:* The growth of innovative companies is indirectly affected by the human capital of founders, adjusted by venture capital investments.

### 2.5. The exit of venture capital companies:

Bamford et al. (1999) suggested that the first decisions and conditions of the evolution of the future of the company are favored by the venture capital firms. In early phases, entrepreneurs consider an initial planning relying on the resources they already have and those they have acquired (Döllinger, 1995). The participation of venture capital implies a kind of "rebirth", the resources supplied by venture capital participate in the existing set of resources and encourage entrepreneurs define a fresh strategic behavior oriented towards a positive effect even in the event of its absence. Therefore, it is expected that the footprint exerted by venture capital firms, during the holding period, will continue to operate and be of benefit to the funded business even after the venture capital firm exits. The fundamental argument is that the capacities of these investors indelibly influence the company and all kinds of operations. However, the way and method of organizing things become routine that will continue to be active and effective even after they eventually leave. In particular, we assume that once the effect of the participation of venture capital firms (which shifts the productivity of the firm to higher levels than those preceding the entry of venture capital) is absorbed, the corporate profitability does not decrease (i.g productivity growth). The presence of venture capital is also probable to affect the probability that companies are acquired, because commercial sales are by far the most common medium for venture capital firms (Bottazzi et al. 2004). So, if there is a relationship between financial profitability and output and, in turn, output will be significantly correlated with productivity growth. In contrast, we find that this financing immediately increases business sales and employment. On the other hand, it is undeniable that this investment immediately boosts the sales and employment of companies. The development rate indicates the importance of the injection of venture capital for these companies to perform their planning. These results show the various effects concerning the sustainability of the evolution for companies supplied by venture capital.

*Hypothesis 5.* The exit of venture capital companies has a positive impact on the performance of the company.

### 2.6. The survival of the company:

Most previous studies show that companies funded by venture capital grow faster, they have a strategy that promotes long-term financial performance. The existing innovation spirit literature has shown that productivity evolution is an appropriate execution rate for innovative companies that specialize in high-tech industries. Furthermore, it is interesting to note that we strongly adhere to the idea of Chemmanur et al, (2011) by modeling a selection process based on the economic performance of firms (i.e. improvement operating efficiency, measured by productivity growth). However, we believe that venture capital firms can select companies based on their "performance potential" and not on past performance (Clarysse et al, 2011). As suggested by Bamford et al (1999) and Boeker (1989), the first decisions and conditions of financing have a lasting influence on the future of the evolution of the company. In the early stages, entrepreneurs adopt an initial strategy based on the funds they already have and those they have reasonably acquired (Döllinger, 1995). Since the participation of venture capital, we involve a kind of "renaissance cabinet", the resources provided by the venture capital firms contribute to all existing resources and support entrepreneurs define a new strategic behaviour based on long-term impacts. Therefore, it is expected that the influence exerted by venture capital firms during the holding period will continue to work and be beneficial to the business. The primary argument is that venture capital possibilities habitually influence the organization and all kinds of operations.

*Hypothesis 6.* The survival of the company positively influences the performance of innovative companies financed by venture capital.

### 2.7. The dependent variable "financial performance":

Referring to the dimensionality tests, we analyze the productivities of labor and capital, and the level of sales as measures of the performance of companies financed by venture capital. These residual growth measures were completed by Van Biesebroeck, (2007). The increase in sales is seen as a signal of the reliability of the company's activity. Puri and Zarutskie (2010) prove that companies financed by venture capital have a higher level of sales than those not financed by venture capital. Accordingly, this factor is composed of: labor productivity, capital productivity and the level of sales.

## 3. RESEARCH METHODOLOGY

### 3.1. Breakdown of companies by business sector:

Percentage of participation of venture capital companies by business sector:

<i>Sector</i>	<i>Percentage of participation</i>
Telecommunications	65%
Suppliers of technological equipment	55%
Software	45%
Biotechnology	60%
Construction	30%
Oil	40%
Communication	60%
Materials	25%
personal products	15%
Health services	25%
Energy	56%
Equipment	20%

These results are consistent with those of Jean-Sébastien Lantz, Jean-Michel Sahut and Frédéric Teulon (2011), in fact we demonstrate the evolution of investments in the industrial sector. In Tunisia, the first sectors taken into consideration by the venture capital companies that have benefited from most of this investment are activities relating to software and telecommunications, the biotechnology and medical device sectors have become two predominant targets of venture capital investment. A significant increase in the technology and energy sector reflects the concern of venture capital investors in innovative activities.

### 3.2. Research model:

In order to better specify our model, the questionnaire for this study is made up of closed questions. To simplify the work of the respondents, open questions were avoided. However, there is a small number of control questions, which allow the consistency and credibility of the answers to be checked. The questionnaire is split into four sections:

The first section aims to enter the general information of the company (age of the company, sector of activity and percentage of capital held by venture capital companies). The second part contains the determinants of a strategic nature. So we have the company's ability to innovate, the most likely scenario for the future of the company, the relevance of the company's human funds in the presence of risk capital and the degree of satisfaction with the exit clauses venture capital. The third part deals with the financing of the company. The questions asked correspond to the business financing need and business financial problems. The last part is devoted to the contribution of venture capital to profitability.

Consequently, we have a model that reflects the relationship between strategic and financial factors on the one hand and the financial performance of companies financed by venture capital on the other. The six hypotheses are fed into an equation which then allows us to perform the hypothesis tests based on linear regression:

$$\text{PERFORM} = \text{constant} + \beta_1\text{INNOVATION} + \beta_2\text{CAPHUMAIN} + \beta_3\text{SURVIE} + \beta_4\text{SORTIE} + \beta_5\text{CONTRFIN} + \beta_6\text{BSFIN}$$

#### **Control variables:**

We integrate control variables, first, we have the age of the company introduced to allow us to control for the cross-sectional differences between companies, respectively, according to age. Second, we will include the size of the firms as a control variable. In our model of the relationship between venture capital financing and firm performance, the effect of firm size is typically used in this type of analysis (e.g. Grilli and Murtinu, 2012). Nonetheless, we proceed to check whether the “company size effects” affect our results.

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The final variables of the model.

<u>Independent variables</u>		
<u>Variable</u>	<u>Item</u>	<u>Defi nitio n</u>
<b>INNOVATION:</b> the ability to innovate	INNOV1	New products
	INNOV2	Improvement of procedures or production processes
<b>CONTRFIN :</b> financial constraints	PROBFIN1	Risky activity
	PROBFIN2	Debt ratio
<b>NEED:</b> need for financing according to the company's life cycle	BSFIN1	Pre-start
	BSFIN2	Start-up
	BSFIN3	Growth
<b>CAPHUMAN :</b> human capital	CAPHUMAN1	Level of education
	CAPHUMAN2	Professional experience
<b>SURVIVAL:</b> the survival of the company	SURVIVAL1	Funding potential
	SURVIVAL2	Long-term risk taking
	SURVIVAL3	Development strategy
<b>EXIT :</b> risk capital exit clauses	EXIT1	Preemption or approval clause
	OUTPUT2	Exit clause agreed
<b>Size of the company</b>	LOGTA	It is the natural logarithm of total savings.
<b>Activity area</b>	SECT	Binary variable which takes 1 if the company belongs to a high-tech sector, 0 in the opposite case
<u>The dependent variable</u>		
<b>Dependent variable</b> <b>PERFORM:</b> financial performance	PERFORM1	Labor productivity
	PERFORM2	Capital productivity
	PERFORM3	Sales level

#### 4. METHOD OF ANALYSIS

The hypothesis test on our general model is carried out by linear regression. The objective of this analysis is generally to specify the relationship between all the variables. Regression was used to study the main effects and the interaction of the independent variables. The usual indicator is the Fisher or Student test with also the degree of freedom and level of significance, the Beta coefficient associated with each independent variable represents the percentage of participation of this criterion in the model, if it is negative, the dependent variable is not explained linearly by the independent variable.

#### 5. THE MAIN EMPIRICAL RESULTS AND INTERPRETATIONS

## The Financial Performance of Companies Financed by Venture Capital

The value of F is 71.283 and therefore it is significant at  $p < 0.0005$ . So this explains why the probability of having an F value of this dimension by chance is less than 0.05%. There is, therefore, a statistically considerable linkage between the dependent variable and the independent variables. We therefore conclude that the model presented by the independent variables approves a better prediction of the dependent variable.

### ANOVA 1

ANOVAa						
Model		Sum of squares	Dof	Average squares	of D	Sig.
1	Regression	72.779	4	18.195	71.283	,000a
	Residue	29.353	115	,255		
	Total	102,132	119			
at. Dependent variable: financial performance						
b. Predicted values: (constants), EXIT, NEED, SURVIVAL, INNOVATION, SECT, CAPHUMAIN, LOGA, CONTFIN						

**please note:** the absence of significance (i.e. p associated with the Fisher value is not significant), does not allow the model to be interpreted.

### 6. MODEL SUMMARY

In our model, the multiple correlation coefficient is equal to 0.84. This coefficient informs us about the fit of the data to the model. Referring to the square of the correlation coefficient, we have a value of  $R^2$  equal to 0.71. This specifies the proportion of the variability of the endogenous variable (y) explained by the regression model. We can therefore say that the involvement of venture capital firms can explain nearly 70% of the variation in the independent variables.

#### Model 1 summary

Model summary				
Model	R	R-two	R-two adjusted	Standard error of estimate
1	,844a	,713	,703	,50521798
at. Predicted values: (constants), EXIT, BSFIN, SURVIE, INNOVATION, SECT, CAPHUMAIN, LOGA, CONTFIN				

The following table is fundamental, because it is able to specify the explanatory variables which have a significant influence on the model. The variables which have a positive effect are the determinants which allow the global model to offer a significant added value in the understanding of the variability of the variable to be explained. The standardized coefficients are likely to see the direction of the relationship between each independent variable and the dependent variable (positive or negative effect). The hypothesis tests performed on the LOGA and SECT control variables are not significant.

#### Multiple linear regression. 1

Model		Beta	T	Sig
1	(Constant)		3,615	,000
	LOGA	,026	,292	,771
	SECT	,179	2,024	,045
	CONTFIN	-,143	-1.099	,274
	BSFIN	,271	3,746	,000
	INNOVATION	,239	3,299	,001
	CAPHUMAN	,324	3.816	,000
	SURVIVAL	,298	3.507	,001
	EXIT	,210	4.124	,000

Dependent variable : PERFORM

## The Financial Performance of Companies Financed by Venture Capital

Statistical analysis allows us to identify some significant links:

### 7. RELATIONSHIP BETWEEN STRATEGIC VARIABLES AND THE FINANCIAL PERFORMANCE OF COMPANIES FINANCED BY VENTURE CAPITAL

#### 8. ABILITY TO INNOVATE

The objective of hypothesis (H1) is to test the effect of innovation on the financial achievement of innovative companies financed by venture capital. According to the verification of statistical test results, this factor positively influences financial performance. However, the coefficient relating to the contribution of this indicator is greater than zero (0,239). Test of 3,299 and the significance level is 0.001 so the hypothesis H1 is accepted. This hypothesis predicts that the ability to innovate positively influences financial performance. The items of the INNOVATION variable used are: new products and / or services and improvement of procedures or manufacturing processes.

According to the literature on the organization of industry, companies financed by venture capital are likely to grow when the scale of possible innovation is immense. Reinganum (1983) and Gans and Stern (2000) emphasize the importance of innovation and find a positive relationship between innovation and the performance of funding a favorable stage through venture capital. The role of venture capitalists in innovating and achieving growth is supported by another proof. Hellmann and Puri (2000) predict that firms financed by venture capital are likely to sell their products to the market more easily and in a shorter period, since innovations stimulate venture capital firms to participate in the financing of these companies. Masayuki Hirukawa and Masako Ueda (2011) find a positive relationship between innovation and the financial performance of companies financed by venture capital, they therefore find that these companies experience high sales growth as investors change their portfolio strategy to take advantage of innovation. According to these authors, the growth of lagged innovation is positively linked with financial performance.

#### 9. THE SURVIVAL OF THE COMPANY

Hypothesis (H2) presents the influence of firm survival on the financial performance of innovative firms financed by venture capital. According to the regression applied on this hypothesis test, the variable "SURVIVAL" positively influences financial profitability. However, the coefficient associated with the contribution of this indicator exceeds zero (0, 298). Test of 3.507 and the significance level is 0, 001. Hypothesis H2 is confirmed. This assumption predicts that the survival of the company has a positive impact on performance. The criteria for this factor are characterized by a risk-taking development strategy with a well-defined long-term financing potential. In addition, we are convinced from the results of Chemmanur et al, (2011) that the choice of companies is based on performance future economic (improvement in operating efficiency, measured by productivity growth). In addition, venture capital firms select companies based on their "performance potential" and not on past performance (Clarysse et al, 2011). Our results coincide with those of Bamford et al. (1999) and Boeker (1989), who find that the future and development of the venture capital firm has an effect on its financial performance. Venture capital helps improve corporate resources and support business leaders to define new strategic behavior based on effects that have continuity in the future. This implies that this effect exerted by venture capital firms during the holding period does not cease to function and be beneficial for the company. Consequently, the survival rate of the firm could positively influence the financial performance of companies, through its potential for venture capital financing, because these companies benefit from a greater donation of both financial and non-financial funds as confirmed by (Puri and Zarutskie, 2011).

#### 10. THE EXIT OF VENTURE CAPITAL

This hypothesis has just tested the influence of the exit of venture capital on the profitability of innovative firms. However, according to the regression applied on the conceptual model, hypothesis (H3) is confirmed. The independent variable relating to the exit of venture capital has a coefficient linked to the contribution of this indicator in the model, equal to 0, 210. Student's test is 4.124 and the significance level is 0, 000.

Throughout the holding period, the footprint exerted by the venture capital firms will keep on functioning and being profitable for the funded company, even after the venture capital firm exits. The authors assume that the capabilities of these investors perpetually affect the company and all kinds of long-term operations. The methods learned become routines that will continue to be active and effective even after their definitive dismissal (Packalen, 2007). Venture capital financing is a factor enabling business acquisition (Bottazzi et al. 2004). As a result, output will be significantly correlated with financial performance. The growth rate indicates that The entrepreneurs of the company can impose an exit clause in order to limit the entry of an unwanted shareholder or else so that none of the parts of the group of shareholders can sell shares to a third party without the latter. was explicitly part of this alliance. This is always in favor of the company and its financial performance.

### 11. HUMAN CAPITAL AND ITS IMPACT ON FINANCIAL PERFORMANCE:

Hypothesis (H4) has just tested the link between human capital and the financial performance of companies financed by venture capital. The regression results performed on this model, demonstrate a positive influence of human capital on the endogenous variable "financial performance". The beta coefficient of this indicator is greater than zero (0,324). The Student's Test is 3.816 and the significance level is 0,000. The hypothesis relating to the CAPHUMAN variable is confirmed.

The econometric results relating to the human capital of the founders support the assertion of the skills-based potential that the most qualified people (according to our estimates the most educated at university level in economics, management and with more than technical work experience in the same sector as the innovative company) ensure better performance for the companies financed. So the hypothesis H4 is accepted. According to financial literature, human capital has a constructive effect on the evolution of the venture capital-financed firm. This argument holds for the experience of the founders and their academic level. Unsurprisingly, the previous results suggest that some of the characteristics of human knowledge have a positive impact on firm performance. Venture capital investments are attracted by the experience of human capital. Estimates from a regression model demonstrate that the human capital directly associated with the assistance of venture capital firms will have explanatory power (Hellmann and Puri, 2002). Most of companies have confirmed that due to the certification effect of being funded by venture capital, it has become much easier for them to access external resources and professional capacity, including through the creation of business alliances. Previous studies (Baum and Silverman, 2004) have confirmed this hypothesis. This research has highlighted different reasons why access to venture capital finance promotes the growth of innovative companies with human capital with specific characteristics. So we are talking from a perspective based on the skills and the most competent people (university level in the fields of economics, management and having technical work experience in the same sector),

### 12. FINANCIAL VARIABLES

#### 13. FINANCIAL CONSTRAINTS

Hypothesis (H5) tests the effect of financial limitations on the performance of innovative companies financed by venture capital. When analyzing the results of regression tests, this factor negatively influences financial profitability. We have a coefficient which is less than zero (-0.143). «Test of -1.099 and the significance level is 0,274 therefore hypothesis H5 is rejected. Financial constraints have a negative effect on financial performance.

Hypothesis (H5) anticipates that fiscal restrictions based on the debt ratio and risky activity present criteria preventing financial performance. The financial constraints specified by the variable "CONTFIN" have a negative effect on financial profitability, hence the H5 hypothesis is rejected.

Our result runs counter to the Czarnitzki study (2006) which investigated the role of financial constraints on innovation spending and the performance of German firms. In accordance with the results of his study on a sample of innovative companies, he introduced a criterion that defines the financial profitability of companies to measure financing obstacles, finally, he noted the existence of financial constraints that positively influence financial performance. He has proven that venture capital firms rely on this synthetic information and provide financing for profitable businesses at a reduced cost.

### 14. THE NEED FOR FINANCING

The need for financing according to the life cycle of the company has a positive impact on the financial performance of companies financed by venture capital, thereafter the hypothesis (H6) is accepted. However, the coefficient relating to the contribution of this indicator is greater than zero (0,271). Test of 3,746 and the significance level is 0,000. Hypothesis (H6) is confirmed. This factor is specified by 3 phases: pre-start, start-up and growth. The younger company assimilates a good involvement of venture capital firms. During the early stages of the life cycle, the business doing business with venture capitalists achieves its desired profitability. In other words, the financed company must not go beyond the growth phase.

Pirnay, Surlemont and Degroof (2006) deal with the effectiveness of financing needs in the start-up and growth phase. According to these authors, the business life cycle influences the performance of innovative companies financed by venture capital. Casamatta, Cornély and Yosha (2002) have shown that performance is positively correlated with the need for financing, and mainly the stage of development. During the early years of the business life cycle, venture capital firms approve an increase in the performance thanks to value-added services. Bertoni et al. (2011) demonstrate that it is a significant effect of this variable during the first two years of venture capital financing. Our result goes against that of Sapienza and Gupta (1994) who concluded that the stage of development of the company is one of the direct sources of risk. Generally speaking, venture capital financing

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is largely intended for the development and growth stages. Nomo (2008) deduced that the need for financing during the growth phase has a positive impact on the financial performance of the company financed by venture capital. Frequently, venture capital is devoted mainly to the stages of development or growth of portfolio companies (Amit et al, 1997). Consequently, the hypothesis dealing with the influence of the variable "BSFIN" on financial performance is justified.

### CONCLUSION

Access to venture capital finance is seen as an additional financial resource for companies when financial constraints are inadequate. During the early years of the business life cycle, venture capital firms approve an increase in the performance thanks to value-added services. Generally speaking, venture capital financing is largely intended for the development and growth stages.

These results greatly expand the comprehension of the impacts of human capital and venture capital exploitation on the evolution of innovative firms. There is approval in the existing entrepreneurship literature that these agents are two fundamental drivers of evolution. It is believed that a complete and precise presentation of the partnership process of investors of innovative companies and venture capital would be an important step to build a better theory of the performance of innovative companies. In modelling this partnership process, we must consider that its results are subordinate to diverse impacts. More theoretical work will be necessary to earn a better understanding of the determinants of the non-financial performance of innovative firms.

Existing empirical studies have shown great know-how to address the challenges of establishing and quantifying a causal relationship between venture capital and innovation. For example, this model proposes that the connection between venture capital financing and the profitability of innovation might rely on the prospect for extracting surpluses from innovative firms and therefore on the characteristics and structure of the industry. It would be interesting to explore it experimentally in future work. The effect exerted by venture capital firms during the holding period does not cease to work and be beneficial to the business. Consequently, the firm's survival rate could positively influence the financial performance of companies through its potential for venture capital financing.

The study of venture capital could be extended in other research perspectives. The distribution of control rights has been considered fundamental for exit decisions (Dessí, 2005) and the design of optimal contracts for innovative entrepreneurs in the existence of exit decisions as well as their potential. The entry of competing companies deserves to be deepened. In general, much remains to be done to study the relationship between venture capitalists (e.g. control rights, staging, syndication) and innovative firms.

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## Just Imagine Financial Planning Software That Does This



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**Abstract:** Very little research has been done on strategic financial planning software programming. Today's approach is to perform a single simulation, calculation, or utility application and assume the results apply to all times and allocations for all future ages. But time periods change with age as do allocation characteristics over time. This paper steps back to look at financial planning software programming as a foundational strategy to model retirement income while aging that same retiree over time, meaning looking at all the possible future time periods as well as all prudent allocations over those possible future time periods. Additionally, research to date has focused on "early stage" retirement meaning the retirement event occurs sometime in the retiree's age-60's. In other words, the inception of retirement. Little research has been done looking at the transition into later stage ages or later allocations for portfolio income distributions through "late stage" retirement years. It is not enough to know how to initiate retirement. It is also necessary to know how to sustain retirement spending prudently, as well as how spending decisions ripple through age to future bequest balances. This paper reviews concepts on how to imagine that transition to and through late-stage retirement and develop better software programming using a data cloud concept to accomplish that early-to-late stage retirement income modeling based on research evidence. The author is a practitioner nearing nearly three decades specializing in research and application of drawdown of portfolios for supplemental retirement income, clinically with many different retirees of many different ages all at the same moment in time. The author also has numerous research papers published in the *Journal of Financial Planning* and numerous other published papers leading to the thoughts in these referenced papers and below. The author suggests integrating many different disciplines is important to advancing retirement income planning into more focused modeling, rather than today's single simulation approach.

**KEYWORDS:** Financial Markets, Probabilities, Statistical Methods, Financial Services, Personal Economics, Software Programming

**JEL Classification:** C1, C5, C6, G4, G29, M5

### INTRODUCTION

Financial planning software today is still a calculation-based approach that derives a supposed solution that most in the profession call a plan. Under the current paradigm, there is much more to be desired. Those desires are currently limited by the perspectives and interests within the software provider community that is also driven by the demands from the profession also unaware of what may be, as compared to what is. This phenomenon is a form of group think. Advisers are unaware of what may be, so they can't ask the software profession to develop and provide something neither group is aware of, or even thinking of.

From the perspective coming from the author's approaching three decades in the profession as a practitioner with more than half that time also as a published researcher (*Journal of Financial Planning* ([Google Scholar](#)) with working papers posted on [SSRN](#)) puzzling over what makes retirement income simulations and modeling tick, the author doesn't see the advances in approach and application in the financial planning profession and software programming that is seen from advances in other professions and the sciences over the same time period. Innovation in thought and application is slower in the planning profession which may be due in no small part to the emphasis on software development, and the profession, focused on the sale of products, rather than an emphasis on models that support planning, advising and retiree decision making.

Neither group seeks out other information from other disciplines either, as explained below.

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Maybe a bit critical, but perhaps some will see what may be possible through the lens of small paradigm shifts (paradigms discussed in SSRN paper titled “What are the Three Paradigms of Retirement Income Planning” (Frank, 2022) that come from the application of some key capabilities and insights from other professions. Capabilities and insights that would move the profession from simple calculations (what most now call simulations by applying Monte Carlo, or stochastic processes) to modeling the process of aging for retirement planning income purposes, both before and after retirement, and with a seamless transition between working years and retirement year (and within those retirement years as well) based on using the same modeling “imagines” described below. In other words, a unified model based on age.

This topic is not a matter of opinion as some may believe. It is a matter of disciplined experimentation involving control values so results can be meaningfully compared, contrasted, evaluated, and duplicated. Experimentation with control variables to test and prove or disprove hypotheses comes from the application of the scientific method. Each of the below “imagines” are testable (most already have been tested and published), and all can be combined into one model that has yet to be developed. Experimentation is how science, based on evidence, works.

The current paradigm is a continuation of the past deterministic approach in thought and concept, only with a Monte Carlo overlay where each simulation is cast over a single period, most commonly 30 years. The contrast between today’s Monte Carlo, or stochastic, computation is comparable to the deterministic computations utilized prior to Monte Carlo applications as shown in Figure 1.

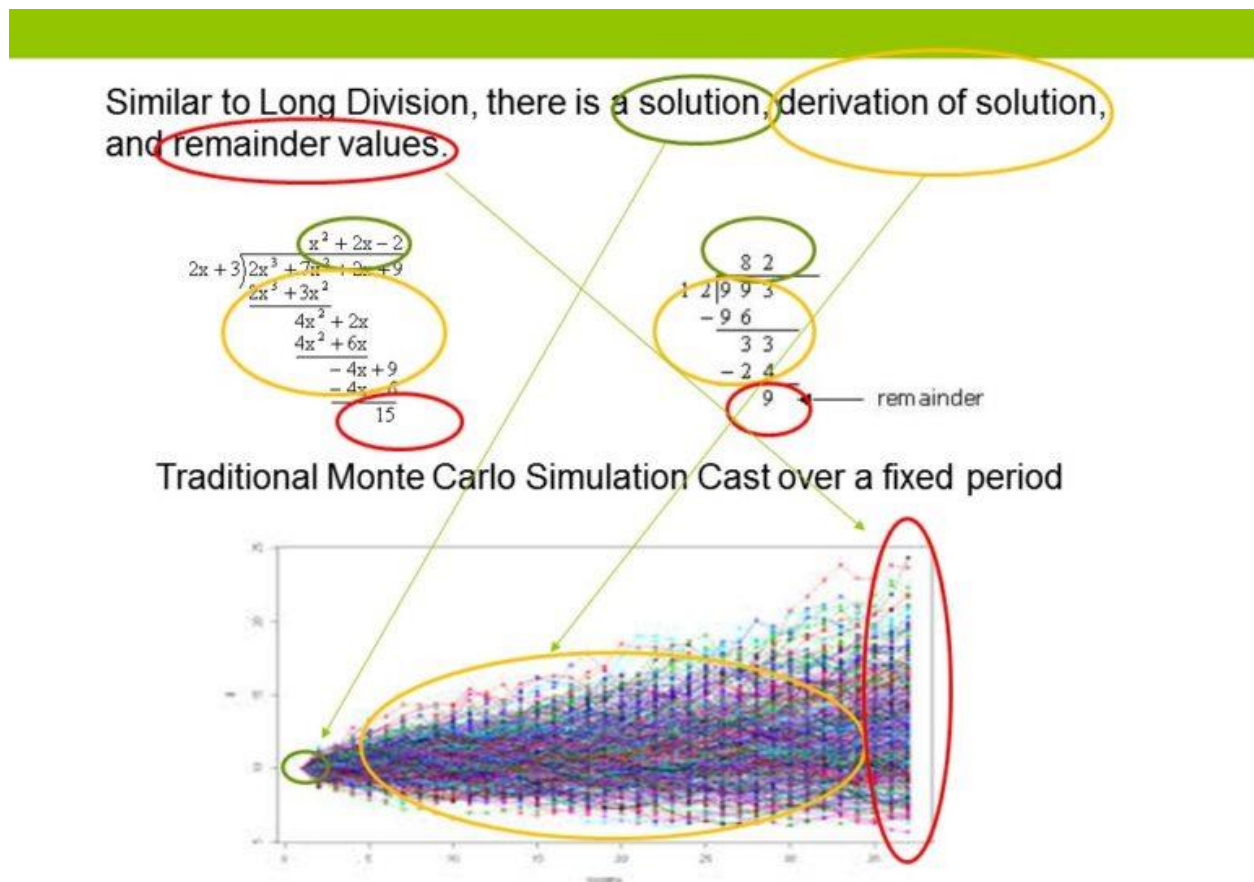
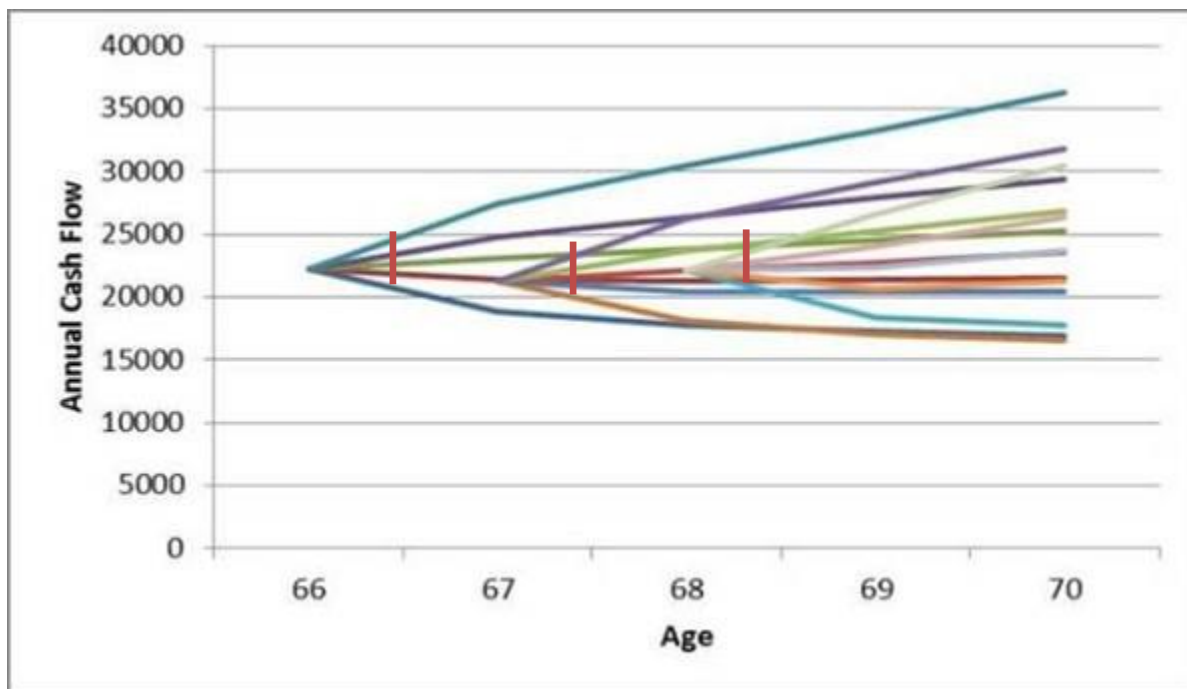


Figure 1. Traditional Deterministic computation compared to a Monte Carlo simulation.

What about other time periods? What about other efficient allocations? How do all of these compare to each other? At what ages should allocation change? This single simulation, *and* single calculation, approaches creates an illusion of modeling. Each and every time current paradigm software runs, it performs redundant calculations for the same single time period as well as the same allocation, that with a small paradigm shift, need only be performed once and captured as explained in the SIPMath segment below (SIPMath is a process that captures [auditable](#) data).

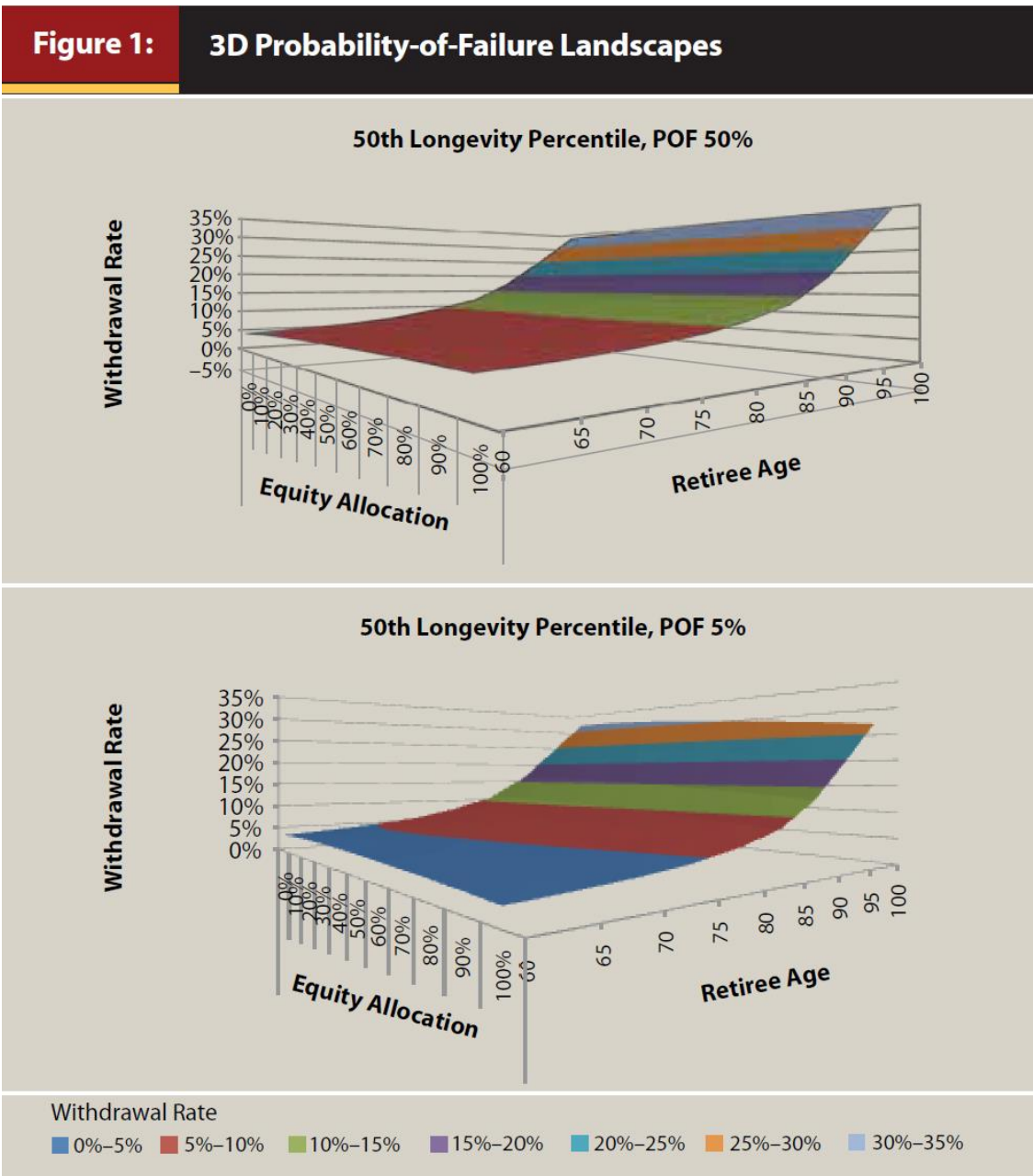
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Auditable data: Each simulation should contain a sufficient number of iterations such that a repetition of that same simulation would produce statistically similar iteration results when iteration percentiles are compared. Also, a sufficient number of iterations such that differences between each iteration percentile produces meaningfully different results between iteration percentiles, e.g., 60<sup>th</sup> percentiles, 50<sup>th</sup> percentiles, 40<sup>th</sup> percentiles, or any XX<sup>th</sup> percentile; for specifically the end of year one (1) percentile values for cash flows and portfolio balances for uses “imagined” below. Note that later simulation percentiles fall within a greater dispersion of earlier simulation percentiles as depicted simplistically in Figure 2. This is referred to as a strategic use of simulation percentiles where serially connecting each simulation’s “end of year one” XX<sup>th</sup> percentiles (top of red bars, and bottom of red bars) together results in a more focused age-based sequence of a *range* of statistical cash flows and portfolio values outcomes withing those percentile selections. This serial connection is seen in Figure 6. Cash flow ranges scale proportionally to serially connected portfolio balances directly related through the drawdown rate calculated by age. The Cash Flow WITHIN a single fixed time period, as derived from a “rule of thumb” approach to longevity, Monte Carlo calculation is NOT the same as Cash Flow BETWEEN a connected series of Monte Carlos calculations with decreasing time periods that model aging (time periods come directly from a STRATEGIC use of longevity period life tables).



**Figure 2. How simulation percentiles of later simulations fall within those of earlier simulations.**

Finally, also with a sufficient number of iterations to produce discernible draw down rate results down to at least two decimal places, which allows for visible differences between asset allocation results *by age*, and visible differences between draw down rates *by age* as well (where “age” is represented by differing time periods of simulations). Yes, such precision is possible when evaluating simulation iteration percentiles at the end of year one in simulations; and comparable between different simulations for both allocation differences as well as time period differences, when the iteration failure rate (IFR) is held constant as the control variable. This as opposed to today’s inaccurate label of Probability of Failure (POF) where POF is not held constant but instead “floats” between various values perceived to be “acceptable” in the profession. The scientific method utilizes control variables so that different outcomes may directly comparable to each other. Draw down rates form a **three dimensional “data cloud”** (Frank, Larry R., John B. Mitchell, and David M. Blanchett. 2012a.) where age (time), allocation characteristics, iteration failure rate (commonly understood under the present paradigm as probability/possibility of failure), all derive the draw down rate (also called withdrawal rate). See Figure 3 for an early example of such a data cloud. Both Figures in Figure 3 below are from Frank, et al, 2012a labeled Figure 1 and Figure 2 in that published paper.



Upper panel of this paper's Figure 3 (labeled below lower panel next).

**Figure 2: Three Age Cross Sections Through Figure 1 Landscapes**

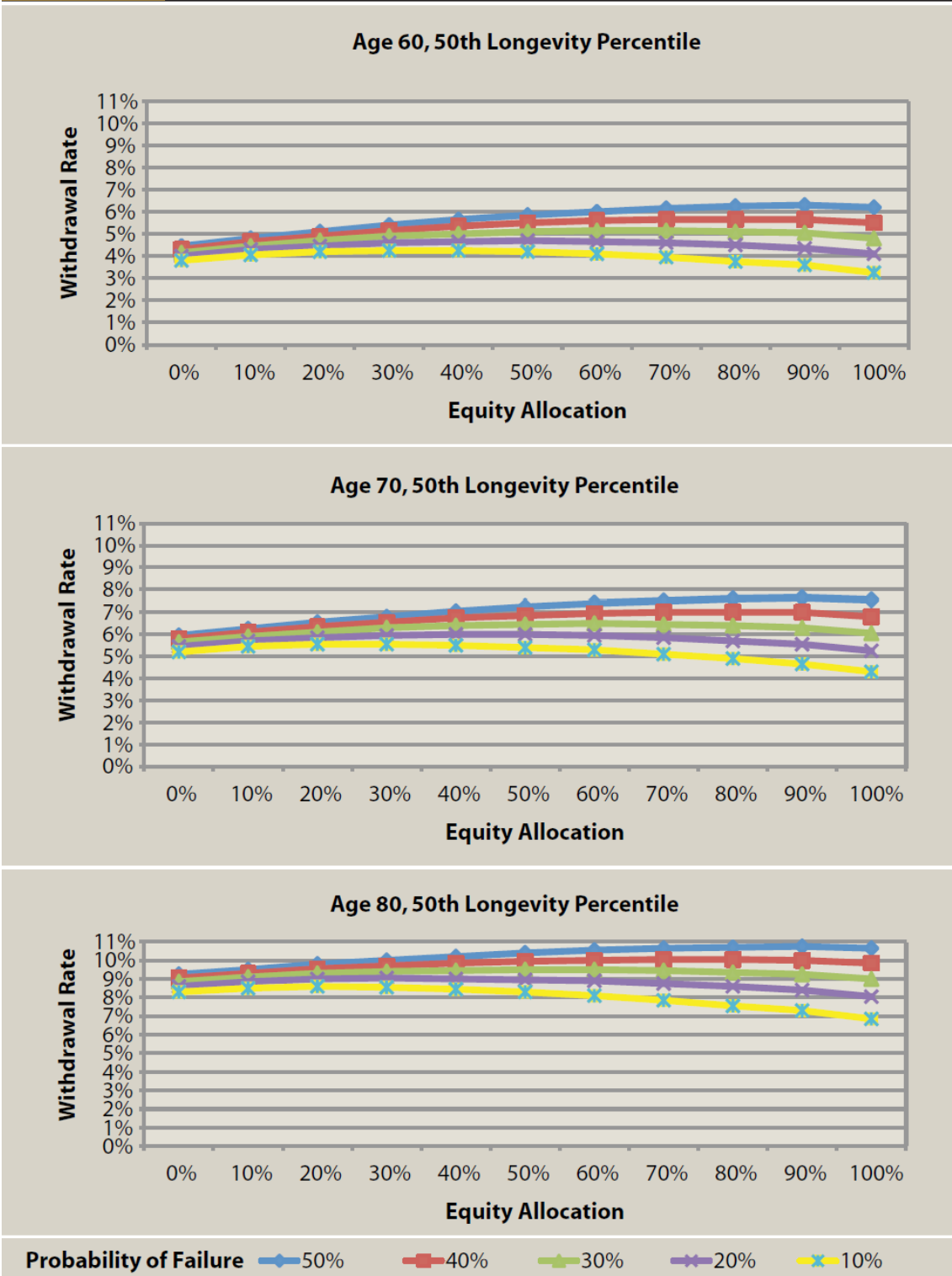


Figure 3. Example of a 3-D “data cloud” and cross sections (Figures “1” and “2” from Frank, et al, 2012a)

The 3D nature of retirement income withdrawals from portfolios over time and allocation was duplicated and confirmed through a completely different methodology in Suarez, E. Dante. 2020, Figure 26.



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Modeling software should be programmed to optimize the drawdown, by using the “data cloud” to simultaneously compare alternative efficient allocations at the present and *all future ages* too. Present software requires a hunt and peck approach to compare allocation choices, not only at the present age of the retiree, but at any future age as well. Not only this, but the connection between today’s age and any future age is missing for both cash flows and portfolio balances after fees. Today’s approach is simply *one data point* among many other allocation possibilities for present retiree age, with no data points available for decision making for future ages. This is akin to deciding to choose only one data point from Figure 3 above to make spending decisions over the remainder of the retiree’s life based on that single point in time (age and allocation make that one data point in 3-D space).

Additionally, there is no consistent use of life tables to determine a more statistical use of longevity data, and strategic use of longevity percentiles (Frank, Larry R., John B. Mitchell, and David M. Blanchett. 2012b), in determining a statistically determined “end” age for each attained age in the first place. A data cloud would compile data once and be able to be used often (Run Once Use Often) with annual updates to the data and thus the data cloud.

Use of a strategic use of longevity life table percentiles adjusts the exponential nature of drawdown rates due to ever shorter distribution periods. This can be seen in IRS Required Minimum Distribution (RMD) tables. It was also seen in work by Frank, et al, 2012b where the contrast between unadjusted for exponential results were compared to an adjustment for these exponential effects of ever-shorter distribution periods. See Figure 4.

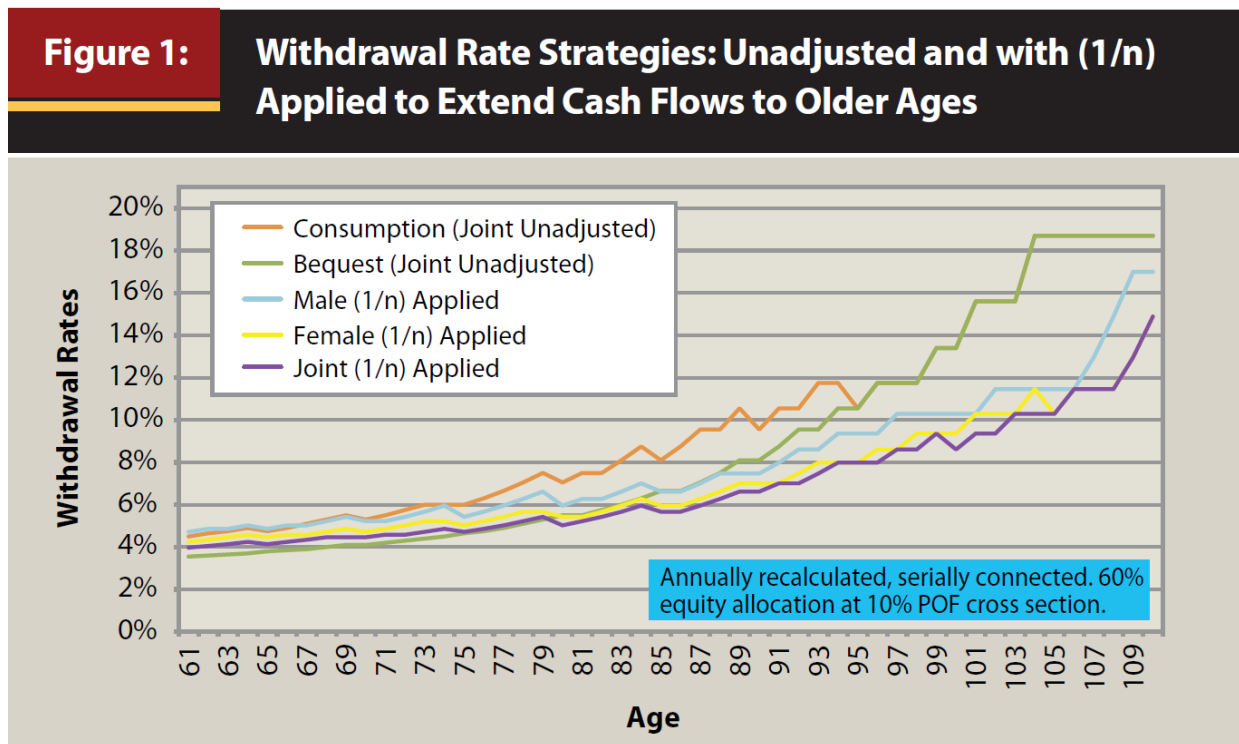


Figure 4. Both a longevity adjustment vs a distribution period adjustment (exponentiality) of 1-1/n. Note the label “Figure 1” from Frank, et al, 2012b label Figure 1 in that published paper.

It is known that spending early influences balances later (legacy or bequest values). There’s an implicit choice people make if they choose to spend more than prudent (lower bequest) or spend less (higher bequest). People can’t see that implicit choice when “age to age” calculations are performed one by one, one year at a time. This is not seen because the cash flows and balances WITHIN a simulation are NOT THE SAME as cash flows and balances BETWEEN simulations. The latter is a model where deeper insights are made.

On the topic of legacy. There’s a mental trick that is played on our brains in early retirement where the potential bequest appears large. It appears large because some of the money, I’ll call it “principal,” isn’t really bequest money – it’s lifestyle spending money for later years. As one ages, the principal needed decreases, because there are fewer years remaining that need lifestyle spending. The bequest amount is only really visualized when it is separated either by math (subtract it out in modeling), or by account where that

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account is not included in the modeling. Both approaches lead to the same results; only the latter being where the bequest can be clearly “seen” on statements and reports. Modeling the interplay over time between lifestyle today for the retiree, versus bequest for others makes this much clearer than single computations done year by year as one ages.

The reader may think that the IRS RMD does what the author suggests in this paper. The IRS RMD approach does result in drawdown rates based on age and does have the advantage of being independent of allocation characteristics, thus making it easy to apply to any retiree. However, the RMD rates are “raw” rates not adjusted by observations and adjustments made in Frank, et al, 2012b. The cons of this approach is that the portfolio is never optimized for an efficient frontier allocation and thus also not optimized for income drawdown either because the portfolio is not working as hard as it could. See Figure 5. Figure 5 also shows how optimized portfolio drawdown rates allow for greater spending relative to RMD tables in the early years. But, IRS RMD tables also forces more taxation in the later years (because of that unadjusted exponential effect (which is adjusted by  $1 - 1/n$  where  $n$  is the longevity percentile strategically determined distribution period). The unaware are thus spending more than they should spend in those later years. Yes, they're required to withdraw a given amount to pay taxes, but they are not required to spend it all, and shouldn't (they should reinvest the calculated unspent portion), based on longevity percentile considerations where they may outlive the non-strategical longevity percentile taken from the IRS tables, i.e., “raw”, determined time frame determined from the IRS RMD tables.

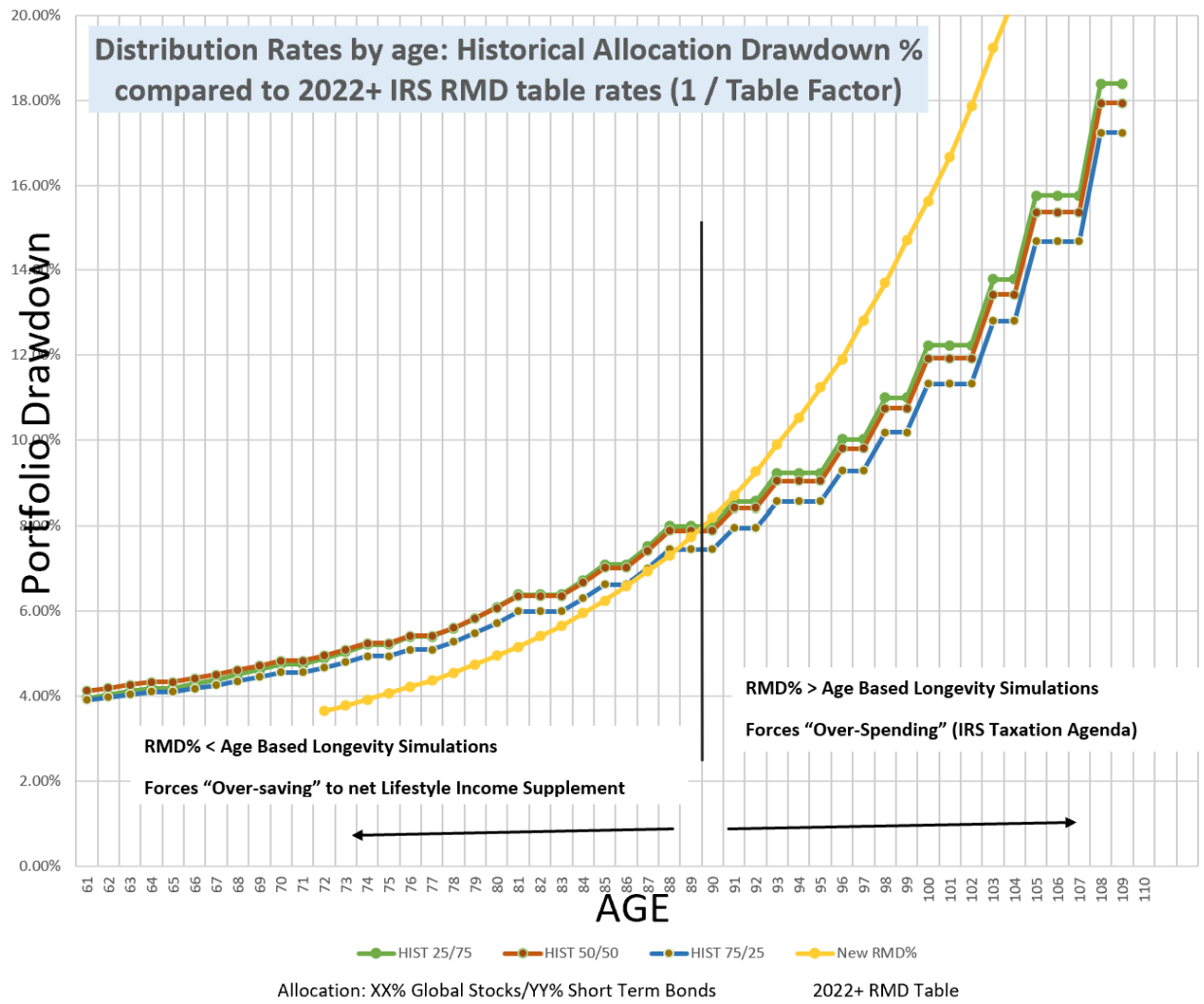
Note also that Figure 5 shows an example of a “data cloud” with separately calculated drawdown rates by age and portfolio allocations. Software could lookup the optimal drawdown rate by age and allocation with such a data cloud pre-programmed in.

It is well known that longer duration leads to lower drawdown rates. So, the question is, when do those longer, versus shorter, durations apply?

If one arranges data output on graphs based on age, i.e., putting their age on the x-axis representing the time function, it changes the perception as to how to arrange the data. That is Age(s) (e.g., 67, 68, ... 70 ... 75 ... etc.), instead of number of year (e.g., 1, 2, 3 ... 5 ... 10 ... 15 ... etc. *since or from retirement*). An important, but subtle, shift in perception and paradigm.

In other words, do longer durations apply at the END of the data stream (and thus influence our graphical depiction and thus interpretation, of the data as displayed)? This is how data and graphs are depicted presently and is an extension of our human minds wanting to count the years up ... “years since” or “year in” retirement, or “years of” or “duration of” retirement. All examples of counting the years up.

Or alternatively, do longer durations apply at the BEGINNING of the data stream (and thus influence our graphical depiction and thus interpretation, of the data as displayed)? When an age-based approach is applied by using life tables statistics to derive the time frame, this results in data being graphed and depicted with longer terms at the beginning of the graph or data tables, rather than longer terms at the end ... as one ages into shorter terms over time. The ah-ha comes from seeing ages and data aligned together graphically and in data tables. Drawdown rates and age-based longevity are data sensitive.



**Figure 5. Comparison of IRS RMD 2022+ Distributions with Longevity & 1-1/n Adjustments to “Raw” Drawdown rates.**

The hunt and peck approach (one data point at a time per simulation) to planning is long overdue for improvement, note that the exponential effect of “raw” rates were noticed and address in 2012 (Frank, et al).

As a result, draw down precision is currently missing in the present paradigm, especially to two or more decimal places. Rather, still in use, are rule of thumb approaches that have little connection to rigorous scientific calculative approaches, especially based on one data point selected from the data cloud. Draw down precision allows for strategic use of iteration failure rates, contrasting 10% versus 25% iteration failure rate data clouds for example, which can then be used for *pre-calculated* decision rules that are specific to present portfolio values and allocation characteristics, to develop a Distribution Policy Statement (DiPS) updated annually. The 25% data cloud would signal a target portfolio balance to trigger a spending retrenchment suggestion, as well as to what specific spending level (cash flow) is then suggested. (Frank, Larry R., John B. Mitchell, and David M. Blanchett, 2011). A rising iteration failure rate signals increased risk of over-spending because it means, given a fixed spending amount in dollars, and falling portfolio balances due to declining markets, that the drawdown rate has risen from declining markets. The positive correlation between high (low) drawdown rate and high (low) iteration failure rate is well known.

Clinical application of this approach shows that spending retrenchment is often less than imagined or feared *and* is often an automatic behavioral reaction of retirees clinically evidenced in both the 2008 and 2020 market and economic downturn episodes. A DiPS should address the behavioral aspects of retirement, supported by both process and structure, for the whole of the present year, computed *in advance at the beginning of each year*, to address *what do you do, when* portfolios values reach \$X, \$Y, and \$Z dollar values (beyond

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simply “stay invested” and “cut spending,” though those are behavioral steps too – but *when* and *why* supported by computations, read simulations, of specific portfolio balances for the year in advance is what is lacking. Modeling should automatically address this to produce a DiPS document.

This present-day redundant calculation approach is quite different from the approach with a complete adoption of Monte Carlo that is cast over rolling time periods whose lengths are all different and that incorporates all of the “imagines” below as well. Processing resources could be better used for modeling as imagined below, rather than to perform redundant calculations each time a simulation is run with differing inputs for allocation and/or age. Retirement is not a single set period of time as viewed from the current static paradigm. Retirement is actually a connected series of statistically determined time periods over an ever-shortening period of time as viewed from a dynamic three-dimensional paradigm as explained below.

Note that joint life tables result in lower drawdown rates, female rates are slightly higher, and male rates are higher still, all due to differences in drawdown time periods in the longevity tables. Use of longevity tables as applied here are described in Blanchett and Blanchett, 2008 and Mitchell, 2010.

Below is a discussion for a paradigm shift with sidebars and postscripts following for further thought.

### LITERATURE REVIEW

There is little research on the *combination* of both retirement income planning and software programming to support that planning. By planning, the author means through the paradigm lens as described above which addresses the shortcomings of the current paradigm. A subsequent working paper will be posted on SSRN titled “What are the Three Paradigms of Retirement Income Planning?” (Frank, 2022). Research literature is incorporated into this paper at different points that brings in research of various components of the discussion.

### The “Imagines ...”

Here are a few “imagines” of incorporating other sciences (illustration follows):

1. Imagine software that would suggest what model allocation one should have based on your current age, and not only that, but model at what ages a retiree should consider changing that allocation as well. What allocation is optimal based on present age, relative to other efficient model allocations choices? This, as compared to inputting as is now currently done with an allocation that carries through the whole single simulation process – then “hunt and peck” contrasting alternative allocations, none of which adopt allocation changes for later ages.
2. Imagine software that can compare your current allocation results (I’ll call “inefficient”), to model portfolio allocation results (presumably models that are optimized for efficiency) over your lifetime regardless of how old you may get, so you may be able to make decisions as a retiree of what allocation is optimal at each and every age looking forward. Efficient model portfolios only need to be simulated once and that output captured to form a “data cloud” from which those solutions are looked up and incorporated into the model. Example in Appendix 1. Drawdown rates depends on certain set factors which are already established by using efficient model portfolios as well as strategic use of the other factor inputs. These factors are: 1) portfolio statistical characteristics (ideally metalogged – discussed below, points 5 & 6) that don’t change until dynamically updated periodically, say annually, since they’re efficient models by definition. 2) length of time the simulation is run over that is determined by current age to longevity table determined end age (the difference in years between derived table end age and present retiree age(s)). By the way, longevity tables also have percentile statistics that can be strategically used to slowly increase the table age where fewer and fewer survive past; a rolling adjustment of that surviving age percentile which slowly extends the spending time frame to reduce possibility of outliving portfolios (excluding catastrophic spending which can’t be predicted). 3) Iteration failure rate which standardizes the output of simulations for apples-to-apples comparison when the same iteration failure rate is used to develop the “data cloud.” It takes the three dimensions just discussed above to derive the intersecting fourth point (the “answer”). In other words, a three-dimensional model making up the data cloud comprised of all those “fourth point” solutions from which to compare and contrast solutions based on optimal solutions and desired retiree outcomes. How can anyone provide a computational answer under the current paradigm when

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each of the three dimensions above are only loosely defined by rules of thumbs (e.g., 4% rule, 60/40 allocation, age 95, or variations thereof)? The answer is discussed in the professionalization postscript below.

3. A “data cloud” consists of all of the compiled answers and auditable data of each and every simulation run for all of the different allocations and all of the different time frames. Software then looks up the optimal solution between allocation data points corresponding to each time frame, where the time frame is derived from longevity tables (longevity table percentile end age minus each attained age modeled). There is no need to re-simulate solutions since they have already been done and archived in the data cloud for subsequent use in each cash flow model run. It makes little sense to continually simulate something, using processing power, that can be done once with an auditable process that can be reused as often as needed, thus saving processing power for expanding modeling capability. All the statistical data sets may be updated and simulation solution sets captured annually. Only inefficient, non- model, allocations would need to have their solutions simulated and captured for inclusion in the modeling software, for comparison to results of the efficient models to make better decisions from a model output comparison.
4. Imagine software that actually used longevity statistics based on each and every age one would live through, even to the end of the longevity table used; though unlikely most would live that long, it’s possible a small number might. However, dynamically adjusting longevity with age is a strategic use of longevity statistics as opposed to using rule of thumb ages. Strategically adjusting longevity percentiles is akin to slowly moving the goal post so fewer and fewer retirees *outlive* a pre-determined, strategic use of longevity percentiles. For example, longevity percentile use at age 60 may be the “expected longevity” definition of the 50<sup>th</sup> percentile where 50% *outlive* age 60. Subsequently, adjusting the longevity percentile by 1 percentile by age-year, would result in an age 70 40<sup>th</sup> percentile where 40% *outlive* that percentile derived end age for 70-year-olds; age 80 30<sup>th</sup> percentile where 30% *outlive* that percentile derived end age for 80-year-olds.; etc., etc., to age 100 10<sup>th</sup> percentile where 10% *outlive* that percentile derived end age for 100-year-olds. So, this is an important capability for those who continue to live into older and older ages. This as compared to a rule of thumb of age 95 or 100, or assumed input of any such age. *Why not have the software continue to determine what that end age* should be simply through the application of statistical tables that already exist. *Why guess or assume* when we already know that the *longevity tables change their statistical curve\_shape as one ages*, and the expected total time frame and duration *continually shorten*. So, model that changing shape based on every age a retiree may reach statistically in the future, through rolling adjustments, within the modeling software itself. The model simulations continue to the end of the life table; however, one may choose to what age they wish to consider *illustrating* ending results, i.e., table end ages, and illustration end ages, don’t necessarily need to be the same, with the table end age being the longest time duration. Later results may simply be revealed, without changing any earlier age answers; or vice versa. In other words, under the current paradigm, if you wish to consider a different ending age to simulate to, you change all the answers between current age and ending age too (because the time period for simulation changes)! Interim results shouldn’t change unless by design (imagine #8). Draw-down rates slowly increase with age, though at a slower rate than Required Minimum Distributions (RMDs). Draw-down rates can be specifically calculated for each and every age based on the strategic use of life table statistics.
5. Imagine software that actually looked at how retirees, or “real people,” adjust their spending as they age (e.g., Bureau of Labor Statistics Consumer Expenditure Survey (BLS CEX)). (Blanchett, 2014). That data has statistical curve shapes ([metallogged](#)) that also change over time (i.e., age). Rather than use average spending (Dr Sam Savage: [The “Flaw of Averages”](#) (Savage, 2012) and [“Chancification: How to Fix the Flaw of Averages”](#) (Savage, 2022), instead incorporate those slow adjustments to spending by age directly into the model. Imagine if a retiree were concerned about medical expenses, then the metallogged data that focuses on the medical expense percentiles by age to place more emphasis on those; or any other expense area(s) of interest or concern as well.
6. Imagine software that uses [new statistical processes called metalogs](#) to incorporate how statistical data is actually shaped not only overall, but also via time slices so that data may be matched up to each and every age a retiree has and may reach. Statistical data for portfolio characteristics, longevity, and spending can all be better viewed statistically through [metallog application](#) to better visualize how all those data types change shape with age (time) and allocation characteristics. Metalogging is a process to [fit the statistical curve to the data](#) (skewness, kurtosis, fat tails, lobsided tails, more than one mode, etc.).

## Just Imagine Financial Planning Software That Does This

7. Imagine software that automatically compares possible cash flows (serially connecting simulation percentiles) from *better than* median markets (e.g., 60<sup>th</sup> percentiles of serially connected simulation series), median markets (e.g., 50<sup>th</sup> percentiles series), and poorer than median markets (e.g., 40<sup>th</sup> percentile series) to “stress test” effects on cash flows and balances through continually poor markets; where better than, expected, or poorer than cash flows, and fees, from those respective portfolio balances would be adjusted within the software time series, age by age, by age.
8. Imagine software that compares different “what-if’s” scenarios on an apples-to-apples basis by weighting the sum of what-if scenario cashflows weighted each age by the probability of being alive at each age.
9. Imagine inputting [cash flow floors, or ceilings](#) (Frank, Larry R., and Shawn Brayman. 2016) may be incorporated to see how those affect outcomes. [This paper won the CFP® Board Best Research Paper Award at the [2016 Academy of Financial Services annual conference](#)]. “Lumpy” expenses, such as periodic car purchases by lump sum down payments vs. loans, that aren’t ongoing can also be inputted and modeled. Using assets to buy an income annuity versus retaining those assets may be easily compared, i.e., what is the comparison of a set amount of assets used to purchase an income versus that same set amount of assets used for supplemental income in the first place ... over time *by age?* (Frank, Mitchell, Pfau, 2014). Similarly, incorporating outside assets from a reverse mortgage may be included or excluded for comparison of outcomes. Visual outcomes that retirees may easily see (see solutions graph below). Fama has said many times that models don’t predict future results; they aid in decision making. (Models vs predictions: Endnote 1). Retirement income planning requires many considerations for decision making. Software should model how all of the above factors blend together age, by age, by age as a retiree ages ... for the purpose of better decision making, not only now, but into the future as well to see how today’s decisions, through ripple effects, may affect and influence future desires. How do those decisions “look?” See example illustrations below.
10. Imagine seamlessly incorporating pre-retirement accumulation that incorporates Social Security and/or pension income changes with possible claiming ages to show what actions most affect a *retirement feasibility timeline* showing all those choice alternatives at the same time *by age*, over an age range, e.g., ages 62 to 70 corresponding to Social Security claiming ages, rather than running alternatives one by one by one, resulting in many different unconnected reports. Imagine using Monte Carlo (stochastic modeling) throughout the model, from working age through the end-of-life tables, to seamlessly transition from accumulation to draw down, to bridge the gap between specific family standard of living needs by an age-based draw down rate to determine the total portfolio value needed, by age, to develop such a feasibility timeline; all using the same age-based principles using Monte Carlo processes throughout. In other words, at potential retirement age X, you have \$Y dollars from Social Security (and/or possibly a pension), what is the gap of that subtotal to the total need? Divide by the draw down rate for age X (which is different for each and every age) to derive the portfolio value needed. Compare age X to age X+1, or X-1, X+2, X-2, etc. to develop a timeline to see how earlier, or later retirement, compares and what the additional savings needs may be to simply transition from accumulation at age X, to draw down at age X, using the draw down rate for age X derived from the Monte Carlo model imagined in this post. In other words, each and every calculation would be based on its’ own separate Monte Carlo simulation. The model would serially connect cash flows and balances between them. This approach uses a more specifically derived method to measure and balance consumption and saving needs, a form of consumption smoothing using more specific computations that target a range of possible transition years while also connecting *specific individual* standard of living today into a specific target individual standard of living through retirement. And as that standard of living adjusts with time while working, there’s a computational direct connection between smoothing between working and retirement years. This in contrast to using averaged (See Imagine #5 above: The Flaw of Averages) ratios or percentages of standard of living unrelated to specific situations.
11. **Imagine software that *combines all of the above!***
12. Imagine un-imagined, or unlisted possibilities, beyond the above based on new insights simply by incorporating the above “imagines!”

## DISCUSSION

All of the above possible modeling insights allow for rolling adjustments over time, providing insights to what those slow adjustments to length of portfolio drawdown adjustments may be, and modeling cash flows and portfolio balances with those adjustments from present age to any age in the future, even to the end of the table being used, ideally into ages 100+.

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Such programming allows for viewing outcomes and plan from those possible elderly ages in reverse to retirement, and even applying the same concepts into any pre-retirement age modeling as well. **In other words, modeling as imagined above reverses the planning process of going from today into the future, to looking from the future back to today**, based on how today's decisions influences the desired future outcomes. Today's decisions ripple through the model by prudent management of the spending slope or glidepath.

All of these statistical data sets are available. All statistical sets may be metalogged (discussed further below). All the statistical sets may be incorporated into programming software that would actually model a lifetime of possibilities and compare those possibilities to other decision choices retirees may make from spending to saving. Modeling removes the term "probability of failure" and replaces it with "range of outcomes." Software such as this would have a "data cloud" where alternatives may be compared and the optimal cash flow may be determined through a lookup function using statistical data for efficient allocations (inefficient allocations would also be calculated for comparison through the programming, though not before hand as would be possible with predetermined efficient model allocations updated annually).

You see "failure" is a term referring to the iteration failure rate (the profession adopted the term "probability of failure" expressed as a percentage) of the simulation set which is made up of 1,000 or more iterations with some percentage failing to extend beyond the length of time the simulation set is cast, say 30 years, but can be over any period of time, even just 1 year in length. However, simulations are *separate* calculations that go into a model. The iteration failure rate of each calculation is not the same as the model failing. Models should calculate the range of possible actions that keeps the model viable through small spending adjustments based on the reality of the portfolio values over time. Wide annual swings in portfolio values can be smoothed out through various strategies the model should also incorporate. Models and calculations are two different things as explained further below.

How does today's decision affect outcomes many years in the future? The current paradigm views a single set of simulations as the "model" (one simulation) as graphed in Figure 1. Output appears similar to that graphed Figure 1; an ever-widening range of potential outcomes. Where's the "answer" to the problem of retirement income in such a graph? Most look to the range of outcomes on the right side of Figure 1, which are actually akin to "remainder values" of the simulation. The "answer" to the problem is actually on the left side of Figure 1 (where few look)! The number of simulation iterations is how the "answer" is derived.

Software as imagined in the many "imagines" above may result in solutions graphed by age. Multiple solution graphing produces results similar to those in Figure 6 (almost 200 simulations graphed).

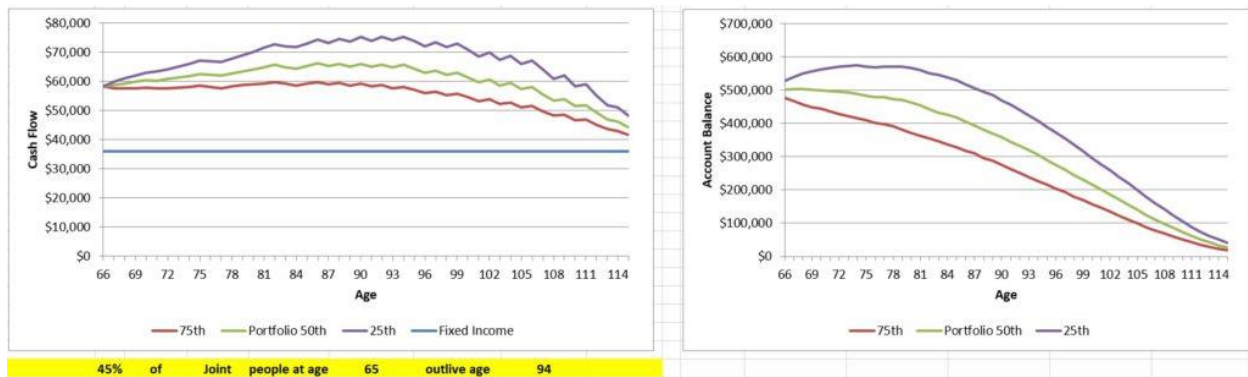
Every data point in Figure 6 is the result of its' own stochastic simulation based on ever changing inputs (all the imagined points discussed above are inputs) from data most closely associated with each attained age in the graph (not tied to the age the simulation was started with, which results in graphing similar to that above).

Do you see the differences between the output graph in Figure 1 versus output graphed Figure 6?

Figure 6 seeks to bring in uncertainties from the science of many disciplines to illustrate the [range of uncertainty](#) when all "imagines" above are combined into a single model.

It is well known that changing the length of a simulation changes the results. Changing the allocation changes results too. A single simulation doesn't, and can't, account for changing both age and allocation within a single simulation as a retiree ages. Each of the "imagined" variables above [should be done ahead of time for model portfolios](#) (Probability Management / SIPMath) so that the optimum combination of those pre-simulated models may be selected by the programming based on each attained age to illustrate possible outcome ranges as the retiree is projected to age. Each point in Figure 6 comes from its' own Monte Carlo simulation from each individual time period and portfolio value. Note that the ever widening fan shape from Monte Carlo simulations (Figure 1) is more narrowed and focused in a model approach shown in Figure 6.

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**Figure 6. Cash Flows and Balances by Age through serially connected individual simulations.**

Today's paradigm has TIME (number of years used in the Monte Carlo (stochastic) simulation) as the control variable to compare results. Time is NOT fixed, but changes as one ages, especially when period life tables are used for this purpose. But, TIME is not a reliable control variable with which to compare simulations. What should the control variable be for comparison of results? Iteration Failure Rate (IFR) of the stochastic simulations.

TIME arranges data backwards – counting SINCE retirement paradigm – in most of the research to date. The author has yet to come across a retiree who's trying to make today's decision based on having retired say 7 years ago for example. They're more interested in a decision based on how many years they're expected to still be spending ... in other words based on expected longevity NOW, not THEN. The paradigm shift is counting years AHEAD, not behind.

In other words, it is a rolling decision. Data should be arranged with the longest time interval FIRST, going down to the shortest interval (not just a simple 30 year research period for example, or an other single and set period). That's the paradigm shift referred to above. As one ages, the time period shortens.

Longevity in the tables is much like the bow wave in front of the boat. You don't catch the bow wave until the boat stops! As long as one is alive, there are statistical years ahead in the life tables (at least for those that go beyond age 100). When you stop, future funding of future retirement years is a moot point. It then becomes a survivor or heir plan with remaining assets (which you shouldn't outlive barring catastrophic spending) if annual computations adopt the rolling longevity approach as described in "Transition Through Old Age in a Dynamic Retirement Distribution Model." (Frank, et al, 2012b).

The fundamental takeaway is to ask yourself (as the researcher) or ask the researcher, "How would your conclusions change if you arranged your data such that longer periods come first, not last, and shorter time periods for withdrawals/drawdowns come last, not first?" Why? Because an longevity age-based paradigm recognizes that as one ages, time frames shorten and what should you do looking forward, not backwards, is what you're trying to decide as you continue to age and review the health of your spending plan.

The cash flow and portfolio balances in the SINGLE SET method of today is ALL simulated WITHIN that single simulation over 30 years in this example. So, aging 10 years, and then again another 10 years ... how does that cash flow change between those ages? What is the range of possible choices over those years (single simulations have ever widening ranges of possibilities seen in the simulation results). The metaphor graphic for long division above shows simulation iterations for single period simulations.

The cash flow and portfolio balances as described above is a CONNECTED SERIES OF 30 SEPARATE simulations, where each of the 30 simulations represent the different time periods from the longevity tables COMBINED with selecting the optimum portfolio allocation for the time period too.

As described above, there are more than 30 time periods possible IF the retiree continues to live (or less than 30 if they don't); which is the fear today of long longevity that is tried to be solved at the beginning of retirement – uncertainty can be resolved slowly over time AS ONE AGES. This is the boat's bow wave metaphor above.

Two sets of uncertainty can be unified under the methodology described above: Probability of the Portfolio (portfolio statistics) and Probability of the Person (longevity statistics). Use of longevity provides THE ONE small thing that allows for 1) more precise calculations *by age*, 2) when to make spending adjustments, and by what magnitude, *by age*, 3) what optimized allocation to optimize supplemental retirement income *by age*, and 4) finally provides insight into remaining balances for surviving spouse and heirs *by age*. Since death is always an unknown, the *by age* component to more focused software *on age* (cash flow percentiles, and portfolio



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balance percentiles, ranges) provides a more focused view of how cash flow and balances may change for both the retiree at current age, but also at the retiree's future possible ages for their income while alive, or for bequests when they're not.

Retirement is fundamentally a time problem – time that should be modeled looking forward (statistical time left or remaining, counting number DOWN), instead of referencing backward anchored to a number of years *in, or since*, retirement (counting the numbers UP), or since the time a retiree retired, i.e., **years since retirement**. Since the mortality tables change shape internally, with age within the same table, slowly over time, those future time remaining calculations should adjust for each age as well – it's a rolling model, with a decreasing number of years remaining to be funded. Allocation also changes statistical shape when allocation is matched to time remaining.

Once of the goals many people imagine is having a steady income in retirement. That's ideal, but as alluded to in the "imagine" post above, it is not how retirees spend their money according to the Consumer Spending Index data from the Bureau of Labor Statistics (BLS CEX). Even while working, people often forget how their income varied ... they can see this themselves by looking at their own Social Security Statement earnings history page. Spending also changes statistical shape as retirees age. In other words, all of the "imagines" above change statistical shapes as retirees age and have less time remaining, time remaining that continuously rolls ahead of each retiree simply because they're still living, albeit in ever shorter time periods. A retiree never reaches their expected longevity for present attained age, since by definition those living always have an expected longevity in the tables. It's like a bow wave on a boat – it's always there until the boat stops. A retiree doesn't need as much "principal" to fund shorter time periods (elderly years) compared to what was needed to fund longer time periods (younger retirement years). Software should make annual adjustments as one ages to slowly transition between younger and elderly years. It's those remaining years at all ages, based on attained age (looking forward), that need funding and should be modeled, not how many years since they've been retired (looking backwards).

Life is not one decision and then no more are needed into the future. Life is a series of decisions made with new information when it becomes known as we age. Modeling is much the same. As new data comes in each year, for portfolio characteristics, longevity, spending patterns, the model is redone each year. This allows for small adjustments to be made explicitly based on new calculations rippling through the model. More refined decisions are possible modeling than are possible with a set of rules of thumbs.

It's not product, but process that is missing. The profession seeks a product to solve the *lifetime* retirement income problem. But a product purchased today earlier in retirement quickly becomes out of date over time later in retirement – and thus the need to switch products (but when?) emerges. It is not a product, but a process that is needed. Modeling the process of retirement income over a retiree's lifetime is what is missing. Process should focus on 1) the retiree's *desired* individual (single or couple) standard of living and 2) the *desired* glide path of that standard (ref: BLS CEX).

The markets always go up and down, sometimes greater than other times. Just because anybody retires, does not mean that market behavior suddenly changes. No, market sequence risk is always present and as one should expect the markets to continue with up and down swings in the future after retirement about as often and they experienced during their working years as accumulators. Yes, withdrawals do matter, however Figure 6 shows it is possible to model a range of that market behavior to calculate meaningful action, typically found to be small adjustments to spending (which tends to be a natural reaction during great market stress too) as the most meaningful adjustment to make. Models should pre-calculate at what point portfolio values suggest such small spending adjustments, both on the upside swings (e.g., when to do a house repair? or replace the auto?), as well as when to retrench spending on the downside swings and how much that new spending should be? Modeling should suggest actions ahead of time versus reacting at the moment, thus providing an ability to evaluate, in advance with better precision (2) that exists today, possible courses of action. Advisers and retirees shouldn't need to reinvent the wheel reacting to market actions. Instead they should have pre-determined more precise points with meaningful evidence based actions already established and updated annually in a Distribution Policy Statement (DiPS).

Regardless of when you retire, **markets are always uncertain**. When does a retiree make adjustments with poorer than expected markets come? Answer: portfolio values and spending for such situations can be calculated using the very same methodology as retirement income calculations, only in reverse to determine a target portfolio value to support a decreased spending amount ahead of the event. What affects the allocation decision the most? Answer: Time (age) which can also be pre-calculated based on the imagines above too.

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Though the author's focus has been on the use of stochastic, or Monte Carlo, simulations, other methods may also be used in the determination of *each data point making up the data cloud* used in the modeling described herein. The important point is the development and use of the data cloud in order for the modeling software to discern optimum allocation selection based on age and time period coming from the inputs of longevity percentiles, draw down caps (as shown below), spending ceilings and/or floors, and other model designs.

A paradigm shift in both the profession and the software supporting the profession is needed to make the next jump in perspective and application from calculations (currently an extension of deterministic thought with a stochastic overlay to do *one calculation at a time* ... even for [retirees retiring at different times](#)) to modeling which is a full embrace of incorporating data from many stochastic processes that are organized by attained age of retirees. Much of that metalogged data may simply be a look up function as well. Finally, planning community push back is quite the opposite of embracing [evidence](#) derived from research from our own planning profession, as well as that of other research and body of knowledge communities such as actuarial and statistical sciences mentioned above.

It is the author's hope that this paper leads to deeper thought and further exploration by others into how to apply scientific thought processes and insights from other sciences and professions to move the planning profession forward from the present limited views and approaches it currently has, possibly based on confirmation-based research rather than taking an exploratory-based or scientific method hypothesis based research approach which tends to broaden insights, findings and perspectives. The [academic methodology](#) is to disprove or duplicate prior research as well as to expand the body of knowledge in the subject area of investigation. The application of science and evidence should distill things down to fewer more refined *models*, rather than the many [unduplicatable](#) solutions apparent now that don't provide specific answers but rather *general rules and guidelines* that constantly shift with the times (e.g., is it a 4% rule or 3% rule now, or when might it be 4.5%; or what is the inflation rate to apply to that rule; or how does that/those rule(s) change with age; or how does a retiree transition to another adviser say 5 or 10 years into retirement using any of the many rules out there since the retiree's past isn't known to the new adviser (models would at least have a future range of solutions very close to those modeled in the past, and thus transition would be more known to both the retiree and adviser with them simply picking up with where the retiree is now in their model and move forward from there), etc., etc.,?)

Clients are called patients in the medical profession which has more established processes, protocols, and procedures based on the embrace of a more evidence based approach deeply rooted in the application of many science disciplines. Doctors don't measure themselves in terms of production; they measure themselves in terms of patient outcomes. Our profession needs to do the same by measuring successful retiree outcomes, both as they approach, transition into, and live through, retirement.

Note that the model illustrated by prototype software in Figures 6, 7 and 8 don't do all of the "imagines" above, but just "imagine" if it did, since it already illustrates the difference between the simulation-paradigm vs the model-paradigm with just some of the "imagines" above (life table percentiles. with the fixed variable of iteration failure rate for consistent data comparisons and rolling time frames, applied)! All values are expressed in "today's" (real) dollars. 25<sup>th</sup> percentile represents *continuous* market returns below the 50<sup>th</sup> (expected) percentile, and 75<sup>th</sup> percentile represents *continuous* market returns above the 50<sup>th</sup> percentile. [ Note that these are example percentiles for illustration purposes. ] Further research based on metalogged portfolio standard deviations for each portfolio would be the next "imagined" refinement to specifically make software calculate specific spending adjustments based on specific portfolio values based on current, and future, ages. These specifically selected percentiles represent results through spending flexibility where actual spending may "wobble" over the years somewhere between the upper and lower bound (though in clinical practice, a dramatic and feared yearly swing to spending has NOT been observed). These values are specifically calculated for spending based on portfolio values representative of those percentiles. This contrasts with the practice today of estimating percentage rules of thumb adjustments to spending. Note too that there is no "failure" defined by income at or above the "fixed income" (Social Security) level.

Add another to the "imagines" above, how actual retirees really do spend (BLS CEX), as a graph of comparison to how a specific retiree (you) may be able to spend, is illustrated in Figure 7 in order to get a better idea of how your actual spending may change as you age, for very useful insights for decision making about spending versus later portfolio values (arguably bequests, also illustrated, intended or unintended). Figure 7 is the same as Figure 6, with added perspectives of spending trends with age and veiling low probability ages of living to, based on present age.

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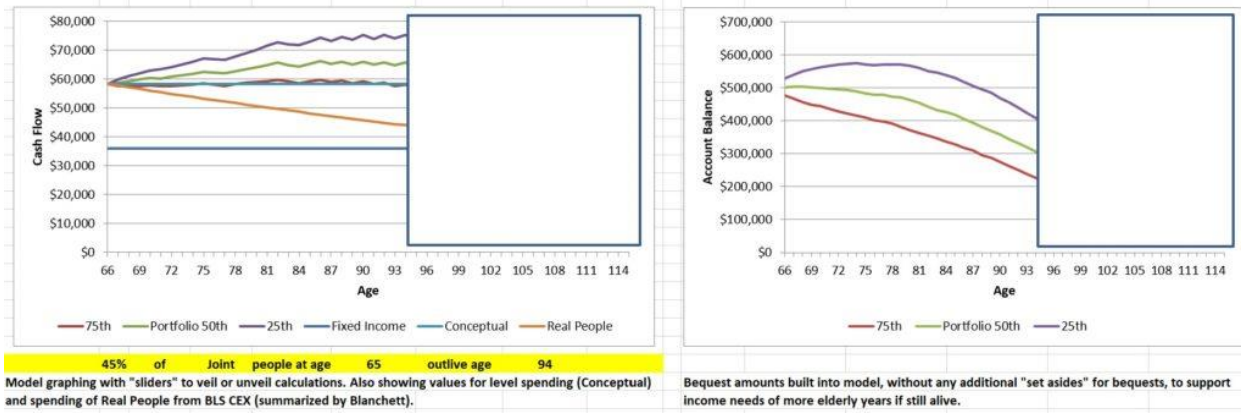


Figure 7. Spending by Cash Flow percentiles and Portfolio Balances by age.

Circling back to the spending “floor” or “ceiling” concept mentioned in Imagine #9 above, the conceptual floor would be a constant, level, spending line across the ages. However, with the insight of how retirees actually spend their money in retirement slowly decreasing with age, it makes sense to have both the “floor” or “ceiling” lines to slowly decrease in time as well, informed by using metalogged BLS CEX data by age. The contrast between the conceptual constant spending versus “real people” spending is graphed as an example in Figure 7 above.

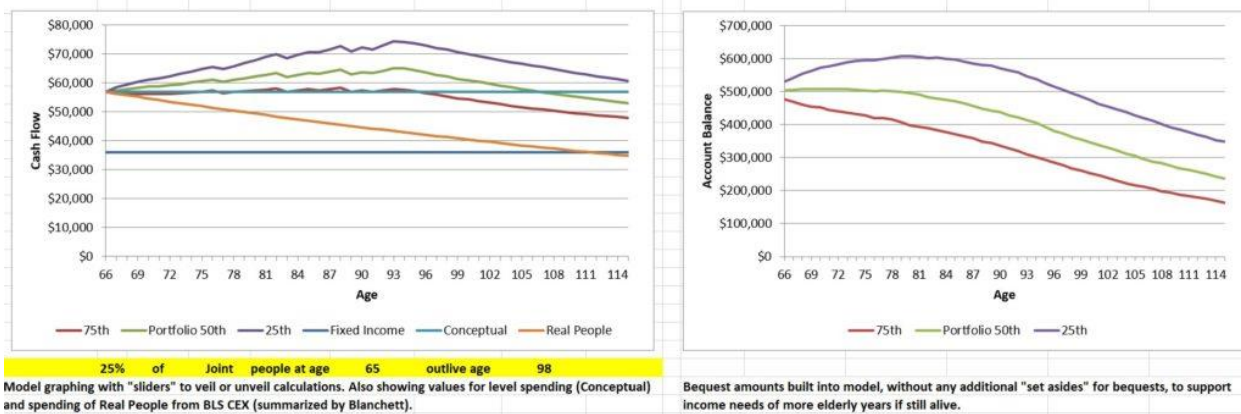


Figure 8. “Ceiling” spending applied.

Figure 8 illustrates the “ceiling” concept by adjusting the length of the model time periods starting with the 25th longevity percentile (vs starting at the 45th in the prior two graphs) adjusting down to the 5th longevity percentile by age (e.g., 25% of the age group outlives the longevity table age) and putting a spending ceiling of 7% maximum draw down rate. Figure 8 thus shows how the “slope” of spending and balances may be custom designed to each retiree’s future outcome desires through a modeling approach that influences the future years much more than the near term years. This example shows that constraining spending leads to higher balances at later ages. Is constraining spending today leading intentionally, or unintentionally, to greater adviser fee retention from this insight? Or is the retiree understanding these trade offs being discussed and the retiree decides? Modeling allows for a more nuanced and dynamic conversation with retirees about the interactive and interconnected nature between retirement spending and bequests.

The longevity tables change shape with age. Adjusting the longevity percentile slowly with age in a rolling manner slowly results in time periods the retiree probably won’t outlive. For example, starting with the median 50th percentile at age 60, e.g., 50% of that age group, single or joint, outlives the resulting end age), and adjusting the percentile down by 1 percentile each year as they age, leads to the 20th longevity percentile at age 90, where 20% at that age, joint or single, outlive that time period to that resulting end age. This also slowly adjusts the draw down rate, in a rolling manner, from a lower rate in younger years, to a higher rate in more elderly years. This is because the longer the withdrawal period, the lower the draw down rate. Use of the longevity tables directly connects statistical years of life to time periods for more refined computational purposes to allow for a smooth transition year by year for retiree

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spending. Unlike the RMD tables which have a bias towards a taxation agenda, direct use of the longevity tables connects spending rates with age.

### MORE MODEL INSIGHT DISCUSSION

Three other points. First, replacing lost survivor income at any age, either pre- or post-retirement, is like retirement income planning in that the objective is to determine the *amount* of assets (possible asset sources: life insurance, reverse mortgage, portfolio asset set aside, downsize, etc.) needed to replace that lost income, supposedly for the remainder of life, or could be for shorter periods of time. Other income sources reduce the amount needed for that replacement. Second, barring catastrophic spending, the objective to continue to have assets to support income regardless of age while alive, means there are assets remaining at attained age to fund those remaining years. This means that estate planning should be kept current to bequest those assets when that time inevitably comes to do so. This too is at any age, young or old. Such an approach is akin to buying an income annuity, for one year at a time, with the portfolio balance acting as personal mortality credits to purchase the subsequent year all the way through to the end of the longevity table in use. As long as the retiree is alive, there needs to be portfolio value reserved to support those future years from the longevity table, year by year in a rolling manner. Third, fees come from portfolio balances as do cash flows. These should be computed *separately* for each simulation iteration percentile so that higher portfolio balance iteration percentiles generate appropriate fees and cash flows for each iteration, and lower fees and cash flows for lower iteration percentile portfolio balances. Additionally, adjusting these for each age too. Each age and iteration would have its' own fee and cash flow calculation to more closely model reality of aging along with a range of potential portfolio balances as a retiree ages. These model estimates would adjust with each dynamic update of the data within the model over time, thus updating the model estimates with age too.

Speaking of fees, method of fee should be modeled appropriately as well. Net retiree income depends on the fee method as the below example graphic shows. Note the use of 4% draw down rate below is for example only to contrast the outcome of how a retiree pays their adviser fee. The actual drawdown rate would vary by age as described here in this post.

<b>Fee paid out of balance as AUM fee:</b>		
Portfolio Balance	\$1,000,000	
1% Annual Fee	\$ 10,000	Paid out of Balance Prior to Income
Balance Post Fee	\$ 990,000	
4% Net Annual Income	\$39,600.00	
<b>Annual Fee paid out of Income:</b>		
Portfolio Balance	\$1,000,000	
4% Annual Income	\$ 40,000	
1% Annual Fee	\$ 10,000	Fee billed directly to retiree
Net Annual Income	\$ 30,000	
Net Annual Income	\$ 9,600.00	Difference in billing method
4% draw down rate an example. Concept scales regardless of fee %.		

The draw down and/or fee percentages scale proportionally regardless of portfolio balance. Fees are not a constant across the model since model percentiles with higher portfolio balances will have proportionally higher fees, and vice versa for lower percentile portfolio balances. Cash flows thus differ at each model age due to what portfolio balance may be modeled by iteration percentile. This is especially true for blended fee schedules, but still true for flat percentage fee schedules as well. Finally, taxation of fees from qualified retirement plans is different between the upper and lower examples in the graph above.

The author is a planner rather than a software programmer who leads through thought experiments (a discipline coming from university physics days) supported by existing research from many disciplines already out there as well as developing **some of that research by the author** ([Google Scholar](#)) with working papers posted on [SSRN](#)). The application of all that research from many disciplines should be picked up by the software programming community (and requested by the planning community). All of the above "imagines" are within reach. They simply need programming that puts them all together to form a model approach versus current day

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single calculation approach. The profession is unaware of the potential – but waiting. The software community is unaware they should develop and supply such capability due to present software package's perceived demand, i.e., needs or desires, resulting from the existing old paradigm both communities have. Finally, planning community push back is quite the opposite of experimentation and [embracing evidence](#) derived from research. What is lacking in the financial planning community is a rigorous application of the [scientific method](#) beyond the common 30 year view, or the 60/40 stock/bond allocation as I've mentioned above (of which few 60/40 allocations are comparable to any other 60/40 allocation due to degree of efficiency of the combined components). As I've mentioned, there are other time periods and other allocations that come into a comprehensive model to replicate aging properly. The allocation glide path decreases equity exposure with increased age when shorter time periods are compared to longer time periods. Arranging allocation data is often reversed when viewed through the prism of years since retirement, with longer time period data following shorter time period data. But that is not how time periods fall through the prism of time arranged by age using life tables.

How does financial planning become a profession? One step is to develop standardized processes that can be calculated and audited. As it stands now, the "rule of thumb" approach using X% withdrawal rates subsequently adjusted for inflation of some amount, leads to an issue when that retiree changes advisers (due to their own choice or adviser retirement, etc.) in that the new adviser (or retiree themselves) has no point of reference as to how the retiree arrived at their current spending cash flow amount because it is based on some point in the past ("years since retirement"), neither is cash flow directly related to actual portfolio value once the retirement is put into motion. There's a disconnect between current cash flow and current portfolio value. Under a "time since retirement," ...how does an adviser compare retirees who retired at 60, 65, 70, or any other age, to each other since they would all have different "times since retirement" time frames when viewed by the advisor? There is a lot of "[Kentucky windage](#)" needed under the "rules of thumb" approach when each retiree has a different time frame since they retired and thus different timing of past adjustments to get to what income they're receiving presently. The modeling methodology imagined above keeps, at all times and at all ages, current cash flows aligned with current portfolio values calculated for each age specifically since it is modeled looking forward at all points in time including ages the retiree is presently unlikely to outlive by explicit use of life tables. Updating data each year tweaks the inputs to tweak the output slowly over time, through a process I call "Dynamic Updating."

Which life table(s) to use? Any or all because each table is a measurement of a subset of the same population. For example, the Social Security tables might be viewed as the whole population (at least as far as a large part of the population receives Social Security) and thus it includes a spectrum of healthier mixed with less healthy, and annuity tables as a subset of the healthier subset of that same population. Which table represents each specific retiree sitting in front of the adviser? Again, modeling in a manner that more closely fits each retiree. Survivor income for either of a couple after death of the other is also possible by modeling the asset/insurance/reverse mortgage/annuity need to replace that lost income. For example, there's an automatic income cut when one of a couple dies. What's the lost income from that pay cut? What is the lump sum dollar amount needed to replace that loss? What is the source for that lump sum need?

Retirement researchers tend to be "young." By "young," I mean they're still working and not yet retired themselves. By definition, retirement would end their research years. I bring this up through the observation that research from "young" researchers, tends to be biased toward viewing the retirement problem as a long-term problem; in other words, 30-year time frames biases the results because of those longer term time frames.

Why is research only over 30-year periods? Why not include shorter time periods appropriate for older retirees? Or include longer time periods for those retiring in their early 60's, or forced to retire in their late 50's or even earlier? How does the current paradigm transition from longer to shorter simulated time periods? Retirement planning is not a rolling period of 30-year simulations, implying retirement never ends; it eventually does.

Modeling shouldn't be over a single time period either. Shorter time frames produce different results compared to longer time frames; results which are not apparent since researchers are not considering shorter time frames that would apply to more elderly retirees in their research. Statistically, there is a larger number of retirees with less than a 30-year time frame; and a small subset with longer than 30-year time frames. So, a 30-year time frame really is applicable for a very small subset of retirees when viewed through the lens of longevity tables. Why would a 75-year-old (or older) use a 30-year retirement period? You can prove this time frame bias to yourself by running shorter retirement periods. 1) You get different results than you do from longer periods. 2) You're questioning yourself in that the shorter period ends at an earlier age – one that you may expect to outlive now – so you throw out that different

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result as “not applicable.” This makes the author’s points – the reader’s bias is based upon retiree (or researcher in this segment) age today; not based on applying a future time frame applicable to a retiree when they’re older where that shorter period takes them to an older age you can’t imagine outliving!

Practitioners in the profession also have a client base with a bell curve with the median age near their own age – and since they’re not retired, their views are also biased to longer terms that are appropriate for younger retirees (those in their 60’s and early 70’s), but don’t really apply to more elderly retirees (who may not be in their client base yet). Thus, researcher and practitioner focus tend to *lack a model that transitions* retirees from 30 years of retirement, into 25 years, then into 20, 15, 10 and even 5-year terms. In fact, models should transition annually for smoother transitions between ages in a methodical manner that *directly connects* draw down, and *simultaneously compares* alternatives, to present balance, allocation and age between each point throughout the model. There is no model approach existing today that smoothly transitions, within the model, from longer to shorter retirement periods. There’s no model that applies to more elderly retirees today; yet there are younger and older retirees *coexisting* along the whole spectrum of ages. *How does a retiree transition, incrementally year by year by year, from longer time frames, into shorter time frames, that apply to more elderly retirees as they age?* There is no modeling software that shows how a younger retiree today may age into that older retiree. Nor is there modeling software today that shows that older retiree today, how to transition into that even older retiree later on. There’s no modeling software to day to evaluate and assist that even older retiree in their decision making into even older ages for them either. Again, different retiree ages *coexist at the same time*. Programmers and practitioners shouldn’t just be looking at those retirees in their 60’s or 70’s, but also those who are, or will be, in their 80’s, 90’s or 100’s too. More importantly, how to transition year by year from any age to each age thereafter? Software that models that aging transition is a practical guide for making transitional decisions slowly over time via “dynamic updating.”

The above may seem “too complicated.” Modern surgery, for example, has advanced considerably over the decades unhindered by “that’s too complicated” thoughts. Computer processing power and software programming has come a long way in the past couple of decades and can manage the above imagines in a combined and fluid manner. Retirement too is a process that is more complicated than one-at-a-time single-period simulations or calculations viewed alone as answers. Alternatives can be compared by programming and optimal solutions modeled. and adjusted from there, instead of doing this manually one by one through one at a time simulations over single periods as mentioned above. It is time the profession combines present research insights into a unified model, that incorporates aging directly as well, to advance the profession further.

## EPILOGUE

This paper sought to expand the retirement income planning profession’s view of income planning by bringing a more focused view of longevity nuances so that practitioner’s and software programmers may advance the profession’s capability to provide more focused insights to a retiree’s future ages. This goal, as opposed to the present-day capability which is based on a less focused cash flows and balances beyond a very short time; the simulation solution is only looking into the near future, but creates the illusion that future years are clear too. Those future years are not clear. This paper seeks to provide more focused standards using statistics in many key areas the impinge on retirement income planning: *efficient* allocation statistics (with ability to run simulations with any set of allocation statistics to contrast with efficient results), longevity statistics meaning percentiles of ages that current age retirees may outlive, and consumer spending statistics. The result will be to professionalize both the planning and software programming professions with better focus on a range of possible statistical outcomes *by age*.

The author challenges the reader to adjust their paradigm to data cloud modeling rather than try to squeeze all of the above into the present single, one by one by one, simulation paradigm where different allocations are compared one by one; and different time frames are compared one by one; and transitions over time (that models aging) of both allocations and time frames at the same time are not. A data cloud approach can easily choose between data points since the simulations have already been done. Why keep repeating redundant simulations during the course of the year as if the range of iteration outcomes may suddenly change given the same data inputs? The data cloud changes when the data changes from year-to-year data reviews.

This isn’t meant to diminish the research work of all those who have contributed to the body of knowledge. This acknowledges those key steppingstone insights and extends, and expands on, those with a nudge towards lessor unexplored directions via an important, and arguably necessary, next step shift in paradigm to advance the profession and its’ processes further into more refined and advanced modeling.

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Only that which is untried remains unknown. That which is newly tried often leads to unimagined insights.

### CONCLUSION

Researchers need to sharpen their thinking in a number of areas related to retirement income research:

- Derive *efficient and optimized* allocations with which to obtain portfolio statistics that are then optimized themselves – this step is what gets the money invested working as hard as it can.
- Evaluate a range of *optimized* portfolio allocations with which to discern which allocation corresponds to an age *range* retirees age through.
- Evaluate a large number of time frames with which corresponds to the retirees attained age and strategically determined longevity percentile with which determines an end age, less and less likely to be outlived, *as the retiree ages*.
- Metalogged data for all the statistical sets, including consumer spending statistics, ideally with certain key expenses metalogged separately, e.g., medical expenses, long term care expenses, and perhaps travel expenses which is also a popular spending category. All to see at what ages these expenses tend to be and percentiles to discern at what age(s) transitions between categories occur.
- Software programmers should develop software data clouds with which to incorporate the statistical data derived above so that cash flows *between each age* better determine a range of portfolio balances *at each age* (based on serially connecting cash flow and balance percentiles).
- All of the above to replace single data set simulations, where time is just one period (with others not considered, or even a sequential connection between time periods); single allocation considerations (without considering others as well).
- Aging is a serially connected set of cash flows and balances and present-day simulations don't come at all close to modeling aging with all of the above points in this paper in mind.
- Transition computer processing power from running redundant computations/simulations, to pulling data from all the statistical data sets that corresponds to each age as one ages.
- Planners are not working with just one retiree; they work with many retirees. Each retiree is unique in that they come in different ages. Each retiree is similar in that they all age into future ages, and the aging of the younger retirees overlaps into the aging of the older retirees, regardless of the age younger or older retirees are.
- What may be different is their bequest or consumption goals. The yin and yang of those competing goals may be better evaluated by the retiree when spending ceilings, and/or spending floors are considered to meet the retiree's goals. Since these goals are perceived to be farther in the future, cash flows and balances need to be serially connected to keep those two goals aligned with the retiree's wishes.
- However, especially in the circumstances of couples, early death may change the spending goal of the survivor and being able to "see" future balances that are in place to help replace lost income (Social Security has an automatic pay cut in that the low benefit "goes away") assists in developing a plan to replace what present assets may not be able to replace on their own.

Modeling won't predict the future, but it is useful to make decisions within a range of statistical possibilities, and even more useful when statistical data can be arranged to correspond to age and aging. Data clouds of data (see Figure 5) redirect computer processing power to modeling since each data point is already precomputed and archived for modeling purposes.

### ENDNOTES

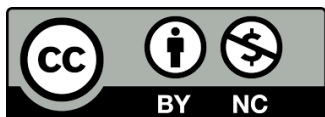
1. "The statistician George Box said that 'All models are wrong, but some are useful.' Dwight Eisenhower, supreme Allied Commander in WWII, said that 'Plans are nothing; planning is everything.' I say that models are nothing; modeling is everything, because it will help you ... figure out what is going on here."  
<https://www.probabilitymanagement.org/blog/2020/12/01/the-axiomatic-fallacy-fallacy> The Axiomatic Fallacy Fallacy, December 1, 2020. Quote from Dr. Sam L. Savage, Executive Director of Probability Management.org, a 501(c)(3) nonprofit devoted to making uncertainty actionable.

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- 13) Appendix 1. Example efficient allocations with characteristics and asset class data incorporated.



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## Analysis of the Effect Liquidity, Leverage, Profitability and Sales Growth on Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub – Sector Companies Listed on the Indonesia Stock Exchange (IDX) 2015-2019



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**ABSTRACT:** Financial distress is a condition when a company is experiencing financial difficulties, resulting in the company being unable to pay its obligations and leading to bankruptcy. This study was conducted to examine the liquidity ratio (Current Ratio), leverage (Debt to Equity Ratio), profitability (Return on Equity), and sales growth to financial distress (Altman Z-Score) in retail sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the 2015-2019 period. The number of selected samples is 16 companies and has been determined using the purposive sampling method. The data collected is in the form of financial statements for the 2015-2019 periods. The analytical method used is the panel data regression method with the Common Effect model. The results of this study indicate that the current ratio, debt to equity ratio, sales growth have a positive effect on financial distress (Altman Z-Score), while return on equity does not affect financial distress (Altman Z-Score).

**KEYWORDS:** Financial Distress (Altman Z-Score), Current Ratio, Debt to Equity Ratio, Return on Equity, Sales Growth

### I. INTRODUCTION

In 2019 the Indonesia Stock Exchange recorded an increase in the number of investors which reached up to 53% compared to the previous year. This increase is a concern for the company's management, especially companies that have been listed on the stock exchange to implement strategies in the face of tight competition in the business world and maintain company performance so that the company can be a going concern and increase profitable profits for investors. Likewise, investors are more selective in choosing companies that have healthy finances and have growth and generate profits. Hofer (1980) and Whitaker (1999) explain when a company experiences a negative net profit for several years running, then the company can be categorized into an unhealthy condition or financial distress.

Meanwhile, Indonesia's economic growth conditions, especially from 2015 to 2019 experienced a slowdown in growth. The slowdown in economic growth in Indonesia was due to several factors, including the sluggish global economy, rising commodity prices, declining household consumption, and various state political issues. Of these several factors, household consumption is the most influential factor in the downward movement of the economy in Indonesia. Based on data from the Central Statistics Agency (BPS), household consumption has contributed 57.32% to Indonesia's Gross Domestic Product (GDP), but in the fourth quarter of 2019 household consumption was only able to grow by 4.97%.

The decline in household consumption greatly affects the sales growth of companies in the retail sub-sector. The low household consumption is due to the declining purchasing power and public consumption. The decline caused the sales growth of the retail sub-sector companies to also decline. The following is a graph of the sales growth of retail sub-sector companies in Indonesia in 2015-2019.

# Analysis Influence Liquidity, Leverage, Profitability and Sales Growth against Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub Sector Companies Listed on the Indonesia Stock Exchange 2015-2019)



**Picture 1. Sales Growth Retail Indonesia 2015-2019**

Sources: CEIC Data 2020

The decline in sales growth will affect the achievement of profit. Profit will tend to decrease even the company can suffer losses. If the company has suffered losses, the company will have liquidity difficulties and will have difficulty paying off its obligations on time to create financial distress conditions.

Financial distress in a company can be prevented by detecting it early. Various kinds of analytical models can be used by the company, one of which is the Altman Z-Score model (1968) which is considered more accurate because it can obtain a 95% level of predictive data accuracy for data one year before bankruptcy and 72% for data two years before bankruptcy compared to the previous model.

## II. LITERATURE REVIEW

Theoretical studies are used as guidelines and support for hypotheses and research results, including Signal Theory, Capital Structure Theory, Modigliani and Miller Theory, Packing Order Theory, Trade-Off Theory, and Financial Statement Theory.

### A. Liquidity (Current Ratio)

Liquidity explains the ability of the company in fulfilling obligations to its finances at the appropriate time. Indicators used the current ratio (CR) as a comparison between current assets with current liabilities (Kasmir, 2018).

### B. Leverage (Debt to Equity Ratio)

Leverage is used to measure the company's ability to meet its obligations. The indicator used is the debt-equity ratio (DER) which is the comparison between total debt and total capital (Kasmir, 2018).

### C. Profitability (Return on Equity)

Profitability describes the level of the company's ability to earn profits from invested capital. The indicator used is the return on equity ratio, which is a comparison between net income and capital (Fatmawati, 2015).

### D. Sales Growth

Sales growth explains the company's ability to carry out its operations in a period that compares the value of this year's sales minus the sales value of the previous year (Fahmi, 2013).

### E. Financial Distress (Altman Z-Score)

In predicting financial distress conditions, analysis of the Altman Z-Score model using a combination of five ratios finance with formula as follows:

$$Z = 1,2 X_1 + 1,4 X_2 + 3,3 X_3 + 0,6 X_4 + 0,999 X_5$$

Description:

$X_1$  = Working capital / total assets

$X_2$  = Retained earnings / total assets

$X_3$  = EBIT / total assets

$X_4$  = Market value equity / total liabilities

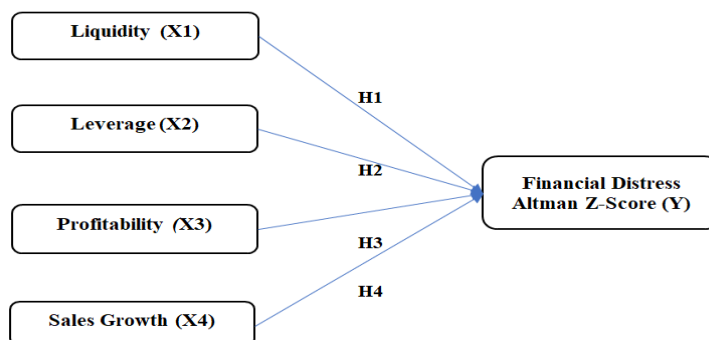
$X_5$  = Sales / total assets

With interpretation as follows:

# Analysis Influence Liquidity, Leverage, Profitability and Sales Growth against Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub Sector Companies Listed on the Indonesia Stock Exchange 2015-2019)

- If the Z- Score  $< 1.81$ , the company is potential bankrupt
- If the Z- Score is  $1.81 < Z < 2.99$ , the company in the *gray area*
- If the Z- Score  $> 2.99$ , the company is healthy

## III. FRAMEWORK



## IV. RESEARCH HYPOTHESES

### A. The Effect of Liquidity on Financial Distress (Altman Z-Score)

Liquidity with the Current Ratio indicator can reflect the company's ability to pay its current obligations. A high Current Ratio value informs that the smaller the company's potential for financial distress. Liquidity with the Current Ratio indicator affects the positive on the financial distress, this hypothesis accordance with the results study by (Chiaramonte & Casu, 2017) and (Septyanto & Welandasari, 2020). While according to studies by (Masdupi et al., 2018) and (Pertwi, 2018) state that liquidity takes effect negatively to financial distress.

H1: Liquidity affects positively financial distress (Altman Z-Score).

### B. The Effect of Leverage on Financial Distress (Altman Z-Score)

Leverage with the Debt Equity Ratio indicator is a measure to assess how much the company uses the company's debt and equity. A high Debt to Equity Ratio indicates an unsafe signal for the company because it has a high level of default risk, thereby increasing the potential for financial distress. Studies from (Lucky & Michael, 2019) and (Fadilla, 2019) stated that leverage affects positively financial distress. Otherwise study from (Koske & Yegon, 2017) and (Saputra & Salim, 2020) that leverage is not taken effect in financial distress.

H2: Leverage affects positively financial distress (Altman-Z-Score).

### C. The Effect of Profitability on Financial Distress (Altman Z-Score)

Profitability with Return on Equity indicator assesses the company's ability to generate profits from the investment of the company's shareholders. The higher the Return on Equity Ratio means the greater the profit generated by the company. Research conducted by (Waqas & Md-Rus, 2018) and (Zhafirah, 2019) state that profitability takes effect positively to financial distress. Whereas study from (Assaji & Machmuddah, 2019) and (Saputra & Salim, 2020) state that profitability does not take effect to financial distress.

H3: Profitability affects positively financial distress (Altman Z-Score).

### D. The Effect of Sales Growth on Financial Distress (Altman Z-Score)

The increase in sales growth will influence enhancement profit in a company so that the potential for financial distress is small so that sales growth affects financial distress. A study conducted by (Xuan, 2015) and (Ranjbar & Amanollahi, 2018) states that sales growth effects positively financial distress, while a study from (Giarto & Fachrurrozie, 2020) that sales growth does not take effect to financial distress.

H4: Sales growth affects positively financial distress (Altman Z-Score).

## V. RESEARCH METHODS

Study this aim for knowing influence liquidity, leverage, profitability, and sales growth on financial distress (Altman Z-Score) in retail sub-sector companies listed on the Indonesia Stock Exchange in 2015-2019. The population used in the study is there are 27 retail sub-sector companies listed on the Indonesia Stock Exchange in 2015-2019. Taking sample study using the purposive sampling method that produces a total of 16 retail sub-sector companies.

# Analysis Influence Liquidity, Leverage, Profitability and Sales Growth against Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub Sector Companies Listed on the Indonesia Stock Exchange 2015-201

Variable independent on research that is liquidity, leverage, profitability, and sales growth. Variable dependent study namely financial distress (Altman Z-Score). Data used is secondary data in the form of report finance 2015-2019 retail sub-sector companies collected with technique documentation. The method used in a study is Panel Data Regression Method using E-views 11 tools.

In Panel Data Regression there are three estimation models namely the Common Effect Model, Fixed Effect Model, and Random Effect Model. There are three stages of testing to choose the right model, namely:

### A. Chow test

H<sub>0</sub>: If the value of probability  $F > \alpha$ , then the right estimation model used is the Common Effects Model.

H<sub>1</sub>: If the value of probability  $F < \alpha$ , then the right estimation model used is the Fixed Effects Model.

If the value of probability  $F$  is bigger than  $\alpha$  (0.05), then the right estimation model used is the Common Effect Model. H<sub>0</sub> accepted and H<sub>1</sub> rejected. If the value of probability  $F$  is smaller from  $\alpha$  (0.05), then the right estimation model used is the Fixed Effect Model. H<sub>0</sub> rejected and H<sub>1</sub> accepted.

### B. Hausman test

H<sub>0</sub>: If the value of the Random Cross-Section probability  $> \alpha$ , then the right estimation model used is the Random-Effects Model.

H<sub>1</sub>: If the value of the Random Cross-Section probability  $< \alpha$ , then the right estimation model used is the Fixed Effects Model.

If the value of Random Cross-Section probability is bigger than  $\alpha$  (0.05) then the right estimation model used is the Random Effect Model. H<sub>0</sub> accepted and H<sub>1</sub> rejected. If the value of Random Cross-Section probability is smaller from  $\alpha$  (0.05) then the right estimation model used is the Fixed Effect Model. H<sub>0</sub> rejected and H<sub>1</sub> accepted.

### C. Lagrange Multiplier (LM) Test

H<sub>0</sub>: If the value of the Breusch Pagan (Both) probability  $> \alpha$ , then the right estimation model used is the Common Effects Model.

H<sub>1</sub>: If the value of the Breusch Pagan (Both) probability  $< \alpha$ , then the right estimation model used is the Random Effects Model.

If the value of *Breusch Pagan (Both)* probability is bigger than  $\alpha$  (0.05) then the right estimation model used is the Common Effect Model. H<sub>0</sub> accepted and H<sub>1</sub> rejected. If the value of *Breusch Pagan (Both)* probability is smaller from  $\alpha$  (0.05) then the right estimation model used is the Random Effect Model. H<sub>0</sub> rejected and H<sub>1</sub> accepted.

If you have found the right model, next conducted testing a hypothesis consisting of from:

### A. Significant Test Simultaneous F

Testing on the Significance Test Simultaneous (F) with comparing F Count with F Table with a hypothesis, with criteria as follows:

H<sub>0</sub>: Accepted if F Count  $<$  F table.

H<sub>1</sub>: Rejected if F Count  $>$  F table.

### B. Coefficient Determination (R<sup>2</sup>)

A small R<sup>2</sup> value explains that the ability of the independent variable in explaining the variation of the dependent variable is limited. A value close to one means that the independent variables provide more information needed to predict the variation of the dependent variable (Ghozali,2016).

### C. Hypothesis Test (t-Test)

Testing on the Hypothesis Test (t-test) with comparing the value of "t count" with "t table" with a hypothesis as follows:

H<sub>0</sub>: Accepted if "t count"  $<$  "t table" or probability  $>$  0.05

H<sub>1</sub>: Rejected if "t count"  $>$  "t table" or probability  $<$  0.05

## VI. RESULT AND DISCUSSION

### A. Result

#### 1). Panel Data Regression Model Selection

Dependen Variable	Independen Variable	Chow Test Result	Hausman Test Result	LM Test Result
Financial Distress	CR DER ROE Sales Growth	Prob $>$ $\alpha$ 0.05 H <sub>0</sub> Accepted Common Effect Model	Prob $<$ $\alpha$ 0.05 H <sub>0</sub> Rejected Fixed Effect Model	Prob $>$ $\alpha$ 0.05 H <sub>0</sub> Accepted Common Effect Model

Source: E-views 11 (compiled by the researcher)

## Analysis Influence Liquidity, Leverage, Profitability and Sales Growth against Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub Sector Companies Listed on the Indonesia Stock Exchange 2015-2019)

Based on testing in pairs to the three-panel data regression models, can conclude that the Common Effect Model is the most appropriate model estimation in panel data regression and will use more carry on in studying this. Following common effect model table:

Dependent Variable: Y  
 Method: Panel Least Squares  
 Date: 06/19/21 Time: 16:52  
 Sample: 2015 2019  
 Periods included: 5  
 Cross-sections included: 16  
 Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.38297	4.013515	-3.334477	0.0013
X1	3.028883	1.000515	3.027324	0.0034
X2	3.099237	1.496265	2.071315	0.0418
X3	-0.019813	0.115989	-0.170818	0.8648
X4	0.617316	0.124110	4.973958	0.0000

Root MSE	20.21362	R-squared	0.410769
Mean dependent var	-1.844375	Adjusted R-squared	0.379343
S.D. dependent var	26.49920	S.E. of regression	20.87654
Akaike info criterion	8.975590	Sum squared resid	32687.24
Schwarz criterion	9.124467	Log likelihood	-354.0236
Hannan-Quinn criter.	9.035279	F-statistic	13.07113
Durbin-Watson stat	1.205082	Prob(F-statistic)	0.000000

Source: E-views 11 (compiled by the researcher)

Equality panel data regression are:

$$Y = -13.3829 + 3.0288X1 + 3.0992X2 + -0.0198X3 + 0.6173X4$$

Equality panel data regression above could conclude:

- 1) Coefficient value constant of = -13.3829 where it means if the variables CR (X1), DER (X2), ROE (X3), Sales Growth (X4) are zero, then Financial Distress (Y) is -13.3829.
- 2) Coefficient value regression variable CR (X1) of 3.0288 is worth positive, then it means if existence an increase in the variable CR (X1) by 1 unit so variable Financial Distress (Y) experienced an increase of 3,0288 units.
- 3) Coefficient value regression DER variable (X2) of 3.0992 is worth positive, then it means if existence an increase in the DER variable (X2) by 1 unit then variable Financial Distress (Y) experienced an increase of 3,0992 units.
- 4) Coefficient value regression ROE variable (X3) of -0.0198 is worth negative, then it means if existence decrease in ROE variable (X3) by 1 unit so variable Financial Distress (Y) experienced a drop of -0.0198 units.
- 5) Coefficient value regression variable Sales Growth (X4) of 0.6173 is worth positive, then it means if existence increment in variable Sales Growth (X4) of 1 unit so variable Financial Distress (Y) experienced an increase of 0.6173 units.

### 2). Significance Test Results Simultaneous (F)

Root MSE	20.21362	R-squared	0.410769
Mean dependent var	-1.844375	Adjusted R-squared	0.379343
S.D. dependent var	26.49920	S.E. of regression	20.87654
Akaike info criterion	8.975590	Sum squared resid	32687.24
Schwarz criterion	9.124467	Log likelihood	-354.0236
Hannan-Quinn criter.	9.035279	F-statistic	13.07113
Durbin-Watson stat	1.205082	Prob (F-statistic)	0.000000

Source: E-views 11 (compiled by the researcher)

Based on results F test calculation above obtained calculated F value > F table is 13.071 > 2.495, then  $H_0$  rejected which means that variable Current Ratio (CR), Debt to Equity Ratio (DER), Return on Equity (ROE), and Sales Growth by together take effect to Financial Distress in retail sub-sector companies in 2015 – 2019.

If using ratio comparison between prob value with level significance  $\alpha = 0.05$ , then obtained the prob value < 0.05 is 0.000 < 0.05 which states that  $H_0$  rejected. This is in line with results comparison F count with F table that is variable Current Ratio (CR), Debt to Equity Ratio (DER), Return on Equity (ROE) and Sales Growth by together take effect to Financial Distress in retail sub-sector companies in 2015 – 2019.

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## 3). Coefficient Result Determination ( $R^2$ Test)

Root MSE	20.21362	R-squared	0.410769
Mean dependent var	-1.844375	Adjusted R-squared	0.379343
S.D. dependent var	26.49920	S.E. of regression	20.87654
Akaike info criterion	8.975590	Sum squared resid	32687.24
Schwarz criterion	9.124467	Log likelihood	-354.0236
Hannan-Quinn criter.	9.035279	F-statistic	13.07113
Durbin-Watson stat	1.205082	Prob (F-statistic)	0.000000

Source: E-views 11 (compiled by the researcher)

Value Adjusted R- *squared* of 0.3793 or 37.93% which means that by 37.93 % Financial Distress influenced by Current Ratio, Debt to Equity Ratio, Return on Equity and Sales Growth, while the rest that is by 62.07% (1 – 37.93%) is influenced by other variables that are not included in the study.

## 4). Hypothesis Test Results (t-Test)

The results of the t-test are obtained results as follows:

- 1) Current Ratio (X1) has a value of t count 3.0273 > value of t table 1.6654 and has probability 0.0034 < 0.05, then  $H_0$  rejected which means that Current Ratio effect positively to Financial Distress.
- 2) Debt to Equity Ratio (X2) has a value of t count 2.0713 > value of t table 1.6654 and has probability 0.0418 < 0.05, then  $H_0$  rejected which means that Debt to Equity Ratio effect positively to Financial Distress.
- 3) Return on Equity (X3) has a value of t count -0.1708 < value of t table 1.6654 and has probability 0.8648 > 0.05, then  $H_0$  accepted which means that Return on Equity no effect to Financial Distress.
- 4) Sales Growth (X4) has a value of t count 4.9379 > value of t table 1.6654 and has probability 0.0000 < 0.05, then  $H_0$  rejected which means that Sales Growth effect positively to Financial Distress.

## B. Discussion

### 1). The Effect of Liquidity on Financial Distress (Altman Z-Score)

The initial hypothesis that was built in this study is that liquidity has a positive effect on financial distress Altman Z-Score, while the test results from this study are liquidity has a positive effect on financial distress Altman Z-Score. This shows that the initial hypothesis is by the hypothesis of the research test results and is also in line with previous researchers (Kazemian et al., 2017) and (Septyanto & Welandasari, 2020) which describe that liquidity with the current ratio indicator has a positive effect on financial distress (Altman Z-Score). If the current ratio unit is high, the Altman Z-Score unit value is also high, which means that financial distress is getting lower or the potential for bankruptcy of the company is low. Conversely, if the current ratio unit is low, the Altman Z-Score unit value will also be below, which means that financial distress is higher or the potential for bankruptcy of the company is high. This shows that the current ratio has a positive effect on financial distress which is calculated based on the Altman Z-score.

### 2). The Effect of Leverage on Financial Distress (Altman Z-Score)

The initial research hypothesis and theory states that Leverage with the debt-equity ratio (DER) indicator hurts financial distress (Altman Z-Score), which means that if the company has a high DER value, the Z-Score value will be low and the potential for financial distress company is getting higher.

The results of research on retail sub-sector companies in 2015-2019 show a positive relationship between DER and Financial distress (Altman Z-Score), which means that if there is an increase of one unit in the DER value, the Z-Score value will also increase by one unit, the potential for financial distress will be small.

The high value of DER is caused by the value of debt which is greater than the value of capital. However, if the company's management can allocate its debt to the maximum, such as using debt for business expansion by opening new outlets, of course, this can add to the company's profits so that the company still can pay its debt obligations. From these conditions, it can be concluded that DER has a positive effect on financial distress (Altman Z-Score).

The results of the research hypothesis are in line with the results of previous researchers, namely (Lucky & Michael, 2019) and (Fadilla, 2019) which show that DER has a positive influence on financial distress which is calculated based on the Altman Z-Score.

# **Analysis Influence Liquidity, Leverage, Profitability and Sales Growth against Financial Distress (Altman Z-Score) (Empirical Study of Retail Sub Sector Companies Listed on the Indonesia Stock Exchange 2015-2019)**

## **3). The effect of Profitability on Financial Distress (Altman Z-Score)**

Return on equity (ROE) does not affect financial distress in retail sub-sector companies listed on Indonesia Stock Exchange in 2015-2019. The results of this study are not the same as the initial hypothesis and theory which states that ROE has a positive effect on financial distress (Altman Z-Score). The higher of ROE value, the better the company's performance because it can generate profits so that the Z-Score value is also high and its effect on the company's financial distress is getting smaller.

The results of research the profits obtained by the company did not come from the use of capital so the comparison value between net income and capital was unable to predict the condition of company bankruptcy or ROE had no effect on financial distress. The results of this study are in line with the results of previous researchers, namely (Maisarah et al., 2018) and (Assaji & Machmuddah, 2019) which show that ROE does not affect financial distress which is calculated based on the Altman Z-Score.

## **4). The effect of Sales Growth on Financial Distress (Altman Z-Score)**

Sales growth has a positive effect on financial distress in retail sub-sector companies listed on Indonesia Stock Exchange in 2015-2019. Based on the theory that sales growth is a measure of the company's performance in a period. The increase in sales growth indicates that the company's growth is healthy and will increase profits and the company will have no difficulty in fulfilling its obligations. Conversely, if sales growth tends to decline, then there are problems with the company's growth, of course, this will affect the decline in profits where the company can potentially experience financial difficulties if there is a prolonged decline in profits.

The results of research show an increase in sales growth will increase the Z-Score value so that the potential for financial distress will be smaller. Sales growth has a positive effect on financial distress. The results of this study are in line with the results of previous researchers, namely (Loman & Malelak, 2015) and (Sopian & Rahayu, 2017) which show that sales growth has a positive effect on financial distress which is calculated based on the Altman Z-Score.

## **5. CONCLUSION AND RECOMMENDATION**

### **A. Conclusion**

Based on the results and discussion in this study, the following conclusions can be drawn:

- 1) Current Ratio (CR) affects positively financial distress (Altman Z- Score) in retail sub-sector companies listed on the Indonesia Stock Exchange in 2015-2019.
- 2) Debt to Equity Ratio (DER) affects positively financial distress (Altman Z- Score) in retail sub-sector companies listed on Indonesia Stock Exchange in 2015-2019.
- 3) Return on Equity (ROE) does not affect financial distress (Altman Z- Score) in retail sub-sector companies listed on Indonesia Stock Exchange in 2015-2019.
- 4) Growth sales (Sales Growth) effect positively on financial distress (Altman Z- Score) in retail sub-sector companies listed on Indonesia Stock Exchange in 2015-2019.

### **B. Recommendation**

Subsequent research to be able to develop more broadly regarding this research with different objects and research titles. This will certainly be very useful in contributing to the development of Financial Management science.

- 1) For investors, both those who are about to start investing or who have already entered into an investment, it is recommended to pay attention to the factors Current ratio, Debt to Equity ratio, Sales Growth because these factors have a positive influence on Financial Distress in listed retail sub-sector companies. on the IDX in 2015-2019.
- 2) For companies, it is suggested that they must do debt management optimally because the results of this study indicate that the Debt-Equity Ratio is the variable that has the most influence on the company's potential Financial Distress.
- 3) For further research, it is recommended to use other variables that affect Financial Distress such as Cashflow, Corporate Governance, Company Size, and several other external factors such as inflation or pandemic conditions so that more updated and useful conclusions will be obtained.

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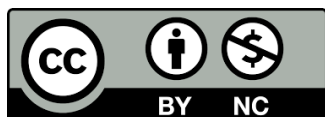
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## Causality Analysis of the Brent Oil Prices, the Gold Prices and the Exchange Rates (USD/IDR) on Indonesia Composite Index (Empirical Study January 2016 – April 2021)



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**ABSTRACT:** Global economic conditions are in turmoil due to the COVID-19 pandemic since 2019. Many policies are implemented to suppress the spread of the virus, which then has an impact on economic activity. It influences investors' attitudes and changes the choices in investing. This study aims to analyse the causal relationship between the Indonesia Composite Index (ICI) and gold prices, oil prices and the exchange rate (USD/IDR). This study used monthly data for the period January 2016 – April 2021 with an analysis of the Vector Error Correction Model (VECM), which is a restricted VAR model with the Eviews 10 tool. The long-term VECM estimation results show that Brent oil prices and gold prices have a negative effect while the exchange rate (USD/USD) IDR the ICI. The Granger causality test shows that the ICI has a one-way causality relationship with the exchange rate (USD/IDR).

**KEYWORDS:** Gold Price, Brent Oil Price, Exchange Rate (USD/IDR), ICI, Causality, VECM

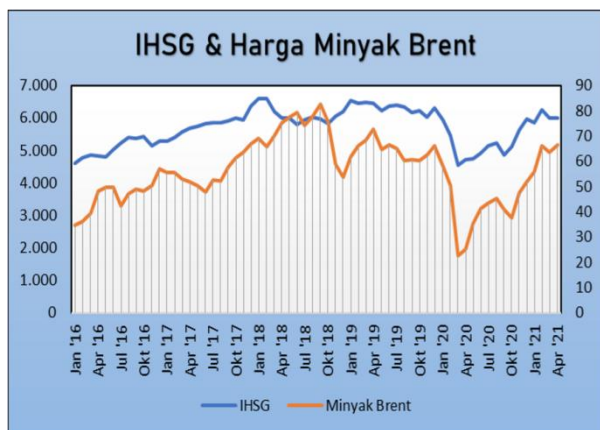
### 1. INTRODUCTION

The purpose of investment is to get profits in the future by allocating funds to real assets such as jewellery, precious metals, property and financial assets in the money market and the capital market. The Indonesia Composite Index (ICI) is a benchmark for determining the value of shares and a historical description of the price movements of the composite stock on the stock exchange which is the capital market in Indonesia as a place of investment as well as an important factor in the economy of a country.

The ICI value from January 2016 to December 2019 was quite volatile and tended to be stable, but since January 2020 there has been a drastic decline. The peaked of the decline is in March 2020. This condition was caused by the COVID-19 pandemic which began to enter Indonesia and created various policies from the government to recover public health, but it creates an impact on economic activities. Blanchard (2006) states that macroeconomic factors that can affect the capital market are the global economy, world energy levels and the political stability of a country. Another factor that affects the capital market is the behaviour of investors in investing. As stated by Gumanti (2007), investors tend to avoid risk by choosing investments with low risk compared to investments with high risk. By observing various aspects and factors that influence fluctuations in the capital market, this study found that world oil prices and gold prices as a mining commodity to exchange rates as exchange rates is a step to obtain information about the bad or the good signals as a consideration in investing.

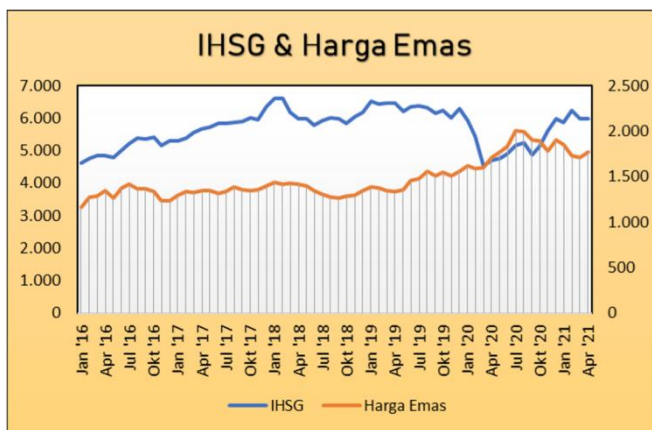
The following graph shows the movement of the ICI to Brent oil prices, gold prices and the exchange rate (USD/IDR) for the period January 2016 to April 2021. The decline in the ICI and Brent oil prices, the increase in gold prices and the exchange rate (USD/IDR) was very extreme. It happened due to the COVID-19 pandemic period in March and April 2020. The panic attack and uncertainty of the situation had an impact on economic conditions.

**Causality Analysis of the Brent Oil Prices, the Gold Prices and the Exchange Rates (USD/IDR) on Indonesia Composite Index (Empirical Study January 2016 – April 2021)**



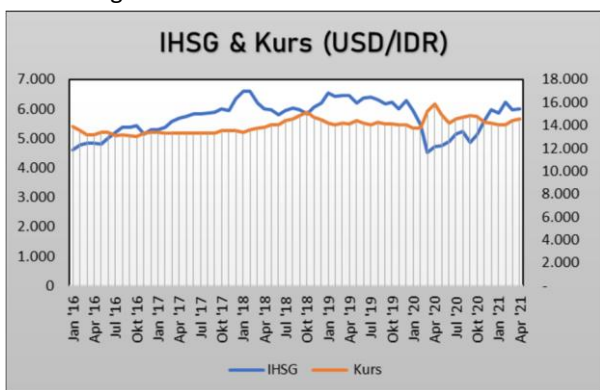
**Picture 1. Graph ICI dan Brent Oil Price**

Source: id.investing.com



**Picture 2. Graph ICI dan Gold Price**

Source: id.investing.com



**Picture 3. Graph ICI dan Brent Oil Price**

Source: id.investing.com & www.bi.go.id

**2. LITERATUR REVIEW**

The grand theory of this study is the theory about stock prices are influenced by information or issues that are developing, such as Asymmetric Information Theory, Signalling Theory dan Random Walk Theory.

**2.1 Capital Market**

The capital market is a professional institution related to buying and selling securities, in Indonesia known as the Indonesia Stock Exchange (IDX) with a stock price index as an indicator of stock price movements. The role of the capital market is important and it becomes a factor in the movement of the economy (Setyastuti, 2015).

**2.2 Indonesia Composite Index (ICI)**

ICI is historical information that is used as a benchmark for the combined performance of all stock prices listed on the stock exchange (Sunariyah, 2006). The movement of the ICI is influenced by various factors, including macroeconomics and the global economy. Macroeconomic conditions that affect the ICI movement are the inflation rate and the exchange rate, while global economic conditions that can affect the ICI are gold prices and world oil prices (Harfikawati, 2016). Investors do not like the condition where the stock price index has decreased because it can reduce profits (Tesa, 2012).

**2.3 Brent Oil Price as World Oil**

Brent blend is a type from northern Europe with extensive storage and markets around the world and is more widely used as an ingredient for making diesel fuel because of its higher sulphur so Brent oil is one of the benchmarks for world oil trade prices.

**2.4 Golden Price**

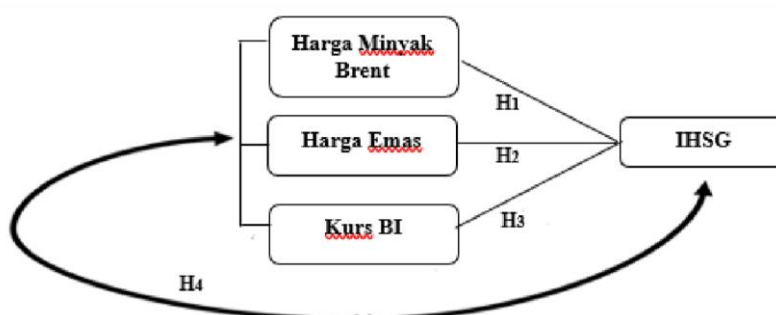
Gold is the real type of investment based on precious metals that can be formed into jewellery, coins and bars. Its tangible nature makes gold considered an alternative investment with low risk and tends to be safe. The process of determining world gold prices refers to supply and demand. Since 1968 the gold price that has been used as a benchmark is the gold price based on the London gold market, which is called the London Gold Fixing.

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## 2.5 Exchange Rate (USD/IDR)

The exchange rate is the amount of domestic currency needed to obtain one foreign currency value (Sukirno, 2002). When there is a strengthening of the rupiah exchange rate to the US dollar, the rupiah exchange rate to the US dollar is low, then it has an impact on stock prices (Muharam & Nuraini MS, 2008).

## 2.6 Framework



## 2.7 Research Hypothesis

### Brent Oil Prices Affect the ICI in the Long Term

The stable world oil prices indicate stable global economic conditions, starting from the supply of oil and the demand for oil as fuel for both industry and vehicles. In these conditions, investors will have consideration to investing their funds in the capital market because it is considered a good signal in line with the theory by (Suwardjono, 2010). This condition is also in line with the theory presented by (Kowanda et al., 2015) commodities as a means of investment will affect the capital market. A previous study (Akua Miyanti & Wiagustini, 2018) states that world oil prices have a negative effect on the ICI on the Indonesian Stock exchange, this means that an increase in oil prices will result in a decrease in stock prices on the Indonesian Stock Exchange. H1: Brent oil price has an effect on ICI in the long term.

### Gold Prices Affect the ICI in the Long Term

Gold is an alternative investment that is considered safe and risk-free (Sunariyah, 2011). Because gold is a tangible investment and can be worn as jewellery. In the initial situation of the COVID-19 pandemic where there was a panic attack due to the uncertainty of economic conditions because of various policies made concerned with public health. An investment shift also occurred, where the attitude of investors who tended to choose low-risk investments, resulted in an increase in gold prices and a decrease in the price of ICI in the capital market. A previous study by (Dwiati & Ambarwati, 2016) states that gold prices have a negative effect on the ICI, this means that an increase in gold prices will result in a decrease in the ICI. H2: The gold price has an effect on ICI in the long term

### The exchange rate (USD/IDR) has an effect on the ICI in the long term

Global economic conditions often have an impact on the exchange rate of the rupiah to the dollar, it also has an impact on the attitude of investors in investing in the stock market. When the rupiah exchange rate begins to weaken, investors will consider their investment due to concerns about the developing global situation. Damajanti & Rosyati (2018) in their research states that the exchange rate of the rupiah to the dollar affected the ICI. H3: Exchange rate (USD/IDR) has an effect on JCI in the long term

### ICI shows a causal relationship to Brent oil prices, gold prices and the exchange rate (USD/IDR)

Certain economic conditions lead to various economic activities such as demand for commodities or the policies that aimed to stabilize certain situations so that it influences the attitude of investors in allocating investments. Dimitrova (2005) states that there are several important reasons that it is necessary to build a relationship between stocks and exchange rates, including monetary and fiscal policies, prediction of exchange rate paths, managing currency as an asset in an investment portfolio and forecasting crises. This can explain the relationship between the ICI and the exchange rate. When the rupiah depreciates by US\$, it is a sign that economic conditions are not doing well. Then investors will mitigate risk by diverting their investment to low-risk investments, like gold. The investment shift will cause the gold price to rise while the ICI falls. Other commodities, such as the price of Brent oil as a source of fuel energy, will also be affected due to the decline in production so the demand for Brent oil also decreases, followed by a decline in the ICI.

H4: JCI shows a causal relationship to Brent oil prices, gold prices and the exchange rate (USD/IDR)

# Causality Analysis of the Brent Oil Prices, the Gold Prices and the Exchange Rates (USD/IDR) on Indonesia Composite Index (Empirical Study January 2016 – April 2021)

## 3. RESEARCH METHODS

This study uses monthly data for the period January 2016 to April 2021 with ICI as the independent variable, then Brent oil prices, gold prices and the exchange rate (USD/IDR) as dependent variables. Thus the number of samples for each variable is 64. The approach used is descriptive and inferential which is expected to be able to provide information and draw conclusions to explain the relationship between the independent and dependent variables. The analysis technique used is Vector Autoregressive (VAR) or Vector Error Correction Model (VECM). The VAR method will be used when the data is stationary at the level or does not have cointegration. The VECM method will be used when the data is stationary at the first difference or second difference level together and has a cointegration relationship.

The general specifications of the VAR model are as follows:

$$X_t = A_0X_{t-1} + A_1X_{t-2} + \dots + A_pX_{t-p} + \epsilon_t$$

### Notes:

- $X_t$  : vector size  $n \times 1$  which contains  $n$  variables that enter into the VAR model
- $A_0$  : the intercept vector size  $n \times 1$
- $A_1$  : coefficient matrix size  $n \times n$
- $\epsilon_t$  : residual vector size  $n \times 1$

The general specifications of the VECM model are as follows:

$$\Delta y_t = \mu_0 + \mu_1 t + \pi_t y_{t-1} + \sum_{i=1}^{k-1} \Gamma_{ix} \Delta y_{t-1} + \epsilon_t$$

### Notes:

- $\Delta y_t$  : vector containing the variables in the study
- $\mu_0$  : vector intercept  $\mu_1 t$  : regression coefficient vector  $t$  : time trend
- $\pi_t$  :  $\alpha\beta'$  where  $\beta'$  contains the long-run cointegration equation
- $y_{t-1}$  : in-level variable
- $\Gamma_{ix}$  : regression coefficient matrix
- $\epsilon_t$  : error term

## 4. RESULT AND DISCUSSION

### 4.1 Result

#### Data stationarity Test Results

Uji Augmented Dickey-Fuller Unit Root Test			
Variabel	Critical values ( $\alpha$ )	Level	1 st - Difference
		Prob	Prob
IHSG	5%	0,1778	0,0000
Harga Emas	5%	0,6420	0,0000
Harga Minyak Brent	5%	0,0380	0,0000
Kurs Tengah BI	5%	0,5040	0,0000

Source: E-views 10 (compiled by the researcher)

Stationarity test using Augmented Dickey-Fuller (ADF) or unit root test with a critical value of 5%, so that when the t-statistic < from the critical value ( $\alpha$ ) then the variable is stationary. The results from the table show that all variables are stationary at the first difference level with a p-value of 0.000.

#### Lag Optimum Determination

Lag	LogL	LR	FPE	AIC	SC	HQ
0	411.9705	NA	9.13 e-12	-14.06795	-13.92585*	-14.01260*
1	428.4579	30.13209	8.99e-12	-14.08475	-13.37426	-13.80800
2	445.1717	28.24057*	8.85e-12*	-14.10937*	-12.83047	-13.61121

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3	459.5510	22.31274	9.55e-12	-14.05348	-12.20619	-13.33393
4	476.7679	24.34112	9.53e-12	-14.09545	-11.67975	-13.15448
5	485.9451	11.70888	1.29e-11	-13.86018	-10.87609	-12.69781

Source: E-views 10 (compiled by the researcher)

Determination of the optimum lag aims to determine the time needed by a variable to respond to changes in other variables. Based on the information table for the most stars and the smallest AIC, it is at lag 2, so it is necessary to do a VAR Stability Check test to determine the stability of the model.

Root	Modulus
	0.652505
-0.022630 - 0.652113 i	
-0.022630 + 0.652113i	0.652505
0.202826 - 0.511627i	0.550364
0.202826 + 0.511627i	0.550364
0.517644	0.517644
-0.198900 - 0.121254i	0.232946
-0.198900 + 0.121254i	0.232946
-0.004208	0.004208

Source: E-views 10 (compiled by the researcher)

The VAR Stability Check test results show the modulus value < 1, then the model is stable and the recommended optimum lag is lag 2.

**Cointegration Test**

The cointegration test is the difference between the VAR and VECM models. In the VECM model, the variables must have cointegration by doing the Johansen Cointegration Test (Gujarati & Porter, 2006)

Hasil Uji Kointegrasi			
Unrestricted Cointegration Rank Test (Trace)			
H0	Trace Statistic	Critical Value 0, 05	Prob.**
None*	56,38461	54,0790	0,0307
At most 1	23,59132	35,1928	0,4893
At most 2	8,821378	20,2618	0,7528
At most 3	28,88485	9,1645	0,6017

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)			
H0	Max-Eigen Statistic	Critical Value 0, 05	Prob.**
None*	32,79329	28,58808	0,0136
At most 1	14,76994	22,29962	0,3942
At most 2	5,932893	15,89210	0,7954
At most 3	2,888485	9,164546	0,6017

Source: E-views 10 (compiled by the researcher)

The Johansen test was conducted by comparing the value of the trace statistic and the max-eigen statistic > critical value with a significance level of 5%. The cointegration test results in the table show that there is 1 cointegration with a trace statistic value of 56.38461 > critical value 54.0790 and a max-eigen statistic value of 32.79329 > critical value 28.58808, so the model that will be used in this study is Vector Error Correction. Models (VECM).

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### Vector Error Correction Model (VECM) Estimation Model

The Vector Error Correction Model (VECM) is a restricted VAR model and has a cointegration relationship. The results of the cointegration test show that there is 1 cointegration, so the VECM model is feasible to use with the "Linear intercept no trend" specification. The VECM model will show the long-term and short-term relationships that are owned by variables to other variables. In this VECM estimate, the ICI becomes an endogenous variable, while Brent oil prices, gold prices and the exchange rate (USD/IDR) become exogenous variables with a table value of 2,0003. T-table is obtained from the significance level used is 5% and the degree of freedom (df) = 60, the total data minus the number of variables. The results of the long-term relationship VECM are described as follows:

Variabel	Koefisien	t-statistik
Harga Minyak Brent (1)	-0,665509	[-11,1108]
Harga Emas (1)	-0,576954	[-4,54621]
Kurs (USD/IDR) (1)	1,311002	[3,55783]
C	-14,28627	

Source: E-views 10 (compiled by the researcher)

The results of the long-term VECM estimation based on the table show the following equation:

$$\text{IHSG} = -0,665509 \text{ Harga Minyak Brent}_{t-1} - 0,576954 \text{ Harga Emas}_{t-1} + 1,311022 \text{ Kurs (USD/IDR)}_{t-1} - 14,28627$$

$$\text{ICI} = -0,665509 \text{ Brent Oil Price}_{t-1} - 0,576954 \text{ Gold Price}_{t-1} + 1,311022 \text{ Exchange Rate (USD/IDR)}_{t-1} - 14,28627$$

The VECM estimation result is considered significant if the t-statistical value > t-table = 2,0003. So it can be explained that:

1. The Brent oil price has a negative effect on the ICI movement, which means that if there is an increase in the price of Brent oil by 1 unit, it will cause a decrease in the ICI movement of 0.665509 units.
2. The gold price has a negative effect on the ICI movement, which means that if there is an increase in the price of gold by 1 unit, it will cause a decrease in the ICI movement of 0.576954 units.
3. The exchange rate (USD/IDR) has a positive effect on the ICI movement, which means that if there is an increase in the exchange rate (USD/IDR) by 1 unit, it will cause an increase in the ICI movement of 1.311002 units.

### Granger Causality Test

A granger causality test was conducted to see the causality between variables. If the p-value < 5%, then the variable has an influence on other variables and when the other variables are juxtaposed to produce a p-value < 5%, then there is causality or a causal relationship between the two variables.

Kelambanan pada Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
HARGA_MINYAK_BRENT does not Granger Cause IHSG	62	0.51482	0.6004
IHSG does not Granger Cause HARGA_MINYAK_BRENT	62	2.23820	0.1159
HARGA_EMAS does not Granger Cause IHSG	62	0.38510	0.6821
IHSG does not Granger Cause HARGA_EMAS	62	0.76199	0.4714
IHSG does not Granger Cause KURS	62	0.57149	0.5679
KURS does not Granger Cause IHSG	62	7.03636	0.0019

Sumber: E-views 10 (diolah peneliti)

The results of the Granger causality test in the table show that only the ICI against the exchange rate (USD/IDR) has a p-value of 0.0019 < 0.05, so it can be interpreted that there is a one-way causality relationship, the ICI that affects the exchange rate (USD/IDR) but not the other way around.

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## 4.2 Discussion

### Brent Oil prices affect the ICI in the long term

The results of the long-term VECM estimation test show that the Brent oil price has a negative effect on the ICI movement,

which means that if there is an increase in Brent oil price by 1 unit, it will cause a decrease in the ICI movement of 0.6655 units. These results are in line with conditions when an increase in the Brent oil price in the long term will cause investors' anxiety about inflation so that there is a possibility that a stock sell-off will be done, thus having an impact on the decline in stock values and the ICI. These results are by the first hypothesis and support previous research conducted by (Akua Miyanti & Wiagustini, 2018) and (Kowanda et al., 2015) which states that world oil prices are one of indication which can affect the capital market.

### Gold Price affect the ICI in the long term

The results of the long-term VECM estimation test show that the gold price has a negative effect on the ICI movement, which means that if there is an increase in the gold price by 1 unit, it will cause a decrease in the ICI movement of 0.5769 units. When economic conditions are being unstable due to the COVID-19 pandemic and have a bad impact on other types of investment, there is a shift in investment and gold is become the alternative of investment because it is tangible so it is considered minimal risk. This condition causes the gold price to have a negative effect on the ICI. These results are by the first hypothesis and support previous research conducted by (Dwiati & Ambarwati, 2016).

### The exchange rate (USD/IDR) affect the ICI in the long term

The results of the long-term VECM estimation test show that the exchange rate (USD/IDR) has a positive effect on the ICI movement, which means that if there is an increase in the exchange rate (USD/IDR) by 1 unit, it will cause an increase in the ICI movement of 1.3110 units. When the currency depreciates, it will have an impact on trading activities from or abroad which have an impact on the cost and value of the company. This condition is a consideration for investors to invest or withdraw investment, this is what makes the exchange rate (USD/IDR) affect the ICI. These results are by the first hypothesis and support the previous research conducted by (Luh et al., 2020).

### ICI has a causal relationship to Brent oil price, the gold price and the exchange rate (USD/IDR)

The results of the granger test from this study show that there is a one-way causality between the ICI and the exchange rate (USD/IDR) which is in line with previous research conducted by (Natsir et al., 2019). This can be interpreted as the rise and fall of the ICI will affect the movement of the exchange rate (USD/IDR). When the ICI experiences a decline, the exchange rate (USD/IDR) will depreciate. This condition is the impact of investors selling shares when the stock price continues to fall, the exchange rate (USD/IDR) will appreciate. However, this does not happen in the opposite situation.

## 5. CONCLUSION AND RECOMMENDATION

### 5.1 Conclusion

The VECM model in this study shows that the Brent oil price, the gold price and the exchange rate (USD/IDR) as macroeconomic variables have a long-term influence on the ICI. Where the Brent oil price and the gold prices have a negative effect on the ICI movement, while the exchange rate (USD/IDR) has a positive effect on the ICI. The relationship between Brent oil prices, gold prices and the exchange rate (USD/IDR) with the ICI based on the Granger causality test show that there is only a oneway causality relationship between the ICI and the exchange rate (USD/IDR), so the rise and fall of the ICI will affect the exchange rate (USD/IDR). IDR) but this does not happen in the opposite condition

### 5.2 Recommendation

Based on the results of the previous study and this study, some suggestions can be considered to improve further research:

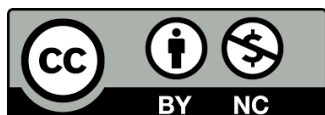
1. The COVID-19 pandemic has an unpredictable impact on the economic situation; however, investors can use macroeconomic variables such as Brent oil price, gold price and exchange rate (USD/IDR) as tools to analyze the ICI in the long term which stated in this study.
2. The monetary policy authorities of Bank Indonesia and the Financial Services Authority need to pay more attention and anticipate the impact of changes in the Brent oil price, the gold price and the exchange rate (USD/IDR) on ICI movements.
3. Further researchers are advised to compare the period before the COVID-19 pandemic with the time when the COVID19 pandemic occurred with a balanced period and add a foreign stock index variable to see the causality of capital markets abroad with domestic.



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## The Role of Brand Preferences As Mediator The Influence of Brand Equity on Purchase Intention



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**ABSTRACT:** This study examines the effect of brand equity on purchase intention through brand preference which was developed in one model. The population of this study is KFC customers in Malang City, and the population in this study is an infinite population, namely the size of the population is very large and the number is unknown and the research sample is 100 KFC customers. Sampling was done randomly. The analytical tool to test the hypothesis used Structural Equation Modeling (SEM) analysis. The results of the study show that brand equity directly has a significant effect on brand preference. Brand preference directly has a significant effect on purchase intentions. Brand equity directly has a significant effect on purchase intentions. Brand preference mediates the effect of brand equity on purchase intentions. KFC management should improve advertisements that are easy to remember by consumers that have an appeal and arouse consumers' curiosity about the advertised products. KFC management maintains the prestige of the product and its place. In addition, the product to be accepted by the community should be adjusted to the wishes or needs, and in accordance with the traditions or customs of the surrounding community. KFC management should improve the quality of products that are better than similar products, therefore KFC continues to improve the innovation and taste of the food menu offered.

**KEYWORDS:** Brand Equity, Brand Preference and Purchase Intention

### INTRODUCTION

Competition in the fast food restaurant business looks very tight, especially at restaurants such as KFC, CFC, McDonald's, Texas Chicken, and A&W. These companies are competing to be the best in the eyes of consumers and the wider community. The results of the competent survey are summarized in the Top Brand Award which is also a prestigious event above the competition between brands. Top Brand Award as proof that consumers are aware of the KFC fast food restaurant brand. This can be seen in Table 1 below:

**Table 1. Top Brand Awards 2020**

No	Brand	TBI (%)	TOP
1	KFC	36.3	TOP
2	MC Donald's	28.0	TOP
3	Hoka hoka Bento	10.9	
4	CFC	6.3	

Table 1 explains that in the Top Brand Award for the fast food category, KFC was ranked number one as a proof of public recognition of the popularity of the KFC brand among the Indonesian people. With this phenomenon, it can be concluded that branding is an important problem in marketing activities.

Based on a review of several studies that have been carried out, including research by Hadi and Azim (2011) stated that brand equity has a positive effect on brand preference and purchase intention and brand preference has a positive effect on purchase intention. And Research Mohammad Reza et al. (2011) stated that the dimensions of brand equity consist of brand awareness, brand association, brand loyalty, perceived quality have a significant impact on purchase intention, as well as research by Uthayakumar and Samithamby (2012) found that brand equity has a direct impact on purchase intention.

Dohee et al. (2011) stated that brand personality perceptions have a positive impact on brand preference and attitudinal loyalty, brand preference has a positive influence on attitudinal loyalty, and attitudinal loyalty has a positive effect on positive word-of-

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mouth (WOM) communication, also found a direct relationship between brands preference with word-of-mouth behavior. Chinho and Yi-Shuang (2013) found that the quality, quantity and expertise of delivering electronic-WOM had a positive impact on purchase intention.

Bongran Jin Sun (2004) found that not all dimensions of brand equity (brand loyalty, perceived quality, brand associations, brand awareness) affect purchase intention, only brand loyalty has an effect on purchase intention, and research by Cynthia and Tabita (2014) found that Overall brand equity has an effect on purchase intention, but only brand association and brand loyalty which individually affect purchase intention.

Based on the phenomenon and the results of previous empirical studies that have not been consistent, this study re-examines the effect of brand equity on purchase intention through brand preference which was developed in one model.

### **LITERATURE REVIEW**

#### **Brand Equity**

Kotler and Keller (2012), revealed that brand equity is the added value given to products and services. Brand equity can be reflected in the way customers think, feel, and act in relation to the brand, as well as the price, market share, and profitability that brands provide to companies. According to Morgan (2000), from the company side, through a strong brand the company can manage assets well, increase cash flow, expand market share, set premium prices, reduce promotional costs, increase sales, maintain stability, and increase competitive advantage. According to Kotler and Keller (2012), customer-based brand equity can be defined as the difference in the impact of brand knowledge on customer responses to the brand. A brand can be said to have positive customer-based brand equity if customers react more favorably to certain products. On the other hand, a brand can be said to have negative customer-based brand equity if the customer reacts unfavorably to the brand's marketing activities in the same situation.

The brand equity approach that will be used in this study is a customer-based brand equity approach. The customer-based brand equity approach will look at brand equity from the customer's point of view. The rationale for the customer-based brand equity model reveals that the strength of a brand lies in what customers have seen, read, heard, learned, thought and felt.

Gil, et al. (2007) revealed that brand equity is formed by perceived quality, perceived value, image, trust worthiness and commitment. Tong and Hawley (2009) brand equity is measured by preferring to buy the desired product, if other brands are not different from the desired product, they prefer to buy the product, the desired product is more than a product. Loureiro, et al. (2014) revealed that the indicator to measure brand equity is pride in using the product, likes brands that have good features, will not switch to other brands. Hou and Wonglorsaichon (2014) measuring brand equity indicators are buying products other than brands even though both are the same, if other products have the same features, prefer to buy this product, if there is another brand as good as this product, prefer to buy or use this product and if other brands are not different from this product, will buy this product.

#### **Brand Preference**

Brand preference is a situation where consumers will choose one brand from the many brands offered by competitors based on previous experience. A person's ability to recall a brand will affect the choice of a brand among the many brands offered (Chiu et al., 2010). According to Heller (2008) brand preference is the degree to which consumers want the services provided by their current company as a comparison to the services provided by other companies with a series of considerations.

Customer values provide direction to the market on how best to meet the needs of their customers and increase brand preference (Chudy and Sant, 1993). These things determine the essence of a brand preference, so that brand preference becomes very strategic to support the existence of a brand because of the benefits provided to consumers. A strong brand preference has a strong degree of consumer preference for a brand. Companies that are able to develop brand preferences will be able to defend against attacks from competitors.

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#### **Purchase Intentions**

Kotler (2000) states that purchase intention is consumer behavior that occurs when consumers are stimulated from external factors and come to buy based on their personal character and decision-making process. Purchase Intention is the tendency of consumers to buy a brand or take action related to the purchase and is measured by the level of possibility of consumers to make a purchase (Assael, 2001) Measured by the statement of wanting to buy-don't want to buy, will buy-will not buy, will repurchase - will not make repeat purchases.

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Purchase intentions show customer preferences to buy products / make transactions, where image greatly affects customers. In addition, customers are also very aware of certain brand names through advertisements, from their past experiences or from information formed from their friends or relatives (Teng, 2008)

Purchase Intentions is related to the theory of consumer behavior because interest is one of the final processes of purchasing decisions from consumers. And along with the development of technology and information, the information received by consumers is getting more and more diverse so that it requires every company to be more creative in developing marketing strategies and product development in order to win the competition with competitors. According to Nessim Hana and Wozniak (2001), consumers often form a preference for a brand or company because of its image, while from that preference consumers will determine their interest in buying a product or not.

### HYPOTHESIS AND MODEL DEVELOPMENT

#### Effect of Brand Equity on Purchase Intentions

Apiluck and Sirion (2005) concluded that there is a positive and significant relationship between brand equity (brand awareness, brand association, perceived quality, brand loyalty) and purchase intentions of Sony Digital Cameras in Bangkok. Ching-Fu and Yu-Ying (2008), stated that there is a positive relationship between brand equity, brand preference, and purchase intentions with the moderating effect of switching costs which has an impact on the relationship between brand equity and purchase intentions. The effect of brand equity on purchase intentions is not significant for passengers with low switching costs. Michael et al. (2008) stated that high brand equity leads to better evaluation of satisfaction and behavioral intentions than low brand equity. Cid Goncalves et al. (2010) concluded that brand equity is able to explain 63% of loyalty intentions and loyalty intentions can explain 86% of consumers purchase intentions. Hadi and Azim (2011) in their research stated that brand equity has a positive effect on brand preference and consumer purchase intention.

Mohammad Reza et al. (2011) stated that brand awareness, brand association, brand loyalty, and perceived quality have a significant impact on consumers' intention to buy products. Uthayakumar and Samithamby (2011) state that brand equity has a direct impact on purchase intention. Jeou-Shyan et al. (2012) stated that there is a positive direct relationship between brand equity and travel intentions in culinary tourism. Bongran Jin Sun (2004) found that brand awareness and brand association do not have a positive and significant relationship to perceived value. In revisit intention, only brand loyalty has an effect on revisit intention, where other dimensions have no relationship with revisit intention. Cynthia and Tabita (2014) found that overall brand equity has an effect on purchase intention, but only brand association and brand loyalty which individually affect purchase intention.

#### Effect of Brand Equity on Brand Preference

Ching-Fu and Yu-Ying (2008), stated that there is a positive relationship between brand equity, brand preference, and purchase intentions with the moderating effect of switching costs which has an impact on the relationship between brand equity and purchase intentions. The effect of brand equity on purchase intentions is not significant for passengers with low switching costs. Hadi and Azim (2011) conclude that brand equity has a positive effect on brand preference and consumer purchase intention.

#### Effect of Brand Preference on Purchase Intentions

Ching-Fu and Yu-Ying (2008) state that there is a positive relationship between brand equity, brand preference, and purchase intentions with the moderating effect of switching costs which has an impact on the relationship between brand equity and purchase intentions. The effect of brand equity on purchase intentions is not significant for passengers with low switching costs, because of the choice of low cost carriers.

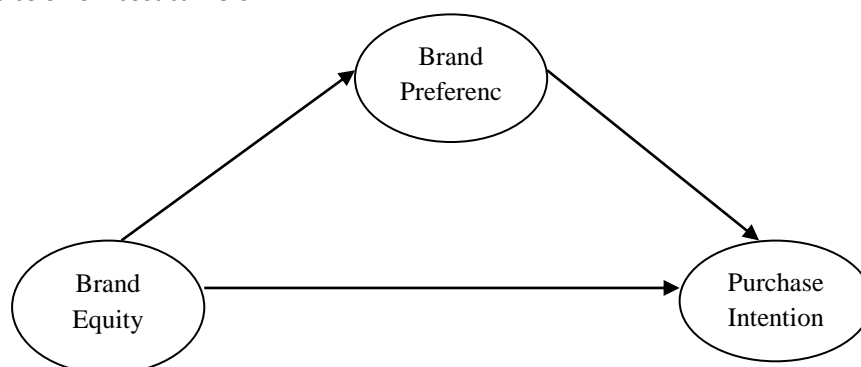


FIGURE 1. depicted the conceptual model constructed in this study

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## RESEARCH METHODS

### Population and Research Sample

The population of this study is KFC customers in Malang City, and the population in this study is an infinite population, that is, the size of the population is very large and the number is unknown. Under these conditions, according to Ferdinand (2006) the sample size is determined by multiplying the number of indicators from 5 variables by 5-10. Based on these provisions, the sample size used is the number of indicators of  $10 \times 10 = 100$  KFC customers. Sampling was done randomly.

### Data Types and Sources

Sources of data used in this study is primary data. This primary data is data obtained by collecting directly from respondents or it can be said that primary data is data obtained directly without going through intermediaries. The primary data in this study was obtained by distributing questionnaires to KFC customers to find out the opinions of selected respondents regarding brand equity, brand preferences and customer purchase intentions.

### Variable Operation

The operational definition of a variable is an element of research that tells how to measure a variable that contains indicators. The variables in this study can be described as follows:

**Table 2. Variables, Indicators, and Instruments**

Variable	Indicator	Items
<i>Brand Equity</i>	Brand Awareness	Instantly recognize KFC by looking at the logo
	Brand Associations	The first fast food brand that comes to mind is KFC
	Perceived Quality	Attractive packaging and presentation of KFC products
	Brand loyalty	Willing to come back to KFC
<i>Brand preference</i>	Company name	Consumers are attracted to KFC which is considered attractive
	Enjoyment of the product	Consumers prefer KFC over other product brands
	Product reputation	KFC is produced by a company that has high credibility (trusted)
<i>Purchase intentions</i>	Transactional Interest	When going to buy fast food, will buy products at KFC
	Preferential Interest	Even though the price is more expensive, I will still choose KFC over other fast food
	Explorative Interests	Say positive things about KFC to others

Measuring the variables studied through respondents' responses used a Likert scale, each answer to the question was given the following weights 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree

### Data analysis technique

The analysis technique in this research is Structural Equation Modeling (SEM). In SEM analysis there is no single statistical test tool to measure or test hypotheses regarding the model (Ferdinand, 2006). There are several types of fit index that measure the degree of conformity between the hypothesized model and the data presented, including the following. (Ferdinand, 2006).

**Table 3. Criteria for Goodness of Fit**

Goodness of fit index	Cut-off value
$X^2$ Chi-square	Expected small
Significaned Probability	$\geq 0.05$
RMSEA	$\leq 0.08$
GFI	$\geq 0.90$
AGFI	$\geq 0.90$
CMIN/DF	$\leq 2.00$
TLI	$\geq 0.95$

## The Role of Brand Preferences As Mediadia The Influence of Brand Equity on Purchase Intention

CFI	$\geq 0.95$
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### Research Hypothesis Test

Hypothesis testing to test the direct effect of brand awareness, brand association and brand trust and brand loyalty and equity. This hypothesis was tested based on the CR coefficient (critical ratio) and probability value (p). if  $p < 0.05$  indicates a significant effect and if  $p > 0.05$  indicates not significant.

The mediation test shows the relationship between the independent and dependent variables through the connecting variable or mediation. The effect of the variable on the dependent variable does not occur directly but through a transformation process represented by the mediating variable (Baron and Kenney, 1986). The mediation test is used to determine whether the mediation variable is complete (complete mediation) or partial mediation (partial mediation).

## RESULTS AND DISCUSSION

### Characteristics of Respondents

The characteristics of the respondents in this study are related to the individual characteristics or demographics of SMEs which can be seen in Table 4 below.

**Table 4. Demographic Characteristics**

Individual characteristics	Number of people	%
<b>By Gender</b>		
Man	25	25
Woman	75	75
<b>By Age</b>		
20-30 years old	48	48
31-40 years old	27	27
41-50 years old	15	15
51 years and over	10	10
<b>Last education</b>		
junior high school	12	12
high school	34	34
Bachelor	54	54

Based on Table 4, it can be explained that the characteristics of the respondents in terms of gender indicate that KFC customers are dominated by women, aged 20-30 years with a bachelor's level of education.

### Confirmatory Factor Analysis Results

Measurement of indicators that can form latent variables in this study was carried out using confirmatory factor analysis. The results of measurements of the dimensions or variable indicators that can form latent variables with CFA are explained as follows:

### Results of Confirmatory Factor Analysis of Brand Equity Variables

The summary of the results of the CFA test on the indicators that make up the brand equity variable is shown in Table 5

**Table 5. Loading Factors ( $\lambda$ ) Measuring Brand Equity Variables**

Variables and Indicators			LF	CR	p
Brand Equity	-->	Brand Awareness	0,658	5,757	0.000
Brand Equity	-->	Brand Associations	0,751	6,539	0.000
Brand Equity	-->	Perceived Quality	0,756	6,394	0.000
Brand Equity	-->	Brand Loyalty	0.738	-	-

Based on Table 5, it can be explained that the indicators that make up the brand equity variable have a Loading Factor (LF) value with a significance level ( $p$ )  $< 0.05$  and a C.R value which shows a number greater than 2.0. Thus, it means that all these indicators are important indicators as forming brand equity. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution to form the brand equity variable is perceived quality.

# The Role of Brand Preferences As Mediadia The Influence of Brand Equity on Purchase Intention

## Result of Confirmatory Factor Analysis Variable Brand preference

The summary of the results of the CFA test on the indicators that make up the brand preference variable is shown in Table 6.

**Table 6. Loading Factors ( $\lambda$ ) Measuring Brand Preference Variables**

Variables and Indicators			LF	CR	p
Brand Preference	-->	Company name	0,697	-	-
Brand Preference	-->	Enjoyment of the product	0,775	5,603	0.000
Brand Preference	-->	Product reputation	0,740	5,612	0.000

Based on Table 6, it can be explained that the indicators that make up the brand preference variable have a Loading Factor (LF) value with a significance level ( $p$ ) < 0.05 and a C.R value which indicates a number greater than 2.0. Thus, all these indicators are important indicators as forming brand preference. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution in forming the brand preference variable is the pleasure of the product.

## Results of Confirmatory Factor Analysis of Purchase Intentions Variables

The summary of the results of the CFA test on the indicators that make up the purchase intentions variable is shown in Table 7.

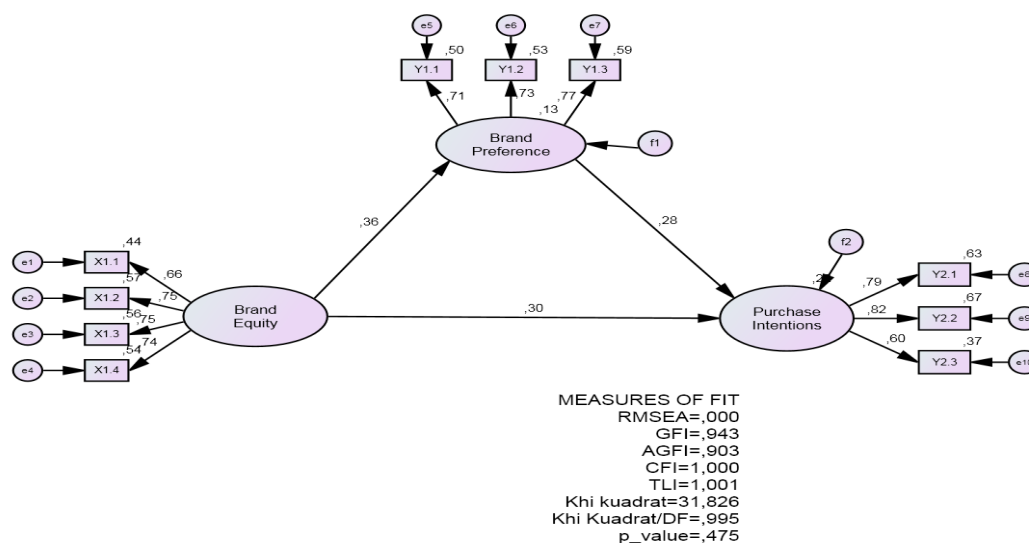
**Table 7. Loading Factors ( $\lambda$ ) Measuring Purchase Intentions Variables**

Variables and Indicators			LF	CR	p
Purchase Intentions	-->	Transactional Interest	0,800	-	-
Purchase Intentions	-->	Preferential Interest	0,803	5,832	0.000
Purchase Intentions	-->	Explorative Interests	0,619	5,416	0.000

Based on Table 7, it can be explained that the indicators that make up the purchase intentions variable have a Loading Factor (LF) value with a significance level ( $p$ ) < 0.05 and a C.R value which shows a number greater than 2.0. Thus all these indicators are important indicators as forming purchase intentions. Furthermore, when viewed from the loading factor value of each indicator, the indicator that is considered to have the largest or strongest contribution in forming the purchase intentions variable is preferential interest.

## Goodness of Fit SEM Analysis Results

The theoretical model in the conceptual framework of the research is said to be fit if it is supported by empirical data. The results of the goodness of fit overall model test, in accordance with the results of the SEM analysis, to determine whether the hypothetical model is supported by empirical data, are given in the figure and table below.



**FIGURE 2. Path Diagram of SEM Analysis Results**

## The Role of Brand Preferences As Mediator The Influence of Brand Equity on Purchase Intention

**Table 8. Test Results of Goodness Of Fit Overall Model**

Kriteria	Cut-of value	Model Results	Mark
Khi Quadrat	Small	31.826	Good Model
p-value	≥ 0.05	0.475	
CMIN/DF	≤ 2.00	0.995	Good Model
GFI	≥ 0.90	0.943	Good Model
AGFI	≥ 0.90	0.903	Good Model
TLI	≥ 0.95	1.001	Good Model
CFI	≥ 0.95	1.000	Good Model
RMSEA	≤ 0.08	0.000	Good Model

The results of the Overall Goodness of Fit test based on the Figure and Table above, it can be seen that all criteria indicate a good model. Therefore, the model is suitable and feasible to use, so that interpretation can be made for further discussion.

### Hypothesis Testing Results

Structural Equation Model (SEM) analysis using AMOS 6.0 was used to test the hypothesis proposed by the researcher. As a basis for testing the hypothesis, the Critical ratio (Cr) from the output regression Weight is used. Where the hypothesis will be accepted if the p value < of a significance of 5%, then the null hypothesis is rejected. The results of the analysis are contained in Table 9

**Table 9. Results of Regression Weight Analysis**

Influence between variables			Path Coefficient	C.r.	p-value
Brand Equity	-->	Brand Preference	0,363 <sup>a</sup>	2,753	0,006
Brand Preference	-->	Purchase Intentions	0,278 <sup>b</sup>	2,042	0,041
Brand Equity	-->	Purchase Intentions	0,296 <sup>c</sup>	2,194	0,028

The results of the influence of brand equity knowledge on purchase intentions without a brand preference mediating variable are seen in Table 10

**Table 10. The effect of brand equity on purchase intentions without mediation of brand preference**

Influence between variables			Path Coefficient	C.r.	p-value
Brand Equity	-->	Purchase Intentions	0,399 <sup>d</sup>	3,048	0,002

### Hypothesis 1. Brand equity directly has a significant effect on brand preference

The results of hypothesis testing about the effect of brand equity on brand preference resulted in a Cr value of 2.753 with a p-value of 0.006. Because the p-value is smaller than statistically significant at = 5%, so the hypothesis which states that brand equity has a significant direct effect on brand preference is acceptable. This result shows that the better the brand equity, the better the brand preference.

### Hypothesis 2. Brand preference directly has a significant effect on purchase intentions

The results of testing the hypothesis about the effect of brand preference on purchase intentions resulted in a Cr value of 2.042 with a p-value of 0.041. Because the p-value is smaller than statistically significant at = 5%, so the hypothesis that brand preference directly has a significant effect on purchase intentions is acceptable. This result shows that the higher the brand preference, the higher the purchase intentions.

### Hypothesis 3. Brand equity directly has a significant effect on purchase intentions

The results of hypothesis testing about the effect of brand equity on purchase intentions resulted in a Cr value of 2.194 with a p-value of 0.028. Because the p-value is smaller than statistically significant at = 5%, so the hypothesis that brand equity directly has a significant effect on purchase intentions is acceptable. This result shows that the higher the brand equity, the higher the purchase intentions.

### Hypothesis 4. Brand preference mediates the effect of brand equity on purchase intentions

Based on the results of the mediation test, the path of influence between brand equity on brand preference shows that the brand equity variable significantly affects brand preference with a coefficient value of 0.363 (a) and brand preference



## **The Role of Brand Preferences As Mediator The Influence of Brand Equity on Purchase Intention**

significantly affects purchase intentions with a coefficient value of 0.278 (b). While the path coefficient of the brand equity variable controlled by brand preference is able to significantly influence purchase intentions with a coefficient value of 0.296 (c). Furthermore (c) has a smaller coefficient value (down) than the influence of brand equity on purchase intentions without a brand preference mediating variable, with a coefficient value of 0.399 (d). Thus, it can be concluded that brand preference is partial mediation of the indirect effect of brand equity on purchase intentions

### **DISCUSSION**

#### **The effect of brand equity on brand preference**

Based on the results of inferential statistical analysis, there is evidence that brand equity directly has a significant effect on brand preference. Based on the results of the analysis, it can be explained that the increase in KFC's brand preference through the company name, product enjoyment and product reputation because KFC has good brand equity through brand awareness, brand associations, perceived quality and brand loyalty.

Based on the results of Confirmatory Factor Analysis seen from the loading factor value of each indicator, the perceived quality shown by the attractive packaging and presentation of KFC products has the largest or strongest contribution to form the brand equity variable. These results can be explained that the attractive packaging and presentation of KFC products contributes to the increase in brand preference which is indicated by the pleasure of the product as consumers prefer KFC over other product brands.

The results of this study support the opinion of Chiu et al., (2010) that brand preference is a condition where consumers will choose one brand from many brands offered by competitors based on previous experience. A person's ability to recall a brand will affect the choice of a brand among the many brands offered

The results of this study strengthen the study conducted by Ching-Fu and Yu-Ying (2008) which states that there is a positive relationship between brand equity, brand preference, and purchase intentions with the moderating effect of switching costs which have an impact on the relationship between brand equity and purchase intentions. The effect of brand equity on purchase intentions is not significant for passengers with low switching costs. Hadi and Azim's research (2011) that brand equity has a positive effect on brand preference and consumer purchase intention.

#### **The influence of brand preference on purchase intentions**

Brand preference plays an important role in increasing KFC's purchase intentions. Based on the results of the analysis, it can be explained that the increase in purchase intentions through transactional interest, preferential interest and exploratory interest is due to the role of brand preference which is indicated by the pleasure of products, such as consumers preferring KFC over other product brands.

Based on the results of Confirmatory Factor Analysis seen from the loading factor value of each indicator, the pleasure of the product shown by consumers preferring KFC over other product brands has the largest or strongest contribution to form the brand preference variable. These results can be explained that consumers prefer KFC over other product brands, contributing to the increase in purchase intentions indicated by preferential interest, such as even though the price is more expensive, they will still choose KFC over other fast foods.

The results of this study support the opinion of Chudy and Sant, (1993) that customer values provide direction to the market on how best to meet the needs of their customers and increase brand preference. These things determine the essence of a brand preference, so that brand preference becomes very strategic to support the existence of a brand because of the benefits provided to consumers. A strong brand preference has a strong degree of consumer preference for a brand. Companies that are able to develop brand preferences will be able to defend against attacks from competitors.

The results of this study strengthen the study conducted by Dohee et al. (2011) stated that brand personality perceptions have a positive impact on brand preference and attitudinal loyalty, brand preference has a positive influence on attitudinal loyalty, and attitudinal loyalty has a positive effect on positive word-of-mouth (WOM) communication, also found a direct relationship between brands preference with word-of-mouth behavior. Chinho and Yi-Shuang (2013) found that the quality, quantity and expertise of delivering electronic-WOM had a positive impact on purchase intention.

#### **The effect of brand equity on purchase intentions**

Based on the results of inferential statistical analysis found evidence that brand equity directly has a significant effect on purchase intentions. Based on the results of the analysis, it can be explained that the increase in purchase intentions through transactional interest, preferential interest and exploratory interest is due to the role because KFC has good brand equity through brand awareness, brand associations, perceived quality and brand loyalty.

## **The Role of Brand Preferences As Mediator The Influence of Brand Equity on Purchase Intention**

Based on the results of Confirmatory Factor Analysis seen from the loading factor value of each indicator, the perceived quality shown by the attractive packaging and presentation of KFC products has the largest or strongest contribution to form the brand equity variable. These results can be explained that the attractive packaging and presentation of KFC products contributes to the increase in purchase intentions indicated by preferential interest, such as even though the price is more expensive, they will still choose KFC over other fast foods.

The results of this study support the opinion of Morgan (2000), from the company side, through a strong brand the company can manage assets well, increase cash flow, expand market share, set premium prices, reduce promotional costs, increase sales, maintain stability, and increase competitive advantage. According to Kotler and Keller (2012), customer-based brand equity can be defined as the difference in the impact of brand knowledge on customer responses to the brand. A brand can be said to have positive customer-based brand equity if customers react more favorably to certain products. On the other hand, a brand can be said to have negative customer-based brand equity if the customer reacts unfavorably to the brand's marketing activities in the same situation.

The results of this study strengthen the study conducted by Cynthia and Tabita (2014) finding that overall brand equity has an effect on purchase intention, but only brand association and brand loyalty which individually affect purchase intention.

### **Brand equity has an indirect effect on purchase intentions through brand preference**

Based on the results of inferential statistical analysis, it was found evidence that brand preference mediates the effect of brand equity on purchase intentions. These results can be explained that KFC will have brand equity as indicated by perceived quality through attractive packaging and presentation of KFC products, contributing to brand preference through pleasure in products as indicated by consumers preferring KFC over other product brands. The increase in brand preference has an impact on increasing purchase intentions as indicated by preferential interest, such as even though the price is more expensive, they will still choose KFC over other fast foods.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **CONCLUSIONS**

Based on the results of the analysis and discussion of this research, it can be concluded that:

1. Brand equity directly has a significant effect on brand preference, these results show that attractive packaging and presentation of KFC products contribute to an increase in brand preference which is indicated by the pleasure of products such as consumers prefer KFC over other product brands.
2. Brand preference directly has a significant effect on purchase intentions, these results show that the increase in purchase intentions through transactional interest, preferential interest and exploratory interest because the role of brand preference is indicated by the pleasure of products such as consumers prefer KFC over other product brands.
3. Brand equity directly has a significant effect on purchase intentions, these results show that attractive packaging and presentation of KFC products contribute to an increase in purchase intentions indicated by preferential interest, such as even though the price is more expensive, they will still choose KFC compared to other fast foods.
4. Brand preference mediates the effect of brand equity on purchase intentions. These results can be explained that KFC will have brand equity as indicated by perceived quality through attractive packaging and presentation of KFC products, contributing to brand preference through pleasure in products as indicated by consumers preferring KFC over other product brands. Increasing brand preference has an impact on increasing purchase intentions

### **RECOMMENDATIONS**

Based on the conclusions above, the suggestions from this research are

1. KFC management should improve advertisements that are easy to remember by consumers that have an appeal and arouse consumer curiosity about the advertised product
2. KFC management should maintain the prestige of the product and its place. In addition, in order for the product to be accepted by the community, it should be adjusted to the wishes or needs, and in accordance with the traditions or customs of the surrounding community
3. KFC management should improve the quality of products that are better than similar products, therefore KFC continues to improve the innovation and taste of the food menu offered.
4. Further researchers are advised to try researching using other independent variables or changing the intervening variables so that the research results will be better such as product innovation variables

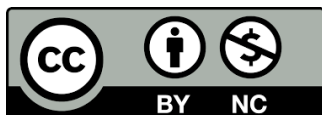
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## Cashless Practice and Corporate Efficiency of Selected Deposit Money Banks in Nigeria: A Review



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**ABSTRACT:** This study, investigated the effect of the cashless practise on the corporate sustainability of deposit money banks in Nigeria. The extent to which the agenda of cashless practices by the Central Bank of Nigeria on corporate sustainability remains quite unclear and is yet to be established in the literature. Currently there is paucity of studies that examine the effects of cashless practices specifically on corporate efficiency in Nigeria. The research method used for this study was the ex post facto. Data were collected from secondary sources; these were obtained from the annual and financial reports of the deposit money banks captured in this research. The finding of the study reveals that Point of Sale transactions can be used to enhance corporate efficiency of deposit money banks in Nigeria. The study found that POS transactions had a significant positive effect on corporate efficiency in Nigerian deposit money banks ( $p < 0.05$ ). The study recommended that to ensure corporate sustainability. The Nigeria deposit money banks has to urgently engaged in infrastructural development and introduce cutting-edge technology. The government should improve on the provision of internet related infrastructure so as to enable an increase in the use of Point of Sale transactions in rural areas and places with poor internet network infrastructure.

**KEYWORDS:** Banks, corporate efficiency, corporate sustainability, POS transactions.

**JEL:** G21, G30, G38, G39

### 1. INTRODUCTION

The sustainability of the financial sector is anchored on banks performance. The banks mobilise and facilitate optimum allocation of national savings, by acting as an intermediary between the surplus fund and deficit savings' units within an economy, thereby increasing the number of investments and the nation's output (Afolabi, 2004). The need for banks to meet up with the increasing demands of customers has transformed the financial institutions from product-led services to customer-led thinking, driven by technological innovations (Akhlq and Ahmed, 2013; Tarhini, Mgbemena, Trab, and Masa'deh, 2015). The technology-based products/services include among others the Point of Sale (POS) devices (Berg Insight, 2010 in Kato, Otuya, Otunza and Nato, 2014).

The Central Bank of Nigeria (CBN) has been at the forefront of steering the new cashless practice in Nigeria as a means to enhance security and efficacy of business transactions. In recent times the CBN has been engaged in series of reforms aimed at making the Nigerian financial sector formidable and ensuring the overall economic performance of Nigeria to align with global best practices (Ugwueze and Nwezeaku, 2016). The main objective of the cashless policy is to lessen the physical cash volume in the economy while boosting the volume of electronic-based transactions in the country (CBN, 2012). The main purpose is to encourage the payments for business transaction through electronic means.

In an attempt to enhance corporate sustainability, the deposit money banks in Nigeria have undergone mergers, acquisition and consolidation; this is different from European deposit money banks approach that adopted the universal banking practice towards attaining corporate sustainability (Kwan, 2004). In the milieu of Nigeria, most of the sustainability-related strategies have emanated from the government as noted by Lemo (2005). Most of the previous studies on Nigeria government banking policies dwelled on the relationship between bank consolidation, diversification of interests, and the performance of the banks. There is currently a paucity of information on the Nigeria cashless approach; In the context of Nigeria there exist huge gap on the extent to which the introduced cashless regulation by the centre bank, affects the corporate sustainability of deposit money banks. Consequently, to fill the existing gap, the objectives of this study is to examine empirically the extent to which cashless

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regulation by the centre bank, of Nigeria influences the corporate sustainability of deposit money banks in Nigeria. This paper investigated e-banking related data from the published annual reports and accounts of nine Nigerian deposit money banks covered e-banking on the reports and accounts for the period of 2012-2016, which is the current duration of the CBN cashless policy in Nigeria. The study contributes to the extant empirical literatures by establishing or refuting results of earlier scholars carried out around the globe. Findings of this empirical investigation have remarkable implication for emerging nations identical with Nigeria since it will raise the awareness of economic leaders to encourage financial policies associated with e-banking system which encourages the corporate efficiency of Deposit Money Banks in Nigeria. The descriptive research method was applied to analysed secondary data obtained from annual and financial reports of the deposit money banks captured in this research. The descriptive research technique was used for this study. The method is unique and appropriate for this study as it describes events and the correlation among the variables under investigation.

### 2. LITERATURE REVIEW AND HYPOTHESIS PROPOSED

The term cashless strategy represents a drastic reduction in the volume of physical cash transaction in the economy Ezeamama, Nnamani, Marire, and Mgbodile (2014). The cashless strategy represents a financial arrangement where business dealings are not conducted mainly on physical cash bases (Alao & Sorinola, 2015). The essence of the cashless strategy by the Central Bank of Nigeria (CBN) is to move the economy from one that is physical cash-based to a cashless one through engendering an efficient payment system anchored on electronic-based transactions (Central Bank of Nigeria, 2011; Oyat, 2012; Ofobruku, Nwakoby, Omale, Okoye, 2019). Going forward it is critical that a modern and efficient payment system is the key to ensure banks sustainability In Nigeria.

Point of Sale terminal (POS) is deployed to merchant locations where users slot their electronic cards through a POS machine to make payments for purchases or services instead of using physical cash. As the POS transactions are online real-time, the customer's bank account is debited immediately for the value of purchases made or services enjoyed. The POS strategy gives certain levels of leverage for credit, and this implies that the amount of physical cash in the wallet is rendered practically irrelevant. One can pay for purchases by any one of a plethora of credit cards or bank transfer (Roth, 2010). Of course, the cashless strategy is not new to developed countries such as the United States, Canada, Germany, United Kingdom just to mention a few. The developed countries of the world are moving away from the use of paper payment as instruments to the use of electronic payment instruments especially by using payment cards. A World Payments Report (2011) revealed that the worldwide volume of nonphysical cash business dealings stood at a total sum of \$260 billion in 2009 representing a yearly gain of 6.8% since 2001. Ezeamama et al. (2014) argue that the bulk of this statistic comes from developed economies. As the topic of the study indicates, the cashless model is an emerging concept in developing countries. Furthermore, Ezeamama et al. (2014) aver that this is as a result of poor or lack of payment infrastructure such as reliable internet services. The implication is that countries such as Nigeria, the conduct of a large volume of business transactions with cash are still prevalent. This development is not consistent with global best practice or trend due to its costly effect on the economy especially going by Central Bank of Nigeria (2011) annual report which implies that the estimated direct cost of cash handling is up to N192 billion in 2012 (Ezeamama et al., 2014). Figure 2.1 is a reflection of the situation:

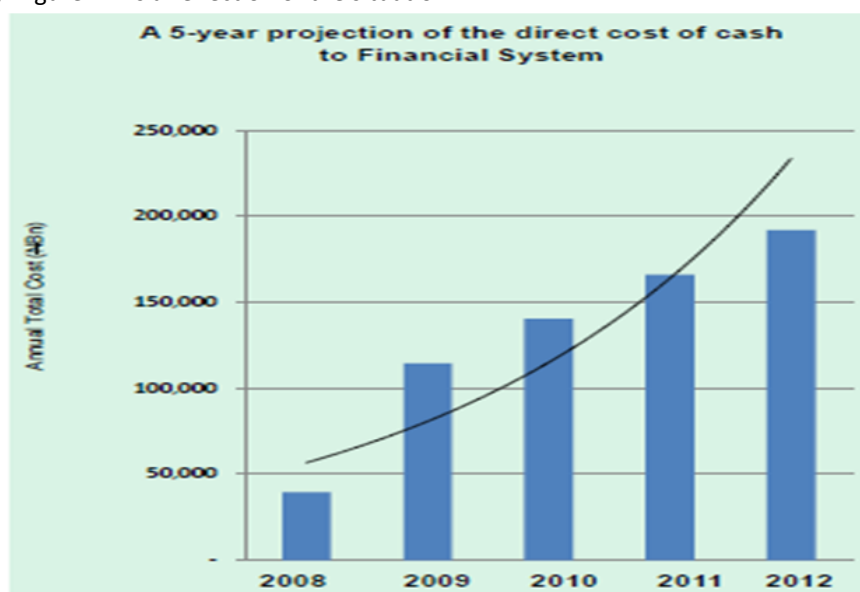


Figure 2.1: Direct Cost of Cash to Financial System in Nigeria

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Source: Central Bank of Nigeria Annual Report 2011

The implication from Figure 2.1 is that 99% of business transactions in Nigeria are cash based. In 2015, the CBN approved an indent of 2,042.89 million pieces of banknotes of various denominations (CBN Annual Report, 2015). The indent represented a 16.1% increment from the preceding year. Lending credence, Figure 2.2 indicates the payment channels in Nigeria as provided by the CBN.

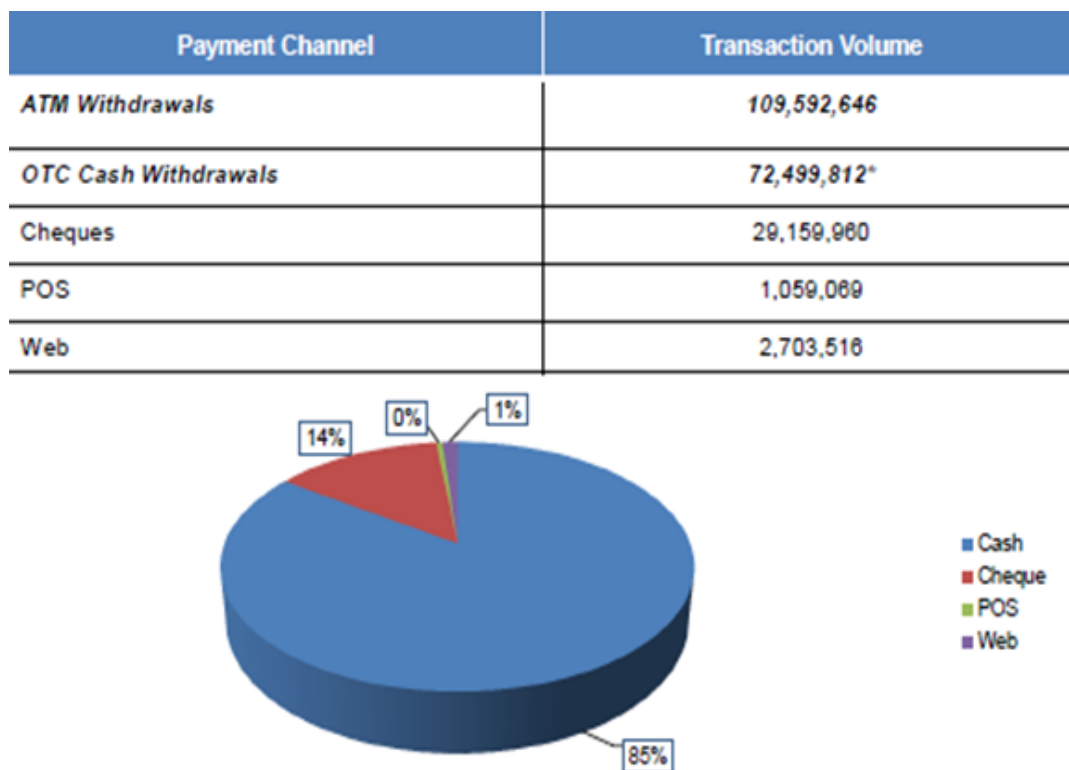


Figure 2.2 Payment Channels in Nigeria as of 2011

Source: Central Bank of Nigeria Annual Report (2011).

The statistics in Figure 2.2 comes at an expense incurred through the handling, distribution, lapses in accountability, processing, low transparency etc. Figure 2.3 shows a distribution of the costs incurred in a cash-laden economy:

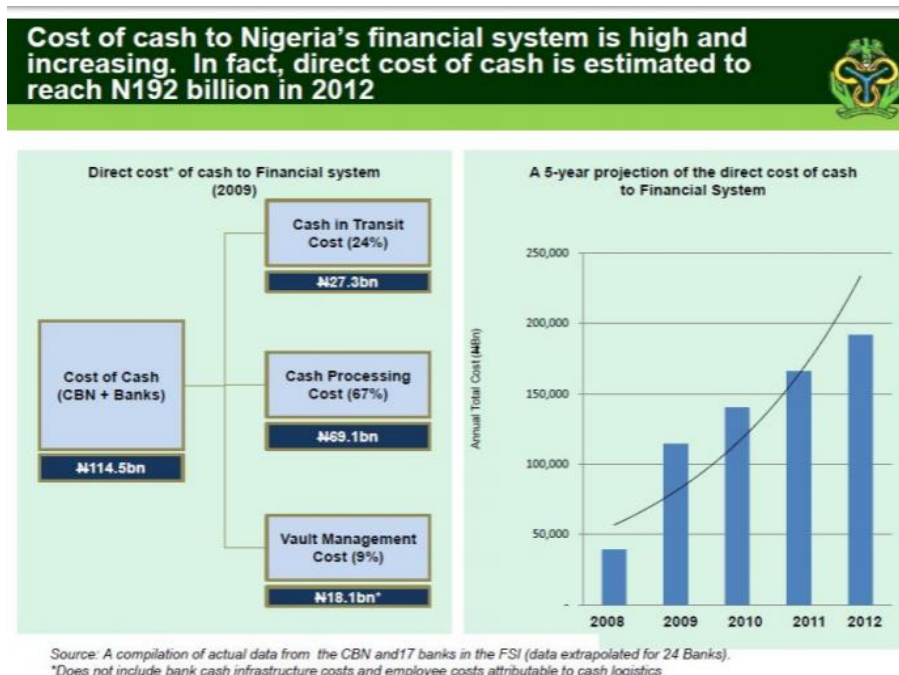


Figure 2.3 shows a distribution of the costs incurred in a cash-laden economy

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The study further identifies the negative consequences associated with the high usage of physical cash in an economy. These include:

### i. Huge Cost of Cash

Distributed end to end the value chain the cost cash between CBN, banks, business entities and traders; high costs is linked with the bulk physical cash management

### ii. Huge Subsidy

The investigation suggests that the whole deposit money banking population subsidises the costs that the small margin of 10% incur regarding the usage of too much cash.

### iii. Huge cost of producing new cash notes

## CORPORATE SUSTAINABILITY

The World Commission on Environment and Development (WCED, The Brundtland Commission) defines sustainability as “meeting the needs of the current generation without bargaining the needs of the future generation” (Nosike (1996). This definition, given by the Brundtland Commission in the 1987 report, published by the United Nations, is the most commonly accepted definition (Aderonmu, Adewale, Alagbe and Dare-Abel, 2014). Therefore, in this study, corporate sustainability is defined as the attainment of performance by an organisation which guarantees long-term success.

Global Association of Corporate Sustainability Officers, (GACSO, 2011) avows that corporate sustainability is achieved when companies align decision-making on capital allocation, development of products, brand and sourcing with the principles of sustainable development, in a resource-constrained world. Sustainable development here refers to a flexibility of development realities in meeting the teeming present and future development criteria, environmental and socio-cultural challenges towards the attainment of economic development (Ewurum, 2017). GACSO (2011) avers that the emergence of the corporate sustainability literature came about because of the understanding that corporate bodies need to adapt their operations to meet the global environmental and social challenges by thinking about the long term.

The study on the evolution of corporate sustainability practices in US and Canada by American Institute of Certified Public Accountants (AICPA), Canadian Institute of Certified Accountants (CICA) and Chartered Institute of Management Accountants (CIMA) carried out in 2010 shows that large companies have more robust sustainability capabilities than small companies. The following evidence was provided;

- i. 79% of larger firms surveyed presently have a formal strategy for sustainability.
- ii. 33% of smaller firms surveyed presently have a strategy; however, an extra 23% planned to formulate a strategy within the coming two years.

In this stead, Grayson, Jin, Lemon, Rodriguez, Slaughter and Tay (2008) stress that for organisations to attain corporate sustainability; they must pursue the following strategies:

1. Make innovating for sustainability a part of the company’s vision
2. Formulate a sustainable strategy
3. Implant sustainability in all parts of the business
4. Walk the talk: emphasise actions, not words
5. Develop a body at board level with the power to make sure sustainability matters
6. Set firm rules
7. Bring your stakeholders on board
8. Use people power
9. Join the networks
10. Think beyond reporting: in line all business systems with the firm’s vision of sustainability

Another study survey done in 2013 on six growing trends in corporate sustainability by EY and GreenBiz Group reports that corporate sustainability has become part of the fabric of a majority of large companies. With every bank seeming to offer all services possible, efficiency coupled with innovative value-added solutions have emerged as the key business differentiators that affect a bank’s bottom line (Vedwa, 2008). In the work of (Snook, O’Neill, Birks, Church, and Rawlins, 2013) the scholars define efficiency as a complex measurable parameter which characterises a fast, safe and reliable output that meets a set goal. By implication, transactional efficiency answers these questions:

- a) How helpful was service rendered?
- b) How useful was service rendered?
- c) How valuable was service rendered?



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d) What are the chances are there of getting a better deal elsewhere?

In some studies (Ofobruku and Iheabunike, 2013; Ofobruku and Nwakoby, 2015; Ofobruku and Yusuf, 2016; Hyatt and Johnson, 2016) the scholars affirm that organisational efficiency refers to the following conceptions which intersect with each other in certain aspects and usually are used in a mixture: Performance-oriented approach: This attitude means giving an appraisal to a manner in which an employee adheres to while carrying out his or her job. In this case, the employee's efficiency is analysed by measuring compliance of his/her activities with certain standards or requirements. In this attitude, an employee that follows a given efficient procedure or process is considered 100% efficient.

Siddik, Sun, Kabiraj, Shanmugan and Yanjuan (2016) investigated the impacts of e-banking on the performance of banks in a developing economy with empirical evidence from Bangladesh. The study made use of panel data from 13 banks from 2003 to 2013, the performance of Bangladeshi banks was measured by the return on equity, return on assets and the net interest margin. The results of the pooled ordinary least square analysis revealed that e-banking started to contribute positively to the return on equity of the banks with a time lag of two years while a negative impact was found in the first year of adoption. The study found that the impact of e-banking on bank performance is significantly positive. Their study also corresponds with the study done by DeYoung (2007) on the American community banks market that examined the effect of internet banking on the performance of banks. The study compared the old (brick and mortar) banks performance to the new (click and mortar) banks which do have transactional websites over a three-year period. Their findings show that internet banking improved bank profitability, through an increase in revenues from charges from cash deposits. Movements of deposits from checking accounts to money market deposit accounts, using brokered deposits increasingly, and more average wage rates for bank workers were also observed for click and mortar banks.

Al-Samadi and Al-Wabal (2011) used the panel data of fifteen Jordanian banks from 2000 to 2010 to study the impact of e-banking on the performance of Jordanian banks. The study, investigated the efficiency of deposit money banks using performance surrogate of ROE. The statistical technique of ordinary least square was used for the analysis of investigation. The study discovered that there was a substantial undesirable effect of e-banking on the financial efficiency of banks. The study would have been more robust if the researcher has investigated the ROE after a certain period of implementation of e-banking. It is worthy of note that the implementation of e-banking technology contains cost, which required sometime for investment cost to be recurred before profits making could be experience.

Khrawish and Al-Sa'di (2011), investigated the effect of E-banking on the profitability of Jordanian domestic banks adoption of e-banking services. The research investigated three groups, these was made up of (non-internet service providers, recent adopters of the service, and early adopters of the service). The investigation employed some financial performance proxies which are: Return on Assets, Return on Equity and Margin of Interest. The research accommodated the period from 2000 to 2009. The study scrutinised the three deposit money bank types mention in the study, that are differed in the e-banking implementation, the financial performance was linked to their productivity within the period investigated.

The study revealed that the non-internet services had no substantial consequence on return on equity, nevertheless non-internet services had substantial consequence regarding return on assets. For the second type were the recent adopters of the services for a period of fewer than two years, the significance was only on Margin. The third kind of the bank that practises electronic banking services did not have any negative implication on banks viability for the whole period. This case demonstrates that some period is actually required for the customers to transform to the use of e-banking services, in order for services the providers to achieve profitable records.

Studies in Nigeria on the connection between the cashless strategy of banking and corporate sustainability is currently scanty. More so studies on the cashless strategy have not focused on the nexus between POS transactions and efficiency, literature is relatively scanty from indigenous Nigeria perspective. This study is motivated to fill up the important gap of the current literature. The review of the literature reveals that so far, the impact of CBN-engineered cashless banking and corporate sustainability of deposit money banks has not been studied extensively as the existing studies were limited. Nigeria is presently hoping to transform her economic environment from 66% of cash flows outside the deposit money banks web to a cashless economic environment, this is an enormous change (Ezeamama, Nnamani, Marire, and Mgbodile, 2014). Therefore, as a result of paucity of literature which investigate the cashless strategy of banking and corporate sustainability in Nigeria, this study proposes the hypothesis below:

H<sub>1</sub> POS transactions significant effect on corporate efficiency of deposit money banks in Abuja, Nigeria.

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### 3. METHODOLOGY

The descriptive research method was applied in this research. The study analysed data from secondary sources as it is a descriptive survey. The secondary data were obtained from annual and financial reports of the deposit money banks captured in this research. The study made use of e-banking related data from the published annual reports and accounts of nine Nigerian money deposit banks namely: First Bank of Nigeria Ltd, Union Bank of Nigeria Plc, United Bank for Africa Plc, Access Bank Plc, Eco-bank Plc, Fidelity Bank Plc, Guaranty Trust Bank Plc, Skye Bank Plc, and Zenith Bank Plc. The data on the intangible assets of these commercial banks covered e-banking on the reports and accounts for the period of 2012-2016, which is the current duration of the CBN cashless policy. Intangible assets include income realizable by the banks from goodwill and through the use and sale of computer soft-wares products.

An extract of the annual reports and accounts on the affairs of First Bank of Nigeria Limited excluding its subsidiaries is shown as follows.

**Table 4.1. Value of Intangible Assets of First Bank of Nigeria Limited from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	1,302,000,000	1,242,000,000	2,272,000,000	4,043,000,000	5,547,000,000

Source: First Bank of Nigeria Limited Annual Report and Accounts (2012-2016)

The table 4.1 shows that there was a steady increase in the value of intangible assets of First Bank from 2013-2016. The increase in the value of intangible assets can be attributed to the introduction of cashless banking by the CBN in 2012 and the availability of e-banking services to the customers.

United Bank for Africa (UBA) Plc

Below is an excerpt from the annual reports and accounts of UBA Plc - Separate Statements of Financial Position.

**Table 4.2. Value of Intangible Assets of United Bank for Africa Plc from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	1,578,000,000	1,401,000,000	3,446,000,000	4,954,000,000	4,905,000,000

Source: United Bank for Africa Plc Annual Report and Accounts (2012-2016)

In Table 4.2, the value of intangible assets of UBA Plc rose from ₦1,401,000,000 to ₦3,446,000,000 between 2013 and 2014 but dropped slightly from ₦4,954,000,000 in 2015 to ₦4,905,000,000 in 2016. The above translates that the introduction of the CBN cashless banking in 2012 significantly increased the value of intangible assets by 59.34% between 2013 and 2014.

#### ACCESS BANK PLC

Access Bank Plc operates in Nigeria: An extract of the annual reports and accounts of Access Bank Plc excluding its subsidiaries is shown below.

**Table 4.3. Value of Intangible Assets of Access Bank Plc from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	2,339,510,000	2,661,553,000	4,436,814,000	4,977,908,000	5,173,784,000

Source: Access Bank Plc Annual Report and Accounts (2012-2016)

Table 4.3 discloses a steady increase in the value of intangible assets of Access Bank Plc from ₦2, 339,510,000 in 2012 to ₦5, 173,784,000 in 2016. It infers that the value of intangible assets has consistently risen since 2012 which marked the introduction of the CBN cashless banking policy.

#### FIDELITY BANK PLC

Below is an excerpt from the annual reports and accounts of Fidelity Bank Plc - Summary of Five-Year Statements of Financial Position.

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**Table 4.4. Value of Intangible Assets of Fidelity Bank Plc from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	470,000,000	-	506,000,000	945,000,000	795,000,000

Source: Fidelity Bank Plc Annual Report and Accounts (2012-2016)

The above table reveals an increase of ₦439, 000,000 (46.46%) in the value of intangible assets of Fidelity Bank Plc from 2014 to 2015, and a decrease of ₦150, 000,000 (15.87%) between 2015 and 2016. The rise in value was attributable to the introduction of the CBN cashless banking policy in 2012. However, declining value is due to bank's inefficient e-banking services.

### GUARANTY TRUST BANK PLC

Guaranty Trust Bank Plc Excerpts from the annual reports and accounts of Guranty Trust Bank Plc excluding its subsidiaries is shown below.

**Table 4.5. Value of Intangible Assets of Guaranty Trust Bank Plc from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	1,539,717,000	2,256,768,000	2,417,700,000	2,492,959,000	3,377,961,000

Source: Guranty Trust Bank Plc Annual Report and Accounts (2012-2016)

Table 4.5 reveals a continuous increase in the value of intangible assets of Guaranty Trust Bank Plc from ₦1,539,717,000 in 2012 to ₦3,377,961,000 in 2016. It implies that the value of intangible assets of GT Bank has grown steadily since the introduction of the CBN cashless banking policy.

### ZENITH BANK PLC

Below are excerpts from the annual reports and accounts of Zenith Bank Plc (excluding its subsidiaries) - Separate Statements of Financial Position.

**Table 4.6. Value of Intangible Assets of Zenith Bank Plc from 2012-2016**

Year	2012	2013	2014	2015	2016
Value (₦)	1,175,000,000	1,703,000,000	1,901,000,000	2,753,000,000	3,903,000,000

Source: Zenith Bank Plc Annual Report and Accounts (2012-2016)

Table 4.6 reveals a consistent rise in the value of intangible assets of Zenith Bank Plc from 2012 (₦1, 175,000,000) to 2016 (₦3, 903,000,000). This signifies a steady growth in the value of intangible assets of Zenith Bank Plc since the 2012 introduction of CBN cashless banking policy.

## 4. RESULTS OF DATA ANALYSIS

The hypothesis was tested with the Pearson Product Moment Correlation Coefficient in a bid to determine the relationship between the variables of the study. In analysing the hypothesis of this study, Pearson product-moment correlation coefficient (r) was used to test the strength (magnitude) and direction of the relationship between the variables - POS transactions and corporate sustainability of deposit money banks in Abuja, Nigeria. The strength and direction of the relationship between these variables were tested at 5% level of significance.

H<sub>i</sub>: POS transactions significantly affect corporate sustainability of deposit money banks in Nigeria.

### TEST OF HYPOTHESIS

To determine the relationship between POS transactions and corporate efficiency of deposit money banks in Nigeria. Pearson product-moment correlation was performed. Before testing the hypothesis, preliminary analyses were performed to ensure no violation of the assumptions of correlation.

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**Table 4.7: Result of Pearson Correlation Analysis**

Correlations		Year of POS Transaction	corporate efficiency
Year of POS Transaction	Pearson Correlation	1	0.813*
	Sig. (2-tailed)		.013
	N	9	9
Number of POS Transaction	Pearson Correlation	0.813*	1
	Sig. (2-tailed)	.013	
	N	9	9

\*. Correlation is significant at the 0.05 level (2-tailed).

The test statistics  $r = 0.813$ ,  $n = 9$ ,  $p < 0.05$  was obtained from the above result. The  $r$  value of 0.813 indicates a perfect, positive correlation between POS transactions and corporate efficiency of deposit money banks in Nigeria.

### DISCUSSION OF RESULTS

The finding of this current research is in harmony with the diffusion of innovation theory in that there are improvements in the customers' usage of POS services in Nigeria banks. This study also agreed with previous scholars like, Siddik, Sun, Kabiraj, Shanmugan and Yanjuan (2016) who studied the impacts of e-banking on the performance of banks in a developing economy with empirical evidence from Bangladesh. The study found that the effect of e-banking on bank productivity is significantly positive. The findings of this research also agreed with a study by DeYoung (2007) on the American community banks market that investigated the effect of internet banking on the performance of banks. Their findings show that internet banking improved bank profitability, through an increase in revenues from charges from cash deposits. Aduda and Kingoo (2012) established a positive association between e-banking and the financial productivity of banks by using the Pearson Product-Moment Correlation Coefficient test. This further agreed with works of (Karimzadeh, 2014; Rauf and Qiang, 2014).

The findings of this research disagree with the work of Al-Samadi and Al-Wabal (2011) that used a panel data of fifteen Jordanian banks from 2000 to 2010 to examine the impact of e-banking on the performance of Jordanian banks. The major limitation of Al-Samadi and Al-Wabal (2011) investigation is that the research did not investigate ROE after a specific year of adoption of e-banking. Since the adoption of e-banking technology involves cost, which required some period of time for the recovery of investment cost and to make profits. However, the finding from the research work of Khrawish and Al-Sa'di (2011), which investigated the effect of E-banking on the profitability of Jordanian domestic banks by the implementations of e-banking services is worthy of note. The ratios used in the study included Return on Assets, Return on Equity and Margin of Interest as profitability ratio. The research covered a period from the year 2000 to 2009 and the study investigated three different types of banking services which was made up of (non-internet service providers; recent implementors of the service and early implementors of the service). The findings revealed that the non-internet services had no substantial consequence on ROE, but the consequence were substantial regarding ROA. For the second type the recent implementors of the services for a period offewer than two years, the significance was only on Margin. The third kind of the bank that practises electronic banking services did not have any implication on banks viability for the whole period. This case shows that it takes time to be adapted to the e-banking services, as for every new product usually; it takes some few periods of times to start recording profitable results. The increased volume of POS transactions results in increased efficiency of deposit money banks in Nigeria. In other words, POS transactions significantly affect the corporate efficiency of deposit money banks in Nigeria. Therefore, the null hypothesis was rejected and the alternate accepted. The outcome of this study provides contribution to literature in the area under investigation, especially related to Nigeria cashless practice and corporate efficiency of deposit money banks in Nigeria. The contribution of this research verifies POS services as it affects the corporate efficiency of Selected Deposit Money Banks in Nigeria.

### LIMITATIONS

Unexpectedly, the core limitation of this study was the paucity of literature on the effects of Cashless Practice and Corporate Sustainability of Deposit Money Banks in West African nations. There is also the practical difficulty for staff to make available the banks' annual report due to the fact that they were not authorised. This limitation notwithstanding was overcome by getting appropriate approval.

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### CONCLUSION AND RECOMMENDATIONS

Based on the research findings, the study concluded that the cashless strategy as introduced by CBN would assist in achieving the needed corporate efficiency of deposit money banks in Nigeria. This study, therefore, recommends that cashless practices should be encouraged through the introduction of cutting-edge technology and contemporary innovations by deposit money banks. The government should improve on the provision of internet related infrastructure so as to enable an increase in the usage of POS especially in rural areas where the services does not currently exist. More so, the management should expand POS infrastructure in places with poor internet network. In line with this, banks should institutionalise sustainability-based thinking perspective in everyday operation procedure directed towards making greater strides at improving customer outreach through improving availability of POS services in all locations.

This research centres its thought and approach on the effect of the cashless strategy on the corporate efficiency of deposit money banks in Nigeria. The position of this study contributes to the literature with the view that there exists a positive relationship between cashless practices and corporate efficiency. The study enriched literature with its empirical results on the nexus between POS transactions and corporate efficiency. The study also contributed to literature extensively, how the CBN introduced cashless practices for deposit money banks in Nigeria enhances corporate efficiency. This study filled a significant gap in the extant literature by the investigation of the variables from the perspective of the Central Bank of Nigeria 2011 directive on cashless banking in Nigeria. This contribution is significant in the sense that the banking industry is critical to the nation economy growth and the findings of this research will greatly assist in improving the corporate sustainability of Nigeria deposit money bank. Finally, the study provided a basis for consideration concerning CBN's planned expansion of the cashless policy to other areas that is not currently covered in Nigeria.

### AREA FOR FURTHER RESEARCH

The issues identified from this study for further research:

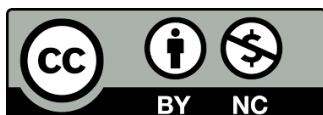
- (1) It is suggested that this study should be replicated in other sectors of the economy to either confirm or refute the findings of this study.
- (2) It is also suggested that this study can be extended to other West Africa countries in order to generalise the findings of this study.

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## The Influence of Financial Distress, Debt, And Profitability on the Audit Opinions of Going Concerned with Industry-Specialist Auditors as Moderating Variables



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**ABSTRACT:** This study aims to examine the effect of financial distress, debt, and profitability on the acceptance of going concern audit opinions with the industry-specialist auditors variable as the moderating variable, this research was conducted on the manufacturing industry listed on the Indonesia Stock Exchange for the 2018-2020 period. The data used is secondary data obtained from the Indonesia Stock Exchange website and the company's official website. The theory used is agency theory and signal theory. These two theories can provide an overview of the correlation between the variables in the study. The analytical method used is logistic regression analysis and moderated regression analysis with an absolute difference value approach. The results showed that the financial distress variable proxied by the Altman z-score, and the profitability variable proxied by Return on Assets had a positive and significant effect on the acceptance of going concern audit opinion. In addition, the industry-specialist auditors variable as a moderating variable can strengthen the negative effect of profitability on going-concern audit opinion. Meanwhile, the debt variable as proxied by the Debt to Equity Ratio does not have a positive effect on the acceptance of going concern audit opinions, as well as the industry-specialist auditors variable which is expected to strengthen the positive influence of financial distress, and debt is not supported.

**KEYWORDS:** Financial Distress, Debt, Profitability, going concern audit opinion, and industry-specialist auditors

### 1. INTRODUCTION

Financial statements are a source of information that can be used by internal and external parties in a business entity. The available information can enable investors to make the right decisions. Every investment decision made, investors expect high and sustainable returns. Information in the financial statements may contain the entity's financial position, the performance of the entity, and changes in financial position.

Investors will protect their interests by assessing the company's performance based on the financial condition that can be seen in cash flow from operating activities, equity value, changes in company assets, company profits, and total liabilities owned by the company. The financial statements presented by management are also a form of management's accountability to the principal. However, to ensure that what is presented is in accordance with the actual situation, the principle requires the services of an auditor who will carry out auditing activities. An auditor is only able to predict the viability of one accounting period in the future, starting from the date the audit report is issued.

SA Statement No.30 Section 341 (2011) defines if a going concern audit opinion is a statement by the auditor after the audit activity of a business entity has been completed, and the auditor has doubts about the ability of the business entity to maintain its viability.

There are 738 business entities listed on the Indonesia Stock Exchange as of July 23, 2021. The Indonesia Stock Exchange in carrying out its activities has rules that must be obeyed by the entities that are in it. Entities listed on the Indonesia Stock Exchange may not obtain a going concern audit opinion so that they are not delisted. However, not all entities can maintain their business continuity, thus making them obtain a going concern opinion and must be delisted from the IDX.

In 2018 several entities were unable to maintain their viability, so they were delisted from the IDX. PT. Taisho Pharmaceutical is an entity engaged in the consumer goods sector which was delisted on the IDX on March 21, 2018, due to administrative problems. PT. Dwi Aneka Jaya or DAJK is an entity engaged in the basic and chemical industry sector which in the end had to be delisted on 18 May 2018 due to its failure to pay its obligations. PT. Jaya Pari Steel Tbk. or JPRS is an entity engaged

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in the basic and chemical industry sector which must also be delisted from the IDX on October 08, 2018 because it is unable to fulfill the work agreement.

In 2019 there were also several business entities that were delisted from the stock exchange for various reasons. Sekawan of Intipratama. Tbk. is an entity engaged in the mining sector which had to be delisted from the stock exchange on June 17, 2019 due to administrative problems and poor performance. Grahama Citrawisata Tbk. is an entity engaged in trade in services and investment which was delisted from the IDX on August 13 on the grounds that it has administrative problems and poor performance so that it is unable to maintain its business continuity (going concern).

The phenomenon that occurred in several entities from 2018 and 2019 should be a motivation for other entities to continue to improve financial performance and strive to continue to maintain business continuity. The deteriorating image of a business entity makes the entity lose the trust of its financiers, and will later have an impact on difficulties in obtaining funds as additional capital to carry out operational activities. Ginting & Suryana (2014) states that if the audit opinion about the fairness in the financial statements of a business entity is not sufficient to provide a description of the condition of the entity, so that a going concern audit opinion becomes very important to be expressed, this expression is expected so that the entity can immediately make efforts to save the entity.

According to research Koh & Tan (1999) concluded that it is not easy for an auditor to decide whether the entity is appropriate or not to be given a going concern opinion because there are no consistent research results that can be used as a reference in providing the opinion. In these conditions the auditor is faced with two choices, namely, 1) if the auditor provides an audit opinion in the form of going concern for an entity, the entity will experience bankruptcy more quickly. This is because there will be many users of financial statements who cancel investments and cancel providing capital loans to the entity concerned; and 2) if the auditor does not immediately give the opinion, the users of the financial statements will not know the worst thing that could happen to the entity.

In this study, financial distress or financial difficulties is associated with how the company manages its business activities. Debt is associated with an entity's ability to pay off its obligations and clearly state to shareholders how much debt it has and whether the entity is able to pay its obligations and the entity's ability to manage its debt. Profitability is associated with how business entities are able to earn profits in an accounting period by using the assets they have, interestingly this ability to earn profits can also attract the attention of users of financial statements.

This study chose entities engaged in manufacturing because in manufacturing there are three sub-sectors, namely basic and chemical industries, miscellaneous industries, and the consumer goods industry with many sub-sub-sectors in it, so that it is expected to provide an overview of the capital market as a whole. Manufacturing companies also have the largest number of companies on the Indonesia Stock Exchange (IDX). In addition, the selection of manufacturing companies as the object of research is due to the fact that according to the facts previously described, cases involving manufacturing companies are more or dominate when compared to companies in other sectors.

Some research related to auditing industry-specialist auditors is related to audit quality. Ishak, Perdana, dan Widjanto (2015) in his research revealed that audit quality and industry-specialist auditors have a positive correlation, meaning that auditors who have a high level of specialization can make high audit quality. Fitriyani, Utama, Martani dan Rosietta (2015) states that when a business entity is audited by an auditor who has specialist capabilities, a business entity that has the risk of not being able to maintain its continuity will be easily detected by the auditor.

## **2. LITERATURE REVIEW AND HYPOTHEIS DEVELOPMENT**

Agency Theory, Jensen & Meckling (1976) states that if agency theory describes the contractual relationship that occurs between the owner of capital (principal) and manager (agent), in the principal contract gives the manager the authority to manage and make decisions related to the company's business activities. Therefore, the manager is considered to have a lot of information compared to the principal.

Brigham dan Houston (2006) states that the percentage of share ownership that is not fully will make managers work not wholeheartedly to maximize the welfare of the owners of capital. In a contract that occurs between the principal and the manager will cause a conflict of interest. Conflicts that occur between principals and agents can be minimized by paying agency costs. The use of public accounting services can minimize conflicts, and this will also lead to agency costs for the principal. The auditor supervises the manager through the financial statements and will communicate the results of the examination to interested parties.



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Signaling theory explains if a company has a motivation that encourages them to submit information in financial statements, namely accounting information to parties outside the company. The accounting information presented can be in the form of information related to financial statements or information that is not related to financial statements. Information asymmetry is a driving factor for companies to convey information to external parties.

Taufik (2016) dalam Anita (2017) stated that the lack of information obtained by external parties made them carry out self-protection by valuing the company low, and basically each party would have a different perception after they received the signal given by the company. The signal given by the company can be in the form of good news or bad news. In delivering information to external parties, companies are generally very open when providing promotional information or other information that is able to give a signal to external parties that the entity is in a better phase than other entities (good news).

### **Audit Opinion**

The auditor's opinion is part of the report on the audit results, the auditor's opinion is the main information in the independent audit report. Opinions are given after the auditor has completed the stages in the auditing process. According to Jusup (2014) the opinion that can be given by the auditor is divided into five, namely:

1. Unqualified Opinion
2. Unqualified Opinion with Explanatory Language
3. Qualified Opinion
4. Adverse Opinion
5. Disclaimer of Opinion

### **Going Concern Audit Opinion**

Auditing Standard 570 (2013) states that the auditor's responsibility is to obtain sufficient audit evidence and appropriate audit evidence relating to the appropriateness of the use of going concern opinions by the company's management regarding the preparation, presentation of financial statements and providing conclusions on the presence or absence of material uncertainties about the entity's ability to maintain business continuity. A going concern statement is used as an estimate in a financial report, as long as there is no conflicting information found in the reporting.

### **Industry-specialist auditors**

Industry Specialization Auditors are auditors who are knowledgeable, competent and also have experience in certain industry fields. An auditor who is knowledgeable, competent and has experience in a certain industry has more ability to audit (certain industry) when compared to those who do not have specific audit capabilities (Panjaitan & Chairiri, 2014). A Public Accounting Firm that functions as a provider of audit services in the financial and non-financial fields, will complete the audit process faster if it has specialist staff. Fitriany, Utama, Martani, & Rosietta (2015) stated that industry specialization auditors are able to improve audit quality and provide better information than non-industrial specialization auditors.

### **Effect of Financial Distress on Going Concern Audit**

Erica (2018) states that if an entity's financial statements are very important in the capital market, the report can provide an overview for each user to be able to see how the performance of a company. Financial distress in this study is proxied using the Altman Z-Score method, this is done to detect indications of bankruptcy in a business entity.

Several research results prove that financial distress has a positive effect on going concern audit opinions, namely research conducted by Izazi & Arfianti (2019) and Damanhuri & Putra (2020) While the research conducted by Listantri & Mudjiyanti (2016), dan Yuliani & Erawati (2017) found that financial distress had no significant and positive effect on going concern audit opinion. Based on the description above, a hypothesis can be formulated, namely:

H<sub>1</sub>: Financial Distress has a positive effect on Going Concern Audit Opinion.

### **Effect of Debt on Going Concern Audit Opinion**

Debt is an indicator that can see and assess the ability of a business entity to pay off its obligations. Debt can be proxied by the Debt to Equity Ratio which makes a comparison between total debt divided by total equity. Chen and Church (1992) states that if a business entity has fewer assets than its liabilities, then the company faces the threat of bankruptcy. Signaling theory is used as a means to explain the correlation between debt and going concern audit opinion. The business entity must clearly state to shareholders how much debt it has and whether the entity is able to pay the debt.

Rakatenda & Putra (2016), and Ginting (2018) revealed that debt has no effect on the acceptance of going-concern audit opinion. While the research conducted by Aryantika & Rasmini (2015), Anita (2017), Amami & Triani (2021) and Halim (2021)

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revealed that debt has a positive effect on the acceptance of going-concern audit opinion. Based on the description above, a hypothesis can be formulated, namely:

H<sub>2</sub>: Debt has a positive effect on Going Concern Audit Opinion.

### **Effect of Profitability on Going Concern Audit Opinion**

Profitability can be defined as the ability of a business entity to obtain a net profit from business activities in an accounting period. Profitability can be proxied by Return On Assets. This profitability ratio can show the success obtained by an entity in obtaining profits. High profitability in a business entity indicates that the entity is successful and earns a profit by conducting business activities and illustrates if the entity's performance is good (Sumanti & Mangantar, 2015).

Signaling theory in this study is used to explain the relationship between profitability and going concern audit opinion. Ball & Brown (1968) argues that business entities with high profits have a high probability of conveying information to the public more quickly than entities with low profits. Rahman & Ahmad (2018), Kusumawardhani (2018), and Sukesu & Lastanti (2016) revealed that profitability has a positive and significant effect on the acceptance of going-concern audit opinion. While the research conducted by Anita (2017), and Indriastuti (2016) revealed that profitability has a negative and significant effect on the acceptance of going-concern audit opinion. Based on the description above, a hypothesis can be formulated, namely:

H<sub>3</sub>: Profitability has a negative effect on Going Concern Audit Opinion

### **Influence of industry-specialist auditors in Moderating Financial Distress on Going Concern Audit Opinion**

Financial distress is one of the important indicators related to the provision of a going concern audit opinion, because the financial difficulties experienced by a business entity will hinder the operation of the business. The use of industry specialization auditor services is expected to be able to easily identify each component that is able to influence the provision of a going concern audit opinion to a business entity.

Public Accounting Firm (KAP) is a provider of various services to business entities, one of which is auditing services for financial statements. Shareholders need information on a business entity quickly. The need for a long audit time will make the information available on the business entity no longer relevant to the actual conditions. So that auditors with special specializations are considered easier to carry out auditing activities, and are able to provide information in a faster time because they have more knowledge in certain industries. Based on the description above, a hypothesis can be formulated, namely:

H<sub>4</sub>: industry-specialist auditors strengthens the positive influence of Financial Distress on Audit Opinion Going Concern

### **Influence of industry-specialist auditors in Moderating Debt on Going Concern Audit Audit Opinion**

The high debt ratio of a business entity indicates that most of the business operating activities are funded by loans. The higher the debt ratio of a business entity, the more fearful its sustainability will be, because when making loans to third parties, the business entity has an obligation to pay the principal and interest on the loan. Debt on industry specialization auditors leads to an increase in supervisory costs. Independent auditors who do not have special expertise will experience difficulties in auditing when the debt condition of an entity is low, because the auditor must really make sure this is true and must have certain ways to see the irregularities that exist. Based on the description above, a hypothesis can be formulated, namely:

H<sub>5</sub>: industry-specialist auditors strengthens the positive influence of Debt on Going Concern Audit Opinion

### **Influence of industry-specialist auditors in Moderating Profitability on Going Concern Audit Opinion**

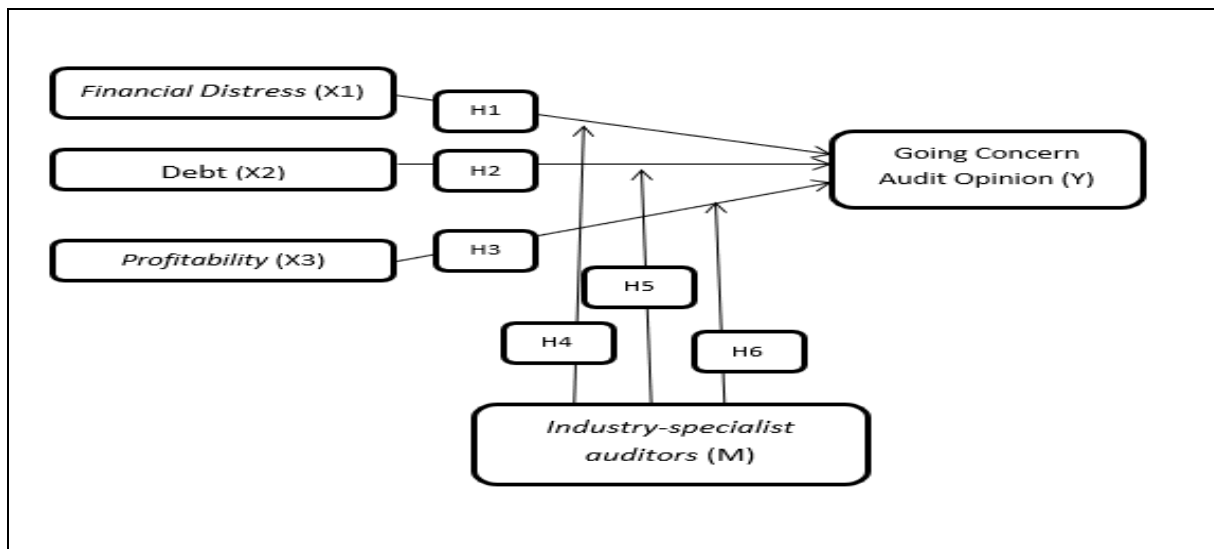
The ability of a business entity to earn a profit is measured by using the profitability ratio. In this study, researchers used signaling theory to explain the effect of industry-specialist auditors (ISA) being able to moderate the relationship between profitability and going concern audit opinion. An increase or decrease in profit in an entity can provide various perceptions from users of financial statements, and will cause various impacts (negative or positive) from the economic decisions taken. So that the use of auditors with special expertise in a business entity can also be an added value to the information presented.

Panjaitan (2014) explains that an auditor with expertise in a particular industry has a greater understanding of the characteristics of the client's business than an auditor with no expertise. Industry specialization auditors (ISA) also have a greater possibility of detecting errors and irregularities in the presentation of financial statements, this is able to make business entities to present better information about earnings. The use of audit services with public accountants who have expertise in certain industries is expected to improve the quality of the information presented, especially information on business operating profits. Based on the description above, a hypothesis can be formulated, namely:

H<sub>6</sub>: industry-specialist auditors strengthens the negative effect of Profitability on Going Concern Audit Opinion

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Figure 1  
Research Framework



### 3. RESEARCH METHOD

#### Population and Research

The research population uses all companies in the manufacturing industry listed on the Indonesia Stock Exchange (IDX) in 2018-2020. The sample selection used purposive sampling method with the following criteria:

1. Business entities that have been listed on the Indonesia Stock Exchange in the manufacturing sector during the 2018-2020 period which can be accessed through the IDX's official website, namely [www.idx.co.id](http://www.idx.co.id).
2. The entity has an annual report and publishes financial statements audited by an independent auditor for the period 2018-2020.
3. The business entity did not experience delisting during the 2018-2020 period.
4. The entity to be audited uses the rupiah currency as the reporting currency.

#### Moderating Variables

Knechel dan Vanstraelen (2007) industry-specialist auditors is an auditor with a proportion of more than the cut off point of 15%.

$$ISA = \frac{\text{Number of KAP Clients in Industry}}{\text{Number of companies in Industry}} \times 100\%$$

#### Dependent Variable

Going concern audit opinion is an opinion given by the auditor regarding the ability of a business entity to maintain its viability. This variable is measured using a dummy variable, code 0 is given to entities that do not receive and code 1 is given to entities that receive a going concern audit opinion.

#### Independent Variable

- a. Financial Distress

$$Z = 0,717 T1 + 0,847 T2 + 3,107 T3 + 0,420 T4 + 0,998 T5$$

Keterangan:

1. Net working capital / total asset (T1)
2. Earning per share / total asset (T2)
3. Earnings Before Interest Tax / total asset (T3)
4. Equity market value / Total liabilities (T4)
5. Sales / total asset (T5)

Based on this analysis, if:

- 1) Strong or safe when  $Z > 2,9$
- 2) Moderate or moderate when  $1,23 < Z < 2,9$
- 3) Distress or weak when  $Z < 1,23$

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Financial distress is categorized as a dummy variable, namely, 1 for business entities that are in the financial distress phase with the z-score results being in moderate and weak conditions, and 0 for business entities that are not in the strong phase.

b. Debt

$$DER = \frac{\text{Total Liability}}{\text{Equity}}$$

c. Profitability

$$ROA = \frac{\text{Net Profit}}{\text{Total Asset}}$$

### Logistics Regression Analysis

A logistic regression serves to test whether the probability of the occurrence of the dependent variable in the study can be estimated by the independent variable (Ghozali, 2013). The regression model can be shown by the following equation:

$$\ln = \frac{OGC}{1 - OGC} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Testing with regression has stages, namely:

#### a. Assesing the Feasibility of the Regression Model

Hosmer and Lemeshow's Test table is able to measure the feasibility of the regression model. The model is said to be right if there is no significant difference between the model used and the observation data. If Hosmer and Lemeshow's Test has a sig value > 5%, it can be concluded if the model is accepted because it has a match with the observed data, and vice versa.

#### b. Overall Model Fit

The overall feasibility test of the model serves to determine the feasibility of a model that has been hypothesized by the researcher, thus it can be tested by comparing the value of -2LogL likelihood block 1 and -2LogL likelihood block 0. It is useful to determine whether the model is fit or not after the independent variables are included. The model is categorized as fit if the value of -2 Log likelihood block 0 (beginning) to a value of -2LogL likelihood block 1 (end) decreases.

#### c. Nagelkerke R square

Nagelkerke R Square shows the ability of an independent variable in explaining the dependent variable. Nagelkerke R Square has various values, namely 0 and 1.

#### d. Classification Table

The classification table can display the percentage results of predictions with observations. The better a dependent variable in predicting the model can be seen with the higher the value of the prediction column.

#### e. Multicollinearity Test

Algifari (2016) states that the requirements that must be met in a regression model are that it must be free from multicollinearity problems. To determine multicollinearity, by determining the value of Variance Inflation Factor (VIF) and Tolerance (TOL). Algifari (2016) also states that the estimated regression equation is free from multicollinearity problems if the TOL is close to zero and the VIF is close to one.

#### f. Logistic Regression Model Formed and Hypothesis Testing

Output variables in the equation can be estimated parameters of the model. The results of the variables in the equation describe the value of a regression coefficient and describe the level of significance. The coefficient of each variable that has been tested displays the form of correlation between variables.

### Moderating Regression Analysis with Absolute Difference Value Approach

The absolute difference value test equation is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 [X_1 - X_4] + \beta_6 [X_2 - X_4] + \beta_7 [X_1 - X_4] + \epsilon$$

a. Coefficient of Determination Test or R<sup>2</sup>

This test measures the power of the model to explain the variance of the dependent variable. The range of values owned by the coefficient of determination is zero and one. If R<sup>2</sup> is small, it indicates that the ability to explain the independent variable to the dependent variation is limited, and vice versa.

b. Goodnes of Fit

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If  $F_{count} > F_{table}$  and significant level  $< 0.05$ , then all independent variables simultaneously have no effect on the dependent variable ( $H_0$ ) is rejected. The conclusion is that all independent variables have an effect on the dependent variable, and vice versa.

### c. Partial Test or T Test

This test can determine the effect of the independent variable in explaining the variation of the dependent variable. If the significance of  $t < 0.05$  means that  $H_a$  can be accepted, so it can be concluded if there is an effect of the independent variable on the dependent, and vice versa.

## 4. RESEARCH RESULTS AND DISCUSSION

The research was conducted using secondary data in the form of audited financial reports and annual and quantitative reports. The object of this observation is all entities engaged in manufacturing that are listed on the IDX. The research population is 173 entities. Based on the purposive sampling technique, only 86 entities met the specified criteria.

**Table 1. Sampel Criteria**

Description	Total Amount
Business entities engaged in manufacturing listed on the Indonesia Stock Exchange for the period 2018-2020	173
Business entities engaged in manufacturing that experienced delisting during the 2018-2020 period	(4)
Business entities engaged in manufacturing whose financial reports and audit reports are incomplete	(65)
Business entity engaged in manufacturing with a currency other than Rupiah as the reporting currency	(18)
Number of samples in the study	86
Total sample = 86 x 3 years (number of periods in the study)	258

### Descriptive Statistics

Provide information about the description of the data in the study, such as the amount of data, minimum, maximum, average, and standard deviation values.

**Table 2 . Descriptive Statistics Test Results**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Financial Distress	258	0.00	1.00	0.5930	0.49223
Debt	258	-5.21	23.92	1.0949	2.32614
Profitability	258	-1.05	2.23	0.0564	0.18706
Opini Audit Going Concern	258	0.00	1.00	0.1783	0.38350
Industry-Specialist Auditors	258	0.01	0.53	0.2121	0.16342
Valid N (listwise)	258				

### Analisis Regresi Logistik

The purpose of logistic regression analysis is to test whether the independent variable can predict the probability of occurrence of a dependent variable.

**Table 3. Hosmer & Lemeshow Test**

Step	Chi-Square	Df	Signifikan
1	5.644	8	0.687

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Based on the results, it is known that the chi-square value is 5,644 with a df of 8 and a significance value of 0,687 The significance value is  $0.687 > 0.05$ , so the results accept  $H_0$ , it can be concluded if the hypothesis model fits the data.

**Table 4. Overall Regression Model Feasibility Test Results**

<i>-2Log Likelihood</i>		Selisih
Step 0	Step 1	Nilai
241.900	212.412	29.488

The results show that this research model is feasible, because the value of -2 Log likelihood decreased by 29.488 from step 0 (241.900) to step 1 (212.412).

**Table 5. Coefficient of Determination Results ( $R^2$ )**

Step	<i>-2 Log Likelihood</i>	<i>Cox &amp; Snell R Square</i>	<i>Nagelkerke R Square</i>
1	212.412	0.108	0.178

The value of Nagelkerke R Square shows the value of the coefficient of determination contained in a logistic regression model. The value of 0.178 means that 17.8% of going concern opinion can be explained by financial distress, debt, and profitability while 82.2% is explained by other variables outside of this study.

**Table 6. Classification Table**

Classification Table					
Observed		Predicted			
		Going Concern Audit Opinion		Receiving Going Concern Audit Opinions	
Step	Going Concern Audit Opinion	Not Accepting Concern Audit Opinions	Going Concern Audit Opinions	Percentage Correct	
1		212	0	100.0	
		42	4	8.7	
Overall Percentage					83.3

The results show that from 212 samples of observational data that are not proven to get a going concern opinion, it can be predicted as much as 100% correct using a logistic regression model. In addition, of the 46 total samples of observations, there are 42 samples or about 8.7% that it is not appropriate to get a going concern audit opinion predicted by the logistic regression model, and the rest can be predicted by data. This means that 216 data can be obtained from a total of 258 observation samples or as much as 83.3% are able to be accurately predicted using the regression model.

**Table 7. Multicollinearity Test Results**

Model		Collinearity Statistics	
		Tolerance	VIF
1	Financial Distress	.859	1.164
	Debt	.968	1.033
	Profitability	.930	1.075
	Industry- Specialist Auditors	.906	1.104

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The test results above show that there is no multicollinearity problem in this study, because the TOL value is greater than 0.01 and the VIF value is less than 10.

**Table 8. Variables in The Equation**

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	Financial Distress	0.836	0.421	3.950	1	0.047	2.307
	Debt	-0.117	0.093	1.608	1	0.205	0.889
	Profitability	-4.015	1.992	4.063	1	0.044	0.018
	Industry-Specialist Auditors	-3.761	1.562	5.796	1	0.016	0.23
	Constant	-1.206	0.455	7.033	1	0.008	0.299

Based on table 8, the equations of the logistic regression model obtained are as follows:

Audit Opinion GC = -1,206 + 0,836 FDS – 0,117 UTG – 4,015 PRO – 3,761 ISA + e

### Moderation Regression Test Results Using Absolute Difference Value Approach

1. Testing the Value of Absolute Difference in the Fourth Hypothesis

**Table 9. Test results R<sup>2</sup>**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.277 <sup>a</sup>	0.077	0.066	0.37062
a. Predictors: (Constant), Mode1, Zscore: Financial Distress, Zscore: Industry-Specialist Auditors				

Adjusted R-Square is 0.045 or 4.5%. This means that the variables Zscore: Financial Distress, Zscore: Industry-specialist auditors and Mode1 are able to predict the Going Concern Opinion variable by 4.5% and the remaining 95.5% is influenced by aspects other than this study.

**Table 10. F Test Results**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.909	3	0.970	7.059	.000 <sup>b</sup>
	Residual	34.890	254	0.137		
	Total	37.798	257			
a. Dependent Variable :Opini Audit Going Concern						
b. Predictors: (Constant), Mode1, Zscore: Financial Distress, Zscore: Industry-Specialist Auditors						

The calculated F value is 7.059 and the significance level is 0.000 < 0.05. This means that the independent variables Zscore: Financial distress, Zscore: Industry-specialist auditors, and Mode1 simultaneously affect going concern opinion.

**Table 11. t Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.107	0.052		2.062	0.040
	Zscore: Financial Distress	0.059	0.024	0.153	2.424	0.016
	Zscore: Industry-Specialist Auditors	-0.088	0.028	-0.230	-3.182	0.002
	Mode1	0.051	0.034	0.107	1.525	0.129
a. Dependent Variable: Opini Audit Going Concern						

## The Influence of Financial Distress, Debt, And Profitability on the Audit Opinions of Going Concerned with Industry-Specialist Auditors as Moderating Variables

The table results show that the Zscore: Financial Distress variable has a coefficient value of 0.059 with a significant probability of 0.016. Variable Zscore: Industry-Specialist Auditors has a coefficient value of -0.088 with a significant probability of 0.002. The moderating variable is mode1 which has a sig value of 0.129 > 0.05, meaning that H4 is rejected.

### 2. Testing the Value of Absolute Difference in the Fifth Hypothesis

**Table 12. Test results R<sup>2</sup>**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.257 <sup>a</sup>	0.066	0.055	0.37278
a. Predictors: (Constant), Mode2, Zscore(M) Industry-Specialist Auditors, Zscore: Debt				

The Adjusted R-Square value is 0.055 or 5.5%. This means that the variable Zscore: Debt, Zscore (M) industry-specialist auditors and Mode2 are able to predict the Going Concern Opinion variable by 5.5% and the remaining 94.5% is influenced by factors other than this study.

**Table 13. F Test Results**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.502	3	0.834	6.002	.001 <sup>b</sup>
	Residual	35.296	254	0.139		
	Total	37.798	257			
a. Dependent Variable: Opini Audit Going Concern						
b. Predictors: (Constant), Mode2, Zscore(M) Industry-Specialist Auditors, Zscore: Debt						

The calculated F value is 6.002 and the significance level is 0.001 < 0.05. This means that the independent variables Zscore: debt, Zscore(M) Industry-specialist auditors, and Mode2 simultaneously affect going concern opinion.

**Table 14. t Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.120	0.039		3.118	0.002
	Zscore: Debt	-0.081	0.037	-0.211	-2.213	0.028
	Zscore(M) Industry-Specialist Auditors	-0.112	0.027	-0.293	-4.160	0.000
	Mode2	-0.062	0.033	-0.187	-1.893	0.060
a. Dependent Variable: Opinion Audit Going Concern						

The table results show that the variable Zscore: Debt has a coefficient value of -0.081 with a significant probability of 0.028. The variable Zscore(M) industry-specialist auditors has a coefficient value of -0.112 with a significant probability of 0.000. The moderating variable, namely mode2, has a sig value of 0.060 > 0.05, meaning that H5 is rejected.

### 3. Testing the Value of Absolute Difference in the Sixth Hypothesis

**Table 15. Test results R<sup>2</sup>**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.295 <sup>a</sup>	0.087	0.077	0.36854
a. Predictors: (Constant), Mode3, Zscore(M) Industry-Specialist Auditors, Zscore: Profitability				



## The Influence of Financial Distress, Debt, And Profitability on the Audit Opinions of Going Concerned with Industry-Specialist Auditors as Moderating Variables

The Adjusted R-Square value is 0.077 or 7.7%. This means that the variable Zscore: profitability, Zscore (M) industry-specialist auditors and Mode3 are able to predict the Going concern Opinion variable by 7.7% and the remaining 92.3% is influenced by factors other than this study.

**Table 16. F Test Results**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.300	3	1.100	8.100	.000 <sup>b</sup>
	Residual	34.498	254	0.136		
	Total	37.798	257			
a. Dependent Variable: Opini Audit Going Concern						
b. Predictors: (Constant), Mode3, Zscore(M) Industry-Specialist Auditors, Zscore: Profitability						

The calculated F value is 8.100 and the significance level is  $0.00 < 0.05$ . This means that the independent variables Zscore: Profitability, Zscore(M) Industry-specialist auditors, and Mode3 simultaneously affect going concern opinion.

**Table 17. T Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.124	0.033		3.744	0.000
	Zscore: Profitability	-0.090	0.028	-0.234	-3.256	0.001
	Zscore(M) Industry-Specialist Auditors	-0.092	0.025	-0.240	-3.751	0.000
	Mode3	0.066	0.029	0.170	-2.258	0.025
a. Dependent Variable: Opini Audit Going Concern						

The table results show that the Zscore: Profitability variable has a coefficient value of -0.090 with a significant probability of 0.001. The variable Zscore(M) industry-specialist auditors has a coefficient value of -0.092 with a significant probability of 0.000. The moderating variable, namely mode3 has a sig value of 0.025  $< 0.05$ , meaning that H6 is accepted.

## 5. DISCUSSION

### a. Financial Distress has a positive effect on going concern audit opinion.

Based on the results of testing the first hypothesis, with a regression coefficient of 0.836 with a significance level of  $0.047 < 0.05$ , these results provide evidence that financial distress proxied by the Altman Z-Score method has a significant and positive effect on the acceptance of going-concern audit opinions. This shows that the lower z-score value indicates that the entity is experiencing financial difficulties which will also have an impact on the acceptance of the audit opinion. This means that the higher the entity is experiencing financial difficulties, the higher the possibility of the entity getting a going concern audit opinion

This research is in line with Damanhuri & Putra (2020), and Dewi & Latrini (2018) revealed that financial distress significantly and positively affected the going concern audit opinion acceptance. In addition, there are several studies that have results that are not in line with this research, namely research conducted by Nugroho,dkk (2018), Kusumawardhani (2018) and Saputra & Kustina (2018) revealed that going concern opinion is negatively affected by financial distress.

### b. Debt has a positive effect on going concern audit opinion.

Based on the results of testing the second hypothesis, with a regression coefficient of -0.117 with sig  $0.205 > 0.05$ . This indicates that debt has no effect on going concern audit opinion. This condition illustrates that the ability of a business entity to pay off its obligations is not able to influence the acceptance of going concern audit opinions that occur in this study. If this condition occurs, the researcher argues that by maximizing asset management in order to earn a profit, the business entity is able to pay its obligations, thus debt has no effect on the acceptance of going concern audit opinions.

Debt proxied by DER can measure the extent to which a business entity has the ability to fund its business activities, which is done by comparing the total debt owned by the entity with total equity. Harahap (2015) in his book entitled Critical

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Analysis of Financial Statements states if an entity can be categorized as good if the entity has capital that is greater than its debt. The smaller the DER value of the entity, the more it will attract the attention of users of financial statements. This research is in line with Yuliyani & Erawati (2017) and Putranto (2018) revealed that debt has no effect on going concern audit opinion.

### **c. Profitability has a negative on going concern audit opinion.**

The test of profitability on the acceptance of opinion has a regression coefficient of -4.015 with sig 0.044 < 0.05. The results of this test indicate that profitability has a negative and significant effect on going-concern audit opinion. The profitability ratio has a minimum value of -1.05 and a maximum value of 2.23 with an average value of 0.056. This shows that the average entity in this study has a fairly good condition in generating profits. The maximum value can describe if there are entities that are in good condition but if viewed based on this small average value, this will be a negative signal to users of financial statements if the average entity on the IDX that is the sample in this study is not able to earn a profit.

The condition of a business entity that is not able to generate large profits can be a concern for the auditor to see the entity's ability to maintain its business continuity. Harahap (2015) also expressed an opinion that if the profitability ratio of the entity is small, the entity's ability to earn profits is also small. This means that the entity's ability to earn profits can be considered in granting a going concern audit opinion. The results of this study indicate that if profitability has a negative effect on going concern opinions, this means that the higher the entity's profit ratio, the smaller the probability of receiving the opinion, and the lower the entity's profit ratio, the higher the probability of the entity receiving the opinion.

The results of this study are in line with Listantri & Mudjiyanti (2016), Indriastuti (2016) and Putranto (2018) states that profitability has a negative effect on going-concern audit opinion. This means that the company's profitability is high, the possibility of the entity receiving a going concern opinion will be low, and vice versa. This result is not in line with Lie,dkk (2016) disclose if profitability does not have a positive influence on the acceptance of going-concern audit opinion.

### **d. The influence of industry-specialist auditors in moderating the positive influence of financial distress in going concern audit opinion.**

Research related to the fourth hypothesis has test results which show that the moderating variable1 has a significance of 0.129 > 0.05. The results of the analysis shown illustrate that the moderating variable in this study is not able to influence financial distress on the acceptance of going-concern opinions, in other words, the fourth hypothesis in this study is rejected.

The results of the research on the fourth hypothesis are not able to align with the first hypothesis in this study. This means that the presence or absence of the industry-specialist auditors variable in moderating financial distress and going concern opinion is not important. This is shown by the test results that are not able to provide evidence if the existence of a moderating variable can have a different impact specifically in this study.

### **e. The influence of industry-specialist auditors in moderating the positive influence of Debt on going concern audit opinions.**

The results of the tests carried out show that the mode2 variable has a significance of 0.060 > 0.05. The analysis conducted based on the results of the study concluded that the interaction between the moderating variables and debt has no effect on the acceptance of going-concern opinions. This indicates that the fifth hypothesis in this study is not supported or rejected.

This condition can also be caused by testing carried out on the second hypothesis where the results also show that debt has no influence on the acceptance of the opinion, so that when the moderation test is carried out, it still has no relationship or has no effect. This can happen because the auditor when giving an opinion does not see the extent to which the entity's capital (internal funding) is able to cover the entity's debts to external parties, but the auditor will tend to pay attention to the overall condition of the entity. Not only that, conditions like this can occur if an entity with a high debt ratio calculation but has management that manages its finances well so that it is able to present financial statements fairly, can be an influence in giving the opinion.

### **f. The influence of industry-specialist auditors in moderating the negative effect of probability on going concern audit opinion.**

The sixth hypothesis is that industry-specialist auditors strengthen the positive effect of profitability on going-concern audit opinions. The results of the tests carried out show that the mode3 variable has a significance of 0.025 < 0.05. Based on the results of data processing, it is indicated that the moderating variable can strengthen the negative influence of profitability on the acceptance of going-concern opinions, which means that the last research hypothesis is supported or accepted. This means that the existence of the industry-specialist auditors variable in this study is able to have a negative influence (strengthen) profitability in the acceptance of opinions, so that this is in line with testing the third hypothesis.

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Generally, operational activities in a business entity have a large role in describing the performance of an entity, not infrequently this condition can also be a reflection of its survival. So, things like this become a consideration for an auditor in giving an opinion. Signal theory states that management in a business entity will convey information about its entity in order to attract the attention of investors which is the most important thing for an entity. Statements provided by the auditor are more reliable by users of financial statements, because the auditor is considered an independent party and has no interest in the entity.

### 6. CONCLUSIONS AND SUGGESTIONS

The purpose of this study is to obtain information about the effect of Financial Distress, Debt, and Profitability as independent variables, on going concern audit opinion as the dependent variable, with industry-specialist auditors as moderating. This study uses logistic regression analysis with a total of 258 observations obtained from 86 business entities with a research period of 3 years. The conclusion of this study is that three hypotheses have been proven as predicted, namely the first hypothesis, the third hypothesis, and the sixth hypothesis. The remaining three hypotheses did not support the researcher's estimates, namely the second hypothesis, the fourth hypothesis, and the fifth hypothesis.

The research that has been carried out has several limitations, namely this research only examines three variables, namely financial distress, debt, and profitability, while the provision of going concern audit opinions can be influenced by other variables. The industry-specialist auditors indicator which is the moderating variable in the study is measured by calculating based on KAP, not personal auditors. This is because it is difficult to obtain data related to personal auditors.

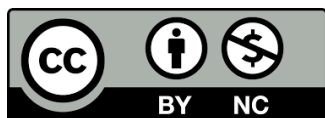
In an effort to improve further research, suggestions that can be put forward are that further research can also apply the methods in this research to different research objects, for example for entities in the mining sector, banking, and others.

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## The Theory of Planned Behavior (TPB) Approach and Regulation on Muzakki's Behavior in Paying Zakat in DKI Jakarta Province



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**ABSTRACT** - In this report, the factors influencing zakat payment behavior, and the impact of responsibility and accountability on muzakki zakat payment behavior are analyzed. The following study uses IcekAjzen and Martin Fishbein's theory of planned behavior (TPB) approach, consisting of three factors: attitudes, subjective standards, and compartmental control. The study's population is muzakki in the province of DKI Jakarta. There are 100 samples required. The method used for analyzing data is SmartPLS 3.0 (SEM-PLS) partial lower-quadrant structural equation modeling. The results of this study indicate that: (1) there is a positive attitude to the intent to pay Zakat; (2) there is a positive subjective rule to pay Zakat; (3) behavioral control to pay Zakat is negative and not significant; The results indicate that(4) zakat intention accountability is negative and insignificant, (5) zakat intention openness is negative and insignificant, and (6) zakat intention is a mediating factor in attitudes and subjective standards, while in variables control perceptions, accountability and transparency are negative and negative.

**KEYWORDS:** Attitude, Subjective Norms, Behavioral Control, Accountability, Transparency, Behavior Intentions, and Paying Alms Behavior

### I. INTRODUCTION

In Indonesia, 265 million people live in poverty (the number per capita is below the poverty line .(WSP-EAP, 2008). These figures show that poverty remains a major problem that the government must face. The government has not succeeded in solving the phenomenal problem through the various policies on poverty alleviation programs. Poverty is not entirely the government's responsibility, but also a shared responsibility between the government and the community. (Aisha, 2019) . Indonesia has an opportunity to develop the socio-economic community by optimizing zakat, as one country with a Muslim majority population. The figure for Indonesians that include Islam is 207,176,162 people or 87.21 percent of the entire population of Indonesia, according to the Central Statistical Agent (quoted in the Republic of Indonesia Ministry for Religion in 2018). From each province, DKI Jakarta's Muslims have reached 72,000,000 to 10,57,000, and Bappenas said that the number rose 0.7% from 10,504,100, in the previous year. This means that DKI Jakarta is growing for the majority of Muslims (Badan Pusat Statistika, 2019).

Indonesia's zakat potential may reach IDR 252 trillion, based on calculations by the National Zakat Agency (Baznas, 2019), The zakat collection is still far from existing Zakat potential in Indonesia, which amounts to Rp. 8,1 trillion for 2019. This shows that zakat is not a priority for community needs by official amil institutions(Pramono, 2016). DKI Jakarta is in process of becoming the DKI Jakarta AmilZakat National Agency, Infaq and Alms Agency, Bazis (Baznas). Research in Jakarta has shown that DKI Jakarta is likely to have Rp 9 trillion per year for zakaah, although all existing potential couldn't be explored by the zakaah collection. Bazis

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DKI Jakarta will be able to raise \$194 billion of IDR 9 trillion in 2018 from their potential zakat. This is therefore far from the potential (Hardiyansyah et al., 2020).

Zakat management regulations are currently not considered to be optimal. The current rules should be changed to better zakat, both the National Amil Zakat Agency (Baznas) official government institutions and private institutions which are members of the Zakat Forum (FOZ) want to see changes in the Zakat Management law (UU)(Halimatusa'diyah, 2015). Bambang Suherman, General Chairman of FOZ, said that many discussions have not been explored deeper about Zakat's potential in Indonesia. However, the present regulations are unfortunately regarded as an obstacle to the further development of the zakat potential..(Firdaus et al., 2012). Donors' and beneficiaries' faith will increase if zakaah and infaq funds management is based on the aspects of accounting and transparency when financial reports are presented quickly, the information in every account is comprehensive, public accounting companies report legitimacy is validated, and financial accounts can be accessed easily. Financial reports shall be presented with relevant financial accounting standards to increase accountability and transparency. (Saad et al., 2020).

Accountability is linked to fulfilling the muzakki expectations of increasing and increasing mustahik's benefits. Transparency is demonstrated in the publishing of financial reporting which is produced and audited by an independent institution, based on financial standards. Transparency and accountability in Islam are of global dimension as well as Sahrawi and Allah SWT are responsible. The introduction at the end of 2011 of the financial accounting norms PSAK 109 as the accounting standard for zakat and infaq/alms management in Indonesia was a binding foundation on which to prepare financial accounts (Antonio et al., 2020). Several earlier studies on the factors influencing muzakki when paying zakat have been carried out. Previously, Ajzen and Fishbein developed a theory of planned conduct (TPB) (Khadafi et al., 2014). Planed Behavior Theory (PBT) is a theory widely used in different fields of behavioral research. TPB states that combining behavioral attitudes, subjective standards, and the perceived behavioral control leads to the behavioral intent formation and behavioral formation thereafter (Pouta & Rekola, 2001) If all zakat regulations are implemented in compliance with the values of justice and transparency, and the management maintains the value of justice and the objective of zakat, the existence of zakat will become one of the pillars of the ummah's economy. The positive consequences of the increase in economic development and the alleviation of poverty in Indonesia are serious (Cokrohadisumarto et al., 2019)

## **II. LITERATURE REVIEW**

### **Zakat**

According to the oral author of al-Arab, the word "zakat" is the root word, which means "sacred," "blessing, growing" and "loving," from the standpoint of language (etymology). It is said to be sacred because zakat can cleanse the owner from the nature of time, shirk, wretchedness, and hunks. It is said to be a blessing as zakat will bless someone who paid zakat for the property. Zakat, it is said to grow as a reward for the muzakki who is helping Mustahiq is increased. And if this person is good and praiseworthy, someone is called Zakat (Asnaini, 2008).

The meaning of the Zakat formula on any side can be further clarified and stressed, both physically and psychologically, considering it is possible to evaluate all these from an empirical point of view, and more than it can be understood and enjoyed psychologically. Zakat means that it can easily be proven, for instance, to add, grow and develop in nominal terms. The same applies to the meaning of the purpose of the mozakki's life and the life. So broad is the significance of zakat that it can also be used for charity, as well as for living, forgiveness (al-'afw), and truth. the meaning of zakat is also wide (al-Haq)(Suma, 2015).

### **Regulation**

Originally, zakat management regulations were described in the zakat Management Act No 38 of 1999. This law was born with the premise, Zakat, as the majority population in Indonesia, is one of Muslims' obligations. Government changes with the

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passing of Law No 23 of 2011. The Director-General of Taxation Regulation No. Per - 15 / PJ/ 2012 of 11 June 2012 on bodies or institutions that receive zakaah or religious donations as a deduction from gross revenue from tax payments contains other rules relating to zakaah. The General Tax Administration has published 1 (1) National Zakat Agency (Baznas), 19 (19) amil zakat, and 2 (2) non-Islamic religious bodies as recipients of zakaah and religious donations up until the end of October 2015. (Astuti, 2018). (Astuti, 2018).

A Zakat Management Organization (OPZ) must build public confidence in the fulfillment of its duties. This is because confidence is the principal asset in zakah funds collecting. In order to build the confidence of Muzakki in OPZ, a clear, measurable, and accessible work program is necessary. The way forward is to optimize the collection and distribution of Zakat funds by increasing the seriousness and professionalism of the Amil work. (Ridwan, 2016) The zakat law places zakat in a formal order and in national law so that zakat is no longer partly managed in the traditional sphere, but rather becomes a professional potential income to achieve the basic goal of empowering the community to progress and thrive. Revision of the zakat regulations is part of the efforts by the government to optimize the role of zakat as a key sector in the development of welfare. In fact, the birth of a revision of the Zakat Regulation will be directed at improving zakat funds' management and distribution. Zakat is seen as a source of power for the people which confirms. (Siradj, 2014).

### **Accountability and Transparency**

Accountability shall be responsible for managing and executing the policies entrusted to the reporting entity to achieve periodic goals (KK, SAP, 2010). Zakat management responsibilities. Zakat management or administration is primarily a mandate that amil zakat must perform. Zakat management requires the management institution to have reliable accountability. The principle of accountability is, therefore, the key to success or not of the trust given to ashraf by muzak (Suprima, 2019). Transparency provides the public with open and honest funding based on the public's right to know fully and openly the responsibility of the government for the management of the resources entrusted to its management and its compliance with laws and regulations (KK, SAP, 2010). Greater transparency plays a key role in building the trust of donors measurable by the growth rate of revenues. The transparency criteria can be seen from the following aspects: accountability and open publication of financial reporting and public accessibility (reports) (Astuti, 2018).

### **Theory of planned behaviour (TPB)**

Planned Behaviour's Theory (PBT), originally known as Reasoned Action Theory (TRA), was developed in 1967; Icek Ajzen and Martin Fishbein continuously revised and expanded the theory. The theory was employed from 1980 onwards to study human comportment and develop more appropriate interventions. In 1988, the existing rationale model of action was added and later called the theory of planned behavior, which was used by TRA to overcome the weaknesses and strengths found by Fishbein and Ajzen. It begins with a criticism of theory and recognition of attitudes often unsuitable, namely, that they cannot predict the conduct that will arise. (Huda & Ghofur, 2016).

Especially, three factors influencing intention, including the theory of planned behavior: (1) A behavior attitude that refers to the degree to which a person is assessing a particular behavior in a good or poor way. (2) Subjective norms as social factors indicating social pressure felt or not to act or act. (3) Perceived behavioral control, variables that do not show any ease or difficulty at acting and which, as well as the anticipated obstacles or obstacles, reflect experience (Wahyudin, Siti Zulaikha Wulandari, 2018). Each component can briefly explain the relationship between the three aspects determining intent and behavior:

#### **1. Attitude Towards The Behavior**

(Ajzen, 1991) Suggests that a behavior-friendly attitude is to the extent to which a person has a positive or negative assessment or assessment of behavior. The results of the assessment (outcome evaluation) of the behavioral strength of the person that

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encourages behavior are positive or negative answers. According to (Ajzen and Fishbein, 1973 through Siregar, 1993: 17) Reasoned action theory, some variables lead to this among the variables of attitude and behavior, namely intent (disposition). Someone who is going to do something for a certain purpose. This theory places attitudes at the center of human activities, and attitudes which they say are a faith function. Anyone who believes that the actions to be taken have a positive effect on him, is likely to do so. Likewise, he will refuse to take the action if he thinks it will hurt him. This is called behavioral conviction (Zuchdi, 1995).

### **2. Subjective Norm**

Subjective standards are the perception by people of social pressure to conduct or not to carry out behavior, Ajzen (1988) states. Subjective standards are social influences that affect a person. If a person is influenced to do so or thinks that the environment or people around him support what he does (Mas'ud, 2013), he/she will have a will for an item or behavior. (Mas'ud, 2013). In everyday life, the relationships that each individual establishes can be categorized into vertical and horizontal relationships. The vertical relationship is the relationship between superiors and subordinates; teacher – student; professor – student, or parent – child. Horizontal relationships occur between individuals and friends or other people of an equal nature. This Subjective standards are the perception that certain behaviors are being carried out by individuals of people who influence their life (important others). Subjective in nature, this perception is therefore called subjective norm. Subjective norms are influenced by beliefs as are attitudes towards behavior. The difference is that when the behavioral attitude depends on the individual's faith in the behavior to be performed (competent belief), the subjective rule is a function of the individual faith obtained from other individuals' views of the object of attitude related to the individual (normative belief) (Ramdhani, 2016).

Relationship patterns can be a source of diverse perceptions. In a vertical relationship, expectations can be perceived as demands (injunctive) in a way that motivates or discontinues the formation of subjective norms. Instead, expectations are formed in a horizontal relationship in a descriptive way to imitate or follow the behavior of the others around him. (Dwi Santy & Mirna Zulianti, 2019).

### **3. Perceived Behavior Control**

Under Hamilton K (2011) behavioral control is perceived to mean the presence or absence of resources and opportunities, perceptions of individual behavior easily or difficultly (Sulaeman et al., 2017).

Perception of behavioral control or also known as behavior control is a person's feelings about how easy or difficult it is to manifest a particular behavior. Ajzen explains the feelings related to control behavior by distinguishing it from Rotter's locus of control or control center. The control center deals with the belief of a person that in all situations is relatively stable. Depending on the situation and the kind of behavior to be carried out, behavioral control perceptions can change. The control center focuses on the belief that the successful performance of the individual will depend on his own efforts (Rotter's, 1996) (Maskur et al., 2015). Ajzen (2005) describes behavioral control as a function founded on the beliefs of people who think about the presence or lack of factors that support or prevent a person from developing behavior. This function is based on control beliefs. The perceived behavioral control means that something can be easily perceived and difficult to do. If behavior is considered easy, the person can be encouraged to do it (Suko et al., 2018).

### **4. Intention**

Intention or intention is a reflection or medium of a person's motivation to influence behavior (Ajzen, 1991). Only when the conduct is controlled by the individual concerned, the intention to conduct can become true conduct. These persons can decide whether or not to show some behavior..

### **Hypothesis**

**H1:** attitude has a positive and significant effect on muzakki behavior in paying zakat in DKI Jakarta province.

**H2:** subjective norm has a positive and significant effect on muzakki behavior in paying zakat in DKI Jakarta province.



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**H3:** control behavior has a positive and significant effect on muzakki behavior in paying zakat in DKI Jakarta province.

**H4:** accountability has a positive and significant effect on muzakki behavior in paying zakat in DKI Jakarta province.

**H5:** transparency has a positive and significant effect on muzakki behavior in paying zakat in DKI Jakarta province.

**H6:** intention has a significant positive effect on the behavior of paying zakat in DKI Jakarta province.

**H7:** attitudes that encourage behavior have a significant positive effect on behavior to pay zakat mediated by intention.

**H8:** subjective norm has a significant positive effect on the behavior of paying zakat mediated by intention.

**H9:** perception of behavior control has a significant positive effect on behavior to pay zakat mediated by intention.

**H10:** accountability has a significant positive effect on the behavior of paying zakat mediated by intention.

**H11:** transparency has a significant positive effect on the behavior of paying zakat mediated by intention.

### **III. RESEARCH METHODOLOGY**

#### **Population and Sample**

The people who were the targets in the DKI Jakarta Province in this study were the Muzaki. The sample in this study consisted of 100 interviewees. The sampling method uses a sampling technique with no probability. The sample types used in this study were: Sample interlocutors using the sampling type accidentally. Accidental sampling is done by taking interviewees (samples) that are reachable or met.

#### **Operational Definition**

A checklist is used in the measurement of variables. In each statement given at the level 1 to 5, every respondent is requested to express his approval or disagreement. The responses of the respondents will be measured using the 5 scale Likert (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly opposed). An operational definition of behavior is an attitude to the extent to which a person has a good or a bad assessment of certain behavior. The operational definition of subjective standards is a social factor indicating the social pressure that an action or behavior can or cannot exercise. Perceived behavioral control operational definition is a variable not present in indicating the ease or difficulty of action and in addition to the expected obstacles or obstacles it is considered a reflection of past experiences. The operational definition of conduct is a desire of a person to comport in paying zakat in a certain way (Widarto dan T. Evi, 2021).

Accountability is defined as an operation for resource management and implementation of policies entrusted to the reporting entity to achieve the objectives set regularly (KK, SAP, 2005). Accountability is defined as an operation for resource management and implementation of policies entrusted to the reporting entity to achieve the objectives set regularly (KK, SAP, 2005).

### **RESULTS AND ANALYSIS**

All statement items used for this research questionnaire are valid and reliable and can therefore be used as a data collection tool according to validity and credibility tests carried out by 100 respondents. Muzakki Y2 Comportement variable with data analysis methods to determine the magnitude of the effect of the attitude towards behavioral variable X1, Subjective Standard X2, Comportement Control X3, Accountability X4, transparency X5, and Y1. The method used is SmartPLS 3.0 software to implement Partial Least Squares Structural Equation Modeling (SEM-PLS).

#### **Validity Test**

Assess the validity of the data of a questionnaire as part of an assessment by means of the parameter load factor, average extracted variance (AVE), and discriminating validity for the measuring model (outer model). The "PLS Algorithm" method helped the SmartPLS program to test the validity of the data. (Ghozali, 2006).

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## Loading Factor

The loading factor indicates the extent to which the indicators are correlated with their latent variables. If the loading factor is greater than 0,7, an indicator is declared to correlate with his latent variable. Based on the 27 indicators in the study, one is null because X2.3 does not meet the criteria of the loading factor (a value below 0.7). This tests the validity of the following data by removing the invalid indicators.

**Table 1. Validity Test Results With Loading Factor Parameters**

Indicator	Loading Factor
x1.1	0.937
x1.2	0.978
x1.3	0.875
x1.4	0.966
x2.1	0.935
x2.2	0.913
x2.4	0.825
x3.1	0.923
x3.2	0.701
x3.3	0.943
x3.4	0.967
x4.1	0.818
x4.2	0.916
x4.3	0.873
x4.4	0.925
x5.1	0.937
x5.2	0.959
x5.3	0.950
x5.4	0.927
y1.1	0.865
y1.2	0.813
y1.3	0.945
y1.4	0.912
y2.1	0.967
y2.2	0.972
y2.3	0.956

**Source:** Data processed with SmartPLS, 2020

All indicators are declared valid because they meet the loading factor criteria.

## Average Variance Extraced (AVE)

AVE shows the mean percentage score of the variance from the latent variable set, which is calculated in the PLst algorithm iteration process by loading standardized indicators. Based on the declared valid AVE value if it exceeds 0.5.

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**Table 2. Validity Test Results With Average Variance Parameters Extracted (AVE)**

Variable	AVE	Information
Accountability	0.781	Valid
Behavior Control	0.792	Valid
Intention	0.783	Valid
Subjective Norms	0.836	Valid
Zakat Paying Behavior	0.932	Valid
Attitude	0.883	Valid
Transparency	0.890	Valid

Source : OutputSmartPLS 3.0, 2020

All latent variables meet the criteria for AVE values. So that all latent variables are declared valid.

### Discriminant Validity

The discriminating validity test refers to the principle of not very strong communication between the gauges (manifest variables) of different structures. A comparison of the AVE root of each variable and the correlation between the variable and other variables within the model is used to assess the discriminating validity of the measurement model (external model). Where the root of AVE exceeds the correspondence of other latent variables, the variable should be considered valid. The results of the latent variable correlation calculation are shown in the following.

**Table 3. Latent Variabel Correlation**

	Accountability	Behavior Control	Intention	Subjective Norms	Zakat Paying Behavior	Attitude	Transparency
Accountability	0.884						
Behavior Control	0.374	0.890					
Intention	0.478	0.285	0.885				
Subjective Norms	0.437	0.351	0.713	0.915			
Zakat Paying Behavior	0.371	0.611	0.524	0.316	0.965		
Attitude	0.370	0.577	0.481	0.476	0.491	0.940	
Transparency	0.617	0.331	0.271	0.218	0.285	2.085	0.943

Source : Output SmartPLS 3.0, 2020

In the following the AVE values are presented

**Table 4. Average Variance Extracted (AVE) Value and AVE Root**

	AVE	AVE Root
<b>Intention</b>	0.883	0.939
<b>Subjective Norms</b>	0.836	0.914
<b>Behavior Control</b>	0.792	0.889
<b>Accountability</b>	0.781	0.883
<b>Transparency</b>	0.890	0.943

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Intention	0.783	0.884
Zakat Paying Behavior	0.932	0.965

### Reability Test

The reliability of the questionnaire data is tested as part of the measurement model assessment (outer model), using composite reliability and Cronbach alpha according to the criteria. The testing process is carried out. The "PLS Algorithm" method helped the SmartPLS program to test the validity of the data. (Ghozali, 2006).

### Composite Reliability

One of the values that measure the inner cohesion of a latent variable is composite reliability. If the composite reliability is over 0.7, the latent variable is declared reliable.

**Table 5. Reliability Test Results with Composite Reliability Parameters**

Variable	Composite Reliability	Conclusion
Attitude	0.968	Reliable
Subjective Norms	0.939	Reliable
Behavior Control	0.938	Reliable
Accountability	0.934	Reliable
Transparency	0.970	Reliable
Intention	0.935	Reliable
Zakat Paying Behavior	0.976	Reliable

Source : Output SmartPLS 3.0, 2020

All variables meet the criteria for composite reliability. So that all variables are declared reliable.

### Cronbach's Alpha

Cronbach's alpha is a value that measures the internal consistency of a latent variable. A latent variable can be declared reliable if it has a Cronbach's alpha value of more than 0.6.

**Table 6. Reliability Test Results Using Cronbach's Alpha Parameters**

Variable	Cronbach's Alpha	Conclusion
Attitude	0.955	Reliable
Subjective Norms	0.902	Reliable
Behavior Control	0.920	Reliable
Accountability	0.907	Reliable
Transparency	0.959	Reliable
Intention	0.907	Reliable
Zakat Paying Behavior	0.963	Reliable

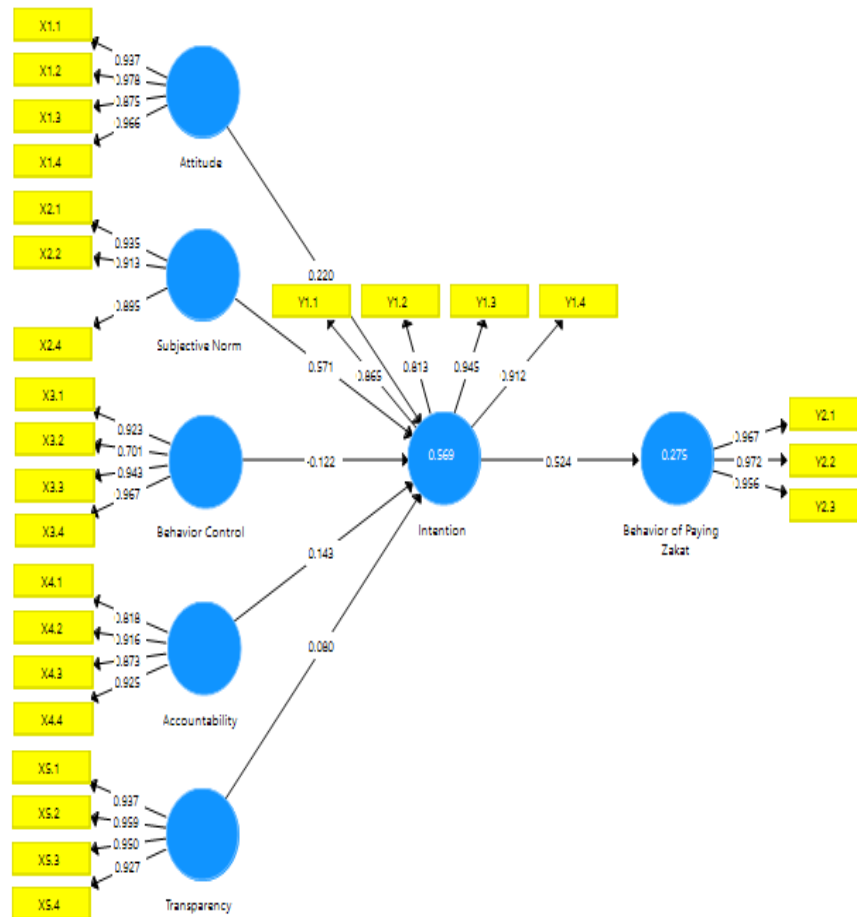
Source : Output SmartPLS 3.0, 2020

All variables meet Cronbach's alpha criteria. So that all variables are declared reliable.

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## Structural Model Test (Inner Model)

To see the relationship between the constructions, the importance value, and the Research Model R-Square it is possible to test the internal model or structural model. For the reliant structure of the t-test and the significance of the structural path parameters, the structural model is evaluated using R-square (Ghozali, 2006).



**Figure 1. Structural Model Drawings**

Source : Output SmartPLS 3.0, 2020

## R-Square (R<sup>2</sup>)

**Table 7. R-Square Table**

Variable	R Square
Intention	0.569
Zakat Paying Behavior	0.275

Source : Output SmartPLS 3.0, 2020

In principle, this study uses 2 variables which are influenced by other variables, namely the intention variable as well as the mediating variable which is influenced by attitudes, subjective norms, behavior control, accountability and transparency. And the variable of paying zakat behavior is influenced by the intention variable. The R-square value of the intention variable of 0.569 is categorized as strong because it is > 0.7.

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The intention variable is shown to have the R-Square value of 0.569 and the zakat behavior variable is reached at 0.275. The results show that the variables of attitude, subjective standards, behavior control, responsibilities, and transparency can influence 56.9% of the intention variable. And the intention is influenced by 27.5 percent of the zakat payment variable.

### Direct Effect Hypothesis Testing

#### Path Coefficients

Path coefficient is employed to monitor the importance of the relationship between latent and bootstrapping variables, which results in t statistical values (the SmartPLS program produces p-value). Compared to the t-table, the t-statistics value is. The related variable is declared to have a significant effect when the t-statistic value is greater than the t-table ( or p-value  $\sim \alpha$ ). The t-table is used as a reference of 1.960 for the confidence level of 95 percent ( $\alpha = 5$  percent). A positive value indicates the corresponding variable has a positive effect on the path coefficient, but the related variable has a negative effect if the value of the path coefficient is negative.

**Table 8. Path Coefficient Result of Bootstrapping Model**

	Original Sample	Sample Mean	Standard Devisiasi	T Statistics	P Value
Accountability =>Intention	0.143	0.142	0.120	0.198	0.231
Behavior Control =>Intention	-0.122	-0.104	0.107	0.135	0.257
Intention =>Zakat Paying Behavior	0.524	0.522	0.092	5.725	0.000
Subjective Norms =>Intention	0.571	0.580	0.121	4.707	0.000
Attitude =>Intention	0.220	0.215	0.112	1.965	0.050
Transparency =>Intention	0.080	0.072	0.087	0.915	0.360

Source : Output SmartPLS 3.0, 2020

#### Testing Hypothesis I (Attitude has a positive and significant effect on the intention to pay zakat)

The results of testing the first hypothesis show that the relationship between attitude and intention variables shows a path coefficient of 0.220 with a t-statistic value of 1.965. The value of the t-statistic is greater than the t-table (1,960). This result means that attitudes have a positive and significant relationship to intention, which means in accordance with the first hypothesis where attitudes encourage muzakki's intention to pay zakat. This means that **Hypothesis 1 is accepted**.

#### Testing Hypothesis II (Subjective Norms have a positive and significant effect on the intention to pay zakat)

The test results show that the relation between the subjective norm variables and intent shows a value of a path-coefficient of 0.571 with the at-statistical value of 4.707. The t-statistic value is higher than the t-table (1,960). This leads to a positive and important relation between subjective standards and intent, meaning that in line with the second hypothesis, subjective standards encourage the intention to pay zakat muzakki.. This means that **Hypothesis 2 is accepted**.

#### Testing Hypothesis III (Behavior Control has a positive and significant effect on the intention to pay zakat)

The results of the testing of the third hypothesis show that there is a path coefficient of -0.122 with a statistical value of t of 0.135 between the behavior controlling variables. The t-standard is less than the t-table (1,960). This results in a negative and insignificant relationship between behavior control and purpose, which means that it does not conform to the third hypothesis, in which behavioral control encourages Muzakki to pay zakat. This means that **Hypothesis 3 is rejected**.

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### **Testing Hypothesis IV (Accountability has a positive and significant effect on the intention to pay zakat)**

The results of testing the fourth hypothesis demonstrated that there was a path of 0.143 with a statistical value of 0.195 between the accountability variable. The t-standard is less than the t-table (1,960). This results in a negative and negative relationship between responsibility and intention which means that it is not consistent with the fourth hypothesis that responsibilities encourage the intention of muzakki to pay zakat. This means that **Hypothesis 4 is rejected**.

### **Testing Hypothesis V (Transparency has a positive and significant effect on the intention to pay zakat)**

Results from the fifth test show that there is a path coefficient of 0.080 with the t-statistic value of 0.915 in relation between the variable transparency. The t-standard is less than the t-table (1,960). This results in a negative and unimportant relationship of transparency to the intention that does not comply with the fifth hypothesis, which encourages the intention of muzakki to pay zakaah. This means that **Hypothesis 5 is rejected**.

### **Testing Hypothesis VI (Intention has a positive and significant effect on the behavior of paying zakat)**

The results of testing the 6th hypothesis show that a path-coefficient value of 0.524 is shown to be a relation between the intention variable with a statistical value of 5.725. The value t-statistic is greater than the value t-table (1,960). This results in a good and meaningful relationship to the payment behavior of zakat. This means that **Hypothesis 6 is accepted**.

### **Hypothesis Testing of Indirect Effects**

The results of the sixth assumption test show that the relationship between the variable intention showed a path coefficient value of 0.524 and a value of 5.725 for t-statistic reasons. The value of t statistics is greater than the value of the t-table (1,960). This results in a positive and significant relationship with the behavior of zakat payment.

**Table 9. Result For Sobel Test**

<b>Construct</b>	<b>T-Statistic</b>	<b>P-value</b>
Attitude=>Intention=>Zakat Paying Behavior	1.988	0.053
Subjective Norms=>Intention=>Zakat Paying Behavior	3.635	0.000
Behavior Control=>Intention=>Zakat Paying Behavior	0.134	0.892
Accountability =>Intention =>Zakat Paying Behavior	0.197	0.843
Transparency =>Intention =>Zakat Paying Behavior	0.903	0.366

**Source :** Data Processed with *Sobel Test Calculator*, 2020

### **Hypothesis VII (Attitudes that encourage behavior have a significant positive effect on behavior to pay zakat mediated by intention)**

The t-static value of 1,988 is smaller than the t-table of 1.960. The effect of the attitude to pay zakat through intention is an interim variable. Hypothesis 7 is therefore accepted. This means that the behavior of zakat payment is indirectly affected by intention as a peripheral variable.

### **Hypothesis VIII (Subjective Norms have a significant positive effect on the behavior of paying zakat mediated by intention)**

The effect of subjective standards on zakat intention payment behavior as an intermediate variable is indicated by the t-statistical value of 3635, which is higher than the t-table of 1.960. Hypothesis 8 is therefore acceptable. This means that subjective norm indirectly influences the payment of zakat by intent as an interfering variable.

### **Hypothesis IX (Behavior control has a significant positive effect on the behavior of paying zakat mediated by intention)**

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Intendence as an interfering variable indicates the effect of conduct controls on paying zakaah by a statistical value of 0.134 which is less than t-table 1.960. Hypothesis 9 is therefore rejected. It means that the behavior of the Zakat payer is indirectly controlled by intention as an intermediate variable.

### **Hypothesis X (Accountability has a significant positive effect on the behavior of paying zakat mediated by intention)**

The effect of accountability as an interim variable on paying zakat is indicated by the t-statistical value of 0.197 smaller than the t-table of 1.960. Hypothesis 10 is therefore rejected. This means that, through intention as an intermediary variable, responsibility indirectly has no significant effect on the way zakat is paid. **Hypothesis**

### **XI (Transparency has a significant positive effect on the behavior of paying zakat mediated by intention)**

The effect of transparency on paying zakat through intention as an intervening variable is indicated by the t-statistic value of 0.903 which is smaller than the t-table 1.960. This means that **Hypothesis 11 is rejected**. It means that transparency indirectly through intention as an intervening variable has no significant effect on the behavior of paying zakat.

## **IV. DISCUSSION**

### ***Attitudes that encourage behavior have a positive relationship and have a significant effect on muzakki's intention to pay zakat***

Hypothesis one (H1) says that a direct positive effect is accepted for muzakki to pay zakat. The coefficient parameter value is 0.220, with a t-statistic value of 1.965, based upon the results for the resampling of the bootstrap test. This indicates that behaviors affect the intention of muzakki to pay zakat significantly since the t-statistic value is  $> 1,960$ . Moreover, because the coefficient parameter is positive, the effects of behavior on muzakki's intent for paying zakat are positive. Thus it can be found that the attitude affects the intention of muzakki to pay zakat positively and significantly.

Attitude affects intention positively, which means that the better the attitude or the more positive the zakat, the higher the interest in the respondent's wish to make muzak pay zakat. Behavioral attitudes are affected by the belief that behavior results are desired or unwanted. The more positive the attitude of the muzakki towards paying zakat, or the greater the conviction that if the muzakki is to pay zakat, the greater the intent to make zakat pay.

The more negative the attitude of muzakki to pay zakat, the more the muzakki's low intent to pay zakat will be affected. The study results are based on research by QurotuUyunAlpriyamah, Adityawarman (2017), which found that attitudes affect the intention positively and significantly.

This means that it can be concluded that zakat is generally accepted, but that everyone has a different understanding of zakat, even though most respondents feel that paying zakat is an obligation.

### ***Subjective norms have a positive relationship and have a significant effect on muzakki's intention to pay zakat***

Hypothesis two (H2) states the acceptance of subjective standards directly affecting the intention of muzakki to pay zakaat. The coefficient value is 0.571 with the t-statistic value of 4.707 based on the results of the re-sampling bootstrapping test. That shows that subjective standards affect the intention of muzakki to pay zakat considerably since the t-statistical value is more than 1,960. Moreover, because the value of the coefficient parameter is positive, the influence of subjective norms on muzakki's intention to pay zakat is positive. Thus it can be found that the attitude affects the intention of muzakki to pay zakat positively and significantly.

Hypothesis 2 (H2) states those subject standards are acceptable that directly affect muzakki's intention to pay for zakat. The coefficient is 0.571 based on the results of the bootstrapping test. The t-statistical value is 4.707. This demonstrates that subordinate standards significantly affect muzakki's intention to pay zakat since the t-statistical value is over 1.960. Moreover, as



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the value of the parameter of the coefficient is positive, the influence of subjective standards on the intention of muzakki to pay zakat is good.

It can therefore be found that the stance has a positive and significant influence on the intention of muzakki to pay zakat. Subjective standards have a positive effect on the intention, or the stronger the social pressure, the stronger the interest or desire of the muzak in paying zakat. Subjective standards as a social factor indicating the social pressure to act or to conduct. Consideration of what is normative behavior (expected by others) and motivation to act according to these normative expectations are subjective individual standards. The more and the more favorable the impact that muzakki has on the way zakat is paid, the more it affects the high intent to pay zakat.

Conversely, the more negative the influence and the lower the influence given to muzakki on paying zakat, it will also affect the muzakki's low intention to make zakat payments. The results of this study are in accordance with the research conducted by (Qurotu Uyun Alpriyama, 2017) which states that subjective norms have a significant positive effect on intention.

### ***Behavioral control has a negative and insignificant relationship with muzakki's intention to pay zakat***

Hypothesis 3 (H3) says that behavior control rejects the intent of muzakki to pay zakat. The value of the parameter coefficient is -0.122 with an at-statistical value of 0.135 based on the results of the bootstrapping test. This shows that behavioral control does not have any major impact on the intention of the muzakki to pay zakat as the statistical value is  $<1.960$ . Furthermore, because the coefficient parameter is negative, the effect of behavioral control on the intent of the muzakki to pay zakat was adverse. There are thus no significant and negative consequences for the intention of muzakki to pay zakat. This is not true of behavioral control.

The adverse effects of compartmental checks on intention are less behavioral controls, the lower the interest or desire of muzak in the payment of zakat is on the existence of facilities and infrastructure that may facilitate the payment of zakat or zakat. Perceived conduct control is a condition in which people think action is easy or difficult to perform. The more people feel the numerous factors that can support them and some factors that can inhibit behavior, the easier the individual to do the behavior. The fewer people feel the few supportive factors and many inhibiting factors to be capable of performing a behavior, the more they tend to feel that they are difficult to do so. (Ajzen, 2005).

### ***Accountability has a negative and insignificant relationship with muzakki's intention to pay zakat***

Hypothesis 4 (H4) that the intention to pay zakat has a positive impact on accountability is dismissed. The coefficient parameter value is 0.143 with an at-statistical value of 0.198 based on the results of the resampling of the bootstrapping testing. This demonstrates because the t-statistic value of  $<1,960$  is, that responsibility has no significant impact on the intention of muzakki to pay zakat. Moreover, because the parameter is negative, the influence of accountability on the intention of muzakki to pay zakat is negative. It could therefore be concluded that the responsibility for the intent of the muzakki to pay zakat has no significant and negative effect.

The results of this study contradict research carried out by (Susanti & Alfin, 2019) , which shows that accountability and muzakki are having significant impacts. Although the variable of accountability statistically does not affect muzakki's intention to pay for zakat, the principle of accountability must be properly applied by each institution, especially in this case, to produce good, reliable reporting. As has previously been explained, the lack of influence between responsibilities and loyalties does not mean that the principle of responsibility is not important, but the muzakki may no longer have any doubts as to the institution's accountability.

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### ***Transparency has a negative and insignificant relationship with muzakki's intention to pay zakat***

The effect of transparency on Muzakki's intention to pay zakat is rejected in Hypothesis 5 (H5). The parameter value of this coefficient is 0.080 and the t-statistic value is 0.915. Based on test results. This shows that openness has no significant impact on muzakki's intention to pay zakat because the statistical value of t is  $< 1,960$ . The impact of transparency on the intention of the parameter coefficient of the muzakki to pay zakat is also negative. It can be concluded that transparency does not significantly or negatively affect the intention of the muzakki to pay zakat.

The results of the study contradict the research carried out by Jumaizi and Zainal A. Wijaya (2011), which demonstrates the importance of transparency and muzakki. Transparency has a negative and negative impact on muzakki's intention to pay Zakat because of the trust the body has not given in nature and the credibility of the body affects zakat. The effect of Zakat is negative and bad This shows that the intention of muzakki to pay zakaah is lower because of lower levels of transparency. However, this transparency is of course important to trust, because it becomes a substitute institutional power for muzakki.

The theory of sharia can show the fundamental guidelines are transparency. Transparency is therefore a deliberate attempt to deliver all information that is legally accessible, both positive and negative, quickly, balanced, and decisively, to improve public thought and to hold organizations' actions, policies, and practices to account.

### ***Intention has a positive relationship and has a significant effect on muzakki behavior to pay zakat***

The intention is directly acceptable to the behavior of muzakki when paying zakat in hypothesis six (H6), which says. The value of this parameter is 0.524 and is based on the results of the bootstrapping test at a statistical value of 5,725. This shows that the intent affects the behavior, as the t-statistic value is over 1.960. The purpose is substantial. The intentional effect on muzakki's behavior, as the coefficient of the parameter value, is positive, when paying zakat is also good. It can therefore be concluded that the intention has a significant positive impact on muzakki's payment behavior.

The intent has shown that the behavior of muzakki in zakat payments has a great impact. This is the theory of the (Ajzen, 2005) It comes from the intention that everything people do. The person tends to do this if he or she wants to lead behavior. In contrast, if the person does not want to behave, he or she is less likely to behave. If the person's intention to pay zakat is then formed, the person tends to pay zakat.

### ***Intention to mediate attitudes that encourage behavior towards paying zakat behavior***

The results of hypothesis seven (H7) show that there is a considerable positive impact on the behavior of intentionally mediated zakat. The t-statistic value is 1,988, which is higher than the T-table value of 1,960, based on results of calculations using the Sobel-test calculators which means that attitude has a substantial effect on the payment of zakat through the variable of intent as an intermediate variable. The results of the test show that the intentional variable for paying zakat in this study can be a mediating variable (intervention). The acceptance of the 7th hypothesis (H7) shows that zakaah adherence is influenced by attitudes that promote intentional conduct. This can happen as zakat payments are based on the fact that zakat payments are positive. The aim of keeping zakat payments to persons mediates the effect of the individual's positive attitude, so as to create the behavior of paying zakat. In this case, the aim can enhance or weaken the influence of zakat payment attitudes.

### ***Intention to mediate subjective norms on the behavior of paying zakat***

Hypothesis 8 (H8) results indicate that the behavior that encourages behavior affects the payment of intentional zakat significantly. The T-statistical Value is more than the t-table of 1.960 based on the calculation using the Sobel test calculator. That means that indirectly the Subjective Norm has a significant effect on the behavior of paying zakat by means of the Intention Variable as an intermediate variable. The results of the test show that the intentional variable for paying zakat in this study can be a mediating variable (intervention).

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The acceptance of the eighth hypothesis (H8) demonstrates that conformity to pay zakat depends on subjective norms which support intent-mediated behavior. There has been a positive and important impact on intentions on subjective norms consisting of belief in obedience to others and motivation in obedience to others. This shows that the more subjective regulations muzakki is encouraged, the greater the intention muzakki shows to pay zakat. The subjective standards of the muzakki are determined by their social environment. Muzakki's desire to pay zakat is determined by those around him, the environment, or the people around him. These subjective regulations are essential to determine the focus of zakat payments so that each Zakat institution can influence muzakki's desire to pay zakat.

### ***Intention to mediate behavior control on the behavior of paying zakat***

Hypothesis nine (H9) rejects that conduct control has a significant positive impact on purpose-mediated zakat payment behavior. The t-statistical value is 0,134, which is less than the 1.960 t-table value based on calculations using a Sobel test calculator, which is to say, that indirect controls on the behavior of a paid zakat mediated by intention as a response variable do not have a substantial effect. The results of the test show that in this equation the variable that zakaah is not an intermediate variable.

The rejection of the 9th assumption (H9) shows that zakat payment behavior is not affected by behavior control and zakat payment does not mediate this effect. That means that it does not reinforce or weaken the effect of perceived behavioral control on the payment of Zakat whether there is an intention to pay zakat in persons who are required to do zakat. The small effect of comporment monitoring shows that while people who are obliged to zakat do perceive that whether they have enough resources or not to pay zakat, that does not mean that those forced to pay zakat obey to pay zakat. Zakat payment does not strengthen or undermine the interaction between behavior control perception and zakat payment behavior.

### ***Intention to mediate accountability for the behavior of paying zakat***

Hypothesis 10 (H10) states that the responsibility for paying zakat is significantly positive and is rejected. On the basis of calculations using the Sobel calculator the value of the zakat as a mediator of intention as the intervention variable is 0.197 which falls below the value of the t-table of 1.960, which means that the account does not indirectly have an important effect on the behavior. The test results show that the variable of intent to pay zakat in this equation cannot be the mediator variable.

A refusal to accept the 10th hypothesis (H10) shows that zakat payment behavior, and zakat payment intentions, are not a mediator of the effect. Zakat payment This means that zakat institutions must report to muzakki the results of zakat administration and distribution to win the public confidence to make it more possible to collect zakat because of public confidence in zakat institutions. The Amil Zakat Institution (LAZ), which is accountable, transparent, and professional, provides public awareness and confidence in this zakaah to prosper. This is why the financial reporting of zakat institutions is a reflection of good management of financial resources. Since accountability in the financial report is a form of accountability.

### ***The intention to mediate transparency on the behavior of paying zakat***

Hypothesis 11 (H11) states that the positive effect on the behavior of the payment of the intentionally mediated zakat must be rejected in transparency. The t-statistic value is 0.903 which is lower than the t-table value of 1.960, based on the result of calculations based on the Sobel test calculator which means that the transparency has no indirect effect upon the payment of zakat mediated as an intervening variable by purpose. The test results show that the variable of intent to pay zakat in this equation cannot be the mediator variable.

Refusals of the 11th hypothesis (H11) demonstrate that zakat's payment behavior and this effect are not mediated by the intention to pay zakat. Transparency is thus closely linked to honesty. The informant must be honest in providing information so that the recipient of this information, in this case, the community or muzakki, knows nothing about it.

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To ensure a more selective community and the main choice to the donation of zakat is made and to determine its interest in choosing transparent institutions. When an institution publishes its reporting and operations transparently to the public, it will increase Muzakki's interest and trust and choose to channel its zakaah funds to the target institution.

### V. CONCLUSION AND IMPLICATIONS

This study aims to analyze the influence on the intention of muzakki to pay zakat of attitudes, subjective norms, competency control, accountability, and transparency. The intention here acts as a variable that intervenes and an endogenous one. This researcher uses the partial lower square to analyze the relationship between these variables (PLS). It can be concluded based on the analysis and the debate in the preceding section: Attitudes that promote conduct affect the intention to pay zakat positively and significantly. This is indicated by a positive factor of 0.220 and by the  $t$ -statistical value that is higher than the  $t$ -table ( $1.965 > 1.960$ ) and smaller than 5 percent ( $0.050 < 0.05$ ). The first hypothesis is accepted, as the results show. Subjective standards affect zakaah intention positively and significantly. The positive coefficient of 0.571 is indicated and the  $T$ -statistical value is higher than the  $t$ -table ( $4.707 > 1.960$ ), which is less than the significance of 5% ( $0.000 < 0.05$ ). These results show the acceptance of the second hypothesis. The intention to pay zakat is affected by behavioral control. This is indicated by  $t$ -statistical value that is smaller than the  $t$ -table ( $0.135 < 1.960$ ) and a value of more than 5% ( $0.257 > 0.05$ ). This indicates the rejection of the third hypothesis. The intention to pay zakat is not influenced by accountability. This is shown by an  $t$ -statistical value that is smaller than  $t$ -table ( $0.198 < 1.960$ ), and a value of more than 5 percent ( $0.231 > 0.05$ ). This demonstrates the rejection of the 4th hypothesis. The intention to pay zakat is not affected by transparency. This is shown by the  $t$ -statistic value owned by the table ( $0.915 < 1.960$ ), which is smaller than the  $t$ -table and the meaning is greater than 5% ( $0.360 > 0.05$ ). This indicated the rejection of the fifth hypothesis. The intent has a significant positive impact on Zakat payment behavior. The coefficient value of 0.524 is positive and the  $t$ -statistical value is greater than the  $t$ -table value ( $5.725 > 1.960$ ) and less than the meaning value of five percent ( $0.000 > 0.05$ ). These results demonstrate the acceptance of the sixth hypothesis. Intention to mediate the influence of behavioral attitudes to pay for zakat behavior. This is indicated by a value of  $t$  statistic greater than the value in the  $t$ -table ( $1.988 > 1.960$ ) and a value less than the meaning value of 5 percent ( $0.053 < 0.05$ ). This demonstrates the acceptance of the seventh hypothesis. Intention to mediate on the behavior of paying zakat the influence of subjective norms. This is shown by the  $t$ -statistic value which is greater than the value of the  $t$ -table ( $3.635 > 1.960$ ) and by the meaning value which is lower than 5% ( $0.000 < 0.05$ ). This demonstrates the acceptance of the eighth hypothesis. The intention to not mediate on the behavior of zakat payment the effect of behavior control. The  $t$ -statistic value, less than  $t$ -table ( $0.134 < 1.960$ ) and a meaning value greater than the 5% meaning value ( $0.892 > 0.05$ ), is used. This proves to be rejectable for the ninth hypothesis. Intention not to meditate on the behavior of zakat payment the effect of accountability. The  $t$ -statistic value is shown to be smaller than the  $t$ -table ( $0.197 < 1.960$ ) and a value that is larger than the 5% ( $0.843 > 0.05$ ) meaning value. This demonstrates the rejection of the 10th hypothesis. The intention not to meditate on the payment behavior of zakat the effect of transparency. This is indicated by the smaller  $t$ -statistic ( $0.903 < 1.960$ ) than the  $t$ -table and a greater than 5 percent meaning ( $0.366 > 0.05$ ) meaning value. The eleventh hypothesis is therefore rejected.

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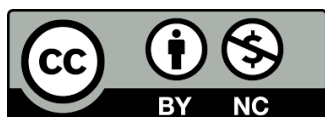
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## Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants



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**ABSTRACT:** This study aims to analyze the effect of emotional intelligence on performance, analyze the influence of spiritual intelligence on performance, analyze the effect of emotional intelligence on ego depletion, analyze the influence of spiritual intelligence on ego depletion, analyze the effect of ego depletion on tax consultant performance, analyze ego depletion as a mediator of emotional intelligence on the performance of tax consultants, as well as analyzing ego depletion as a mediator of spiritual intelligence on the performance of tax consultants. The sample in this study were 71 respondents. The analysis technique uses path analysis. The results of this study indicate that emotional intelligence has an effect on the performance of tax consultants. Spiritual intelligence has an effect on the performance of tax consultants. Emotional intelligence has an effect on ego depletion. Spiritual intelligence has an effect on ego depletion. Ego depletion affects the performance of tax consultants. Ego depletion as a mediator of emotional intelligence on the performance of tax consultants. Ego depletion as a mediator of spiritual intelligence on the performance of tax consultants.

**KEYWORDS:** emotional intelligence, spiritual intelligence, ego depletion, performance

### PRELIMINARY

Tax consultants are a means for taxpayers to report and deposit taxes on time and in accordance with applicable regulations. This service is also very much needed for large companies that have large turnover and have many operational activities because these companies will be exposed to various types of taxes. Tax consultants assist clients with compliance related issues and also start counting and reporting. Tax consultants can also provide tax consulting services and implement tax plans to optimize the interests of clients. If the desired goals can be achieved well then the performance is declared good.

Performance as a reflection of the organization's ability to manage and allocate existing resources (Lisa, 2019). Performance can change from high performance to low performance, and vice versa according to the influencing factors and efforts to improve performance. The performance of employees who are members of the company's management greatly determines the achievement of a company, starting from the management of human resources, the process of carrying out work, even the smallest daily activities that support the company's performance also deserve attention. Dharmawan (2013) found that many factors can affect the performance of auditors, some of which are intelligence intellectual, emotional and spiritual intelligence.

Intelligence is something that is owned by every tax consultant, the only difference is the level of intelligence between one tax consultant and another. Emotional intelligence is needed by tax consultants to deal with clients, because intellect alone cannot function properly without emotional appreciation in every job. Emotional intelligence plays an important role in achieving success in all fields, as well as for tax consultants to achieve the best performance. Tax consultants with good emotional intelligence will be able to recognize, use, understand, and manage their emotions positively so that they can reduce stress, communicate effectively, empathize with others, overcome existing challenges, and reduce conflicts that arise. Therefore, people with high Emotional Intelligence tend to be preferred in the world of work. Rahmasari (2012) research results found that emotional intelligence had a positive effect on performance.

A tax consultant who has high spiritual intelligence and is supported by a positive work environment, is able to work well in a team, and has a high commitment to the company. The formation of a spiritual culture in the workplace is expected to form employees who are happy and able to fulfill life goals. These tax consultants generally have a balanced life between work and personal, between duty and service. Rahmasari (2012) research results found that spiritual intelligence had a positive effect on performance. Dharmawan (2013) also proves that many factor which could influence performance, a number of of them is intelligence intellectual, emotional intelligence and spiritual intelligence possessed by self alone. Baheshtifar and Zare (2013) find

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that encouragement spirituality in the place work could bring benefit in field creativity, process improvement, customer service, honesty and trustworthiness, personal fulfillment, and commitment, which will ultimately lead to organizational performance improvement.

Emotional intelligence can also affect ego depletion, this happens if the tax consultant feels pressured, exhausted and feels limited, resulting in decreased self-control. Tax consultants who have high emotional intelligence will have good abilities in managing and completing various jobs. The results of research by Yusaini and Lawrence (2014) which found that emotional intelligence affects ego depletion. Hurley (2015) who prove that emotional control and audit arrangements affect the rise or fall of ego depletion. In addition, there is research from Nugroho (2019) which proves that self-regulation has a significant effect on negative to ego depletion on student.

Hodge et al. (2020) proves that religion, spiritual intelligence is freedom think, Settings self which effective working as buffer ego depletion. Thus ego depletion is influenced by spiritual intelligence. Spiritual intelligence makes individuals able to interpret each activity as worship. Tax consultants who have high spiritual intelligence can minimize the occurrence of ego depletion in themselves. This is because individuals who have spiritual intelligence have self-regulation. High spiritual intelligence is characterized by growth and transformation in a person, achieving a balanced life between career or work and personal and family, as well as feelings of pleasure and satisfaction which are manifested in the form of making positive contributions at work. The results of research by Ryan and Deci (2008) found that spiritual intelligence has an effect on ego depletion.

Ego depletion is a state of weak self-control due to fatigue which in the end is a failure in self-management, so efforts are needed to replenish psychic strength so that self-management is effective again. Thus ego depletion can affect performance. Muraven and Slessareva (2013) research results which prove that depletion affect performance on Duty which need self-control. money et al. (2015) which proves that participants with a level depletion ego chronic which tall show results negative which more strongrelationship between mental effort and performance.

Phenomenon related to the performance of tax consultants registered with the Indonesian Tax Consultants Association Malang Branch based on interviews with several tax consultants, it can be said that the performance of tax consultants tends to decrease if they are not able to control themselves related to emotions or in other words emotional intelligence is not good, as indicated by complaining when running the job, and less focused on getting the job done. Emotional intelligence in question includes overcoming frustration, regulating moods, the ability to motivate yourself, controlling emotions, and recognizing the emotions of others. In addition, the performance of tax consultants tends to decrease when they do not have good spiritual intelligence. Spiritual intelligence in question includes wisdom, wisdom and acts of compassion in everyday life. Rahmasari (2012) research results emotional intelligence has a positive effect on performance and Dharmawan (2013) which proves that many factors can influence performance auditors, a number of of them is intelligence intellectual, emotional intelligence and spiritual intelligence possessed by the alumni alone. Besides that, Hurley (2015) proved that controlling emotion and audit arrangements affect the rise or fall of ego depletion.

The phenomenon that exists is related to the ego depletion of tax consultants registered with the Indonesian Tax Consultants Association Malang Branch based on interviews with several tax consultants, it can be said that the performance of tax consultants is not good. This is indicated by the occurrence of ego depletion when entering the busy season. Busy seasons cause high pressure and long working hours, causing stress on yourself so that it has an impact on performance. The busy season is a long period of stress characterized by long working hours, increased workload and increased stress due to work deadlines (Hurley 2017). This busy season is influenced by the nature of the work that has a time frame, coupled with the majority of clients using December 31 as the end of the book closing. The existence of a busy season can make tax consultants experience ego depletion. Ego depletion is described as a state of energy depletion (Baumeister et al. 2015). Ego depletion is a condition where individuals feel depressed, too tired and feel limited. Ego depletion can result in an imbalance of emotions and thoughts that can affect performance. Rahmasari (2012) research results which proves that spiritual intelligence has a positive effect on performance and Dharmawan (2013) which proves that many factors can affect the performance of auditors, some of which are intelligence intellectual, emotional intelligence and spiritual intelligence possessed by alumni themselves. In addition, Hodge et al. (2020) that proves that religion, spiritual intelligence, freedom of thought, self-regulation effectively functions as a buffer for ego depletion.

The purpose of this study is to analyze the effect of emotional intelligence on performance, analyze the influence of spiritual intelligence on performance, analyze the effect of emotional intelligence on ego depletion, analyze the effect of spiritual intelligence on ego depletion, analyze the effect of ego depletion on tax consultant performance, analyze ego depletion as a mediator. emotional intelligence on the performance of tax consultants, as well as analyzing ego depletion as a mediator of spiritual intelligence on the performance of tax consultants.



# **Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants**

## **LITERATURE REVIEW**

### **Emotional Intelligence**

Goleman (2015: 43) argues that emotional intelligence is the ability to motivate oneself and endure frustration, control impulses and not exaggerate pleasure, regulate moods and keep stress loads from crippling the ability to think, empathize, and pray. Emotional intelligence is the ability to feel, understand and selectively apply the power and sensitivity of emotions as a source of energy and human influence from an employee where the presence of high emotional intelligence from employees can require employees to recognize, respect feelings for themselves and others. and respond appropriately, effectively apply emotional energy in daily life, especially at work.

According to Prentice and King (2010), indicators of emotional intelligence are as follows: Mood regulation is emotional management that makes it easier to achieve goals by managing one's own condition, impulse, and resources; social skills are intelligence in responding or responding in accordance with what other people want; the use of emotions is the tendency of emotions that lead or facilitate the achievement of goals; Emotional assessment is knowing one's own condition, preferences, resources and intuition.

### **Spiritual Intelligence**

Iskandar (2009) also states that spiritual intelligence is the intelligence of an individual's ability to manage values, norms, and quality of life by utilizing the powers of the subconscious mind or better known as the conscience (God Spot) . Furthermore, Zohar & Marshall (2000) stated that spiritual intelligence is defined as the intelligence that exists within and is directly related to the conscious soul. Spiritual intelligence is not necessarily related to religion. Some people can have spiritual intelligence through formal religion, but religion does not guarantee having high spiritual intelligence. According to Vasconcelos (2020), spiritual well-being should be fostered from time to time in a careful and disciplined manner. Spiritual intelligence could increase behavior ethical whole sector business, help problem environment, improve community and give benefit for public by whole.

### **Ego Depletion**

Ego depletion according to Baumeister and Exline (2000) is a temporary decrease in capacity or self-will when carrying out activities that require energy, this is because the energy has been used for previous activities. Furthermore, Undarwati (2017) defines ego depletion as a condition of someone who loses the urge to do something and this is indirectly related to self-control. There are nine aspects that often appear in ego depletion consisting of psychological fatigue, physical exhaustion, helplessness, drained energy, cognitive disturbances, passiveness, suboptimal, negative reactions, and behavioral disorders.

### **Performance**

Performance according to Robbin (2016: 260) is a result achieved by employees in their work according to certain criteria that apply to a job. Furthermore, Sutrisno (2016:151) suggests that performance is the result of work that has been achieved by a person based on his work behavior in carrying out activities at work. The success or failure of an organization in carrying out its duties is closely related to employee performance, the achievement of performance in the organization is a factor that must be considered to realize the company in achieving the goals that have been set. To measure the performance of an employee, Bernadin (1993; in Trihandini, 2006) explains that there are five criteria resulting from his work, namely quality, quantity, timeliness, effectiveness, and independence.

### **Tax consultant**

According to the Regulation of the Minister of Finance of the Republic of Indonesia Number 111/PMK.03/2014 concerning Tax Consultants, the definition of a tax consultant is a person who provides tax consulting services to Taxpayers in order to exercise their rights and fulfill their tax obligations in accordance with tax laws and regulations. A tax consultant who can practice as a tax consultant is a tax consultant who has a Practice License issued by the Director General of Taxes or an appointed official. The tax consultant profession is a noble and honorable profession which in carrying out its profession is under protection laws, regulations and the Code of Professional Ethics. Tax consultants are required to uphold integrity, be professional, independent and able to maintain confidentiality in carrying out their profession.

### **Research Hypothesis**

- 1) Emotional intelligence affects the performance of tax consultants.
- 2) Spiritual intelligence affects the performance of tax consultants.
- 3) Emotional intelligence has an effect on ego depletion .
- 4) Spiritual intelligence has an effect on ego depletion .

# Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants

- 5) Ego depletion affects the performance of tax consultants.
- 6) Ego depletion as a mediator of emotional intelligence on the performance of tax consultants.
- 7) Ego depletion as a mediator of spiritual intelligence on the performance of tax consultants.

## RESEARCH METHOD

### Research design

Based on destination study which has set, so study this use method study explanatory ( explanatory research ). According to Singarimbun and Effendi (2012:145), study explanatory aim explain connection causal Among variables research through testing hypothesis.

### Research Population and Sample

Population in study this is a tax consultant registered as a member at the Indonesian Tax Consultant Association Malang Branch. There are 3 categories of practice permits, namely practice license A, practice license B, and practice license C. Tax consultant with a license practice A has the authority to provide tax consultant services to taxpayers domestic personal tax. Tax consultant with practice license B has the authority to provide tax consulting services to individual taxpayers and business entities in country. Meanwhile, a tax consultant with a C . practice license have authority for give service consultant tax to must tax person personal and body business good in country nor outside country. Amount the population in this study were 81 Tax Consultants.

### Variable Operational Definition

#### Emotional Intelligence

Emotional intelligence is the human ability to recognize emotions, label them properly, and use information emotions to influence thoughts and actions. Emotional intelligence gives us a very clear way to understand who we are in the world this. The indicators measured refer to Goleman (2015), including recognizing emotions, recognizing other people's emotions, managing emotions, motivating yourself and building relationships.

#### Spiritual Intelligence

Spiritual intelligence is a moral sense, the ability to adjust the rules coupled with understanding and love and the equal ability to see when love and understanding and love and equal ability to see good and bad things. The indicators measured refer to Zohar and Marshall (2000) including honesty, openness, self-knowledge, focus and self-contribution.

#### Ego Depletion

Ego depletion is a condition of a person who loses the urge to do something and it is indirectly related to self-control. The ego depletion indicator is according to Undarwati (2017), namely resigned, fed up, bored, and unable to control themselves

#### Performance

Performance is the result of work achieved by a person or group of people in an organization in accordance with the stipulated provisions. The indicators refer to Flippo (2016:85), namely: (a) quality of work, (b) completion time of work, (c) quantity of work, (d) responsibility, (e) financial efficiency.

#### Data analysis technique

The data analysis technique chosen by the author is path analysis. Path analysis is an analysis that uses correlation and regression so that it can be seen that to arrive at the last dependent variable, you must go through a direct path or through a mediating variable (Sugiyono, 2018).

## RESULTS AND DISCUSSION

### Results

The results of the path analysis are presented in the following table.

**Table 1 Path Analysis Results**

description	path coefficient standardized	p-value ( sig value )
Y1 => Z1	-1.186	0.000
X1 => Y1	-1.069	0.000

## Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants

X1 => Z1 (direct influence)	1.096	0 000
X1 => Y1 => Z1 (indirect influence)	$-1.186 * -1.069 = 1,267 > 1.096$	
X2 => Y1	-1,120	0 000
X2 => Z1 (influencelive)	1.075	0 000
X2 => Y1 => Z1 (influence notlive)	$-1,120 * -1.186 = 1.328 > 1.075$	

Based on Table 4.7 could explained that:

1. Coefficient track which standardized influence Y1 to Z1 marked negative. This means that ego depletion is negatively related to performance. If the indicators ego depletion upgraded existence, so performance consultant tax will decreased.
2. Coefficient track which standardized influence X1 to Y1 marked negative. It means intelligence emotional relate negative to ego depletion. If indicators intelligence emotional upgraded existence, so ego depletion will decreased.
3. Coefficient track which standardized influence X2 to Y1 marked negative. It means, intelligence spiritual relate negative to ego depletion. If indicators intelligence spiritual upgraded existence, so ego depletion will decrease
4. The standardized path coefficient of the effect of X1 on Z1 is positive. It means emotional intelligence is positively related to performance. If the indicators intelligence emotional upgraded existence, so performance also will increase.
5. The standardized path coefficient of the effect of X2 on Z1 is positive. It means intelligence spiritual relate positive to performance. If indicators intelligence spiritual upgraded existence, so performance also increase The sig value of the effect of X1 on Z1 is  $0.000 < 0.05$  (5%). That is, intelligence emotional take effect significant to performance. With thereby hypothesis first accepted.
6. The sig value of the effect of X2 on Z1 is  $0.000 < 0.05$  (5%). That is, intelligence spiritual has a significant effect on performance. Thus the second hypothesis accepted.
7. The sig value of the effect of X1 on Y1 is  $0.000 < 0.05$  (5%). That is, intelligence emotional has a significant effect on ego depletion. Thus the hypothesis third accepted.
8. The sig value of the effect of X2 on Y1 is  $0.000 < 0.05$  (5%). That is, intelligence spiritual has a significant effect on ego depletion. Thus the hypothesis fourth accepted
9. The sig value of the effect of Y1 on Z1 is  $0.000 < 0.05$  (5%). That is, ego depletion take effect significant to performance. With thereby hypothesis fifth accepted.
10. Mark sig influence X1 against Y1 as big as  $0.000 < 0.05$  (5%) and influence Y1 to Z1 of  $0.000 < 0.05$  (5%). That is, emotional intelligence has an effect significant effect on performance through ego depletion. Thus the sixth hypothesis accepted
11. Mark sig influence X2 against Y1 as big as  $0.000 < 0.05$  (5%) and influence Y1 to Z1 of  $0.000 < 0.05$  (5%). That is, spiritual intelligence has an effect significant effect on performance through ego depletion. Thus the seventh hypothesis accepted

In Table 1 it appears that the standardized path coefficients influence live  $X1 \Rightarrow Z1$  is 1,096. Meanwhile, the coefficient standardized path indirect effect  $X1 \Rightarrow Y1 \Rightarrow Z1$  of 1.267 ( $-1.186 * -1.069$ ) is greater than 1,096. Likewise, the standardized path coefficients influence live  $X2 \Rightarrow Z1$  is 1,075. Meanwhile, the coefficient standardized path indirect effect  $X2 \Rightarrow Y1 \Rightarrow Z1$  of 1.328 ( $-1.120 * -1.186$ ) bigger than 1,075. Mark coefficient the path standardized influence no live, both  $X1 \Rightarrow Y1 \Rightarrow Z1$  and  $X2 \Rightarrow Y1 \Rightarrow Z1$ , indicating greater than coefficient track which standardized influence live, good  $X1 \Rightarrow Z1$  nor  $X2 \Rightarrow Z1$ . It means, could concluded that ego depletion play a role as variable mediation that can increase the influence of emotional intelligence and intelligence spiritual to performance consultant tax.

## DISCUSSION

### Intelligence Emotional Take effect To Performance

Based on the results of hypothesis testing, the effect of emotional intelligence on performance shows a sig value of 0.000. This means that the sig value of 0.000 obtained is smaller than the probability value of 0.05. That is, this study meets the assumptions to state H1 is accepted. In addition, the standardized path coefficient of the effect of emotional intelligence on performance is positive. This means that emotional intelligence is positively related to the performance of tax consultants registered at IKPI Malang Branch. In other words, based on the results of data management with path analysis, it provides empirical

## **Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants**

evidence that there is a positive and significant influence between emotional intelligence and the performance of tax consultants registered at IKPI Malang Branch.

The results of this study support the research of Rahmasari (2012) which proves that emotional intelligence has a positive effect on performance. This research is also in line with other research conducted by Dharmawan (2013) which proves that many factors can affect the performance of auditors, some of which are intellectual intelligence, emotional intelligence and spiritual intelligence possessed by alumni themselves. Thus, it can be concluded that the better the emotional intelligence possessed by the tax consultant, the better the performance of the tax consultant.

### **Spiritual Intelligence Affects Performance**

Based on the results of hypothesis testing, the influence of spiritual intelligence on performance shows a sig value of 0.000. This means that the sig value of 0.000 obtained is smaller than the probability value of 0.05. That is, this study meets the assumptions to state H2 is accepted. In addition, the standardized path coefficient of the influence of spiritual intelligence on performance is positive. This means that spiritual intelligence is positively related to the performance of tax consultants registered at IKPI Malang Branch. In other words, based on the results of data management with path analysis, it provides empirical evidence that there is a positive and significant influence between spiritual intelligence and the performance of tax consultants registered at IKPI Malang Branch.

The results of this study support the research of Rahmasari (2012) which proves that spiritual intelligence has a positive effect on performance. This research is also in line with research conducted by Dharmawan (2013) which proves that many factors can affect performance, some of which are intellectual intelligence, emotional intelligence and spiritual intelligence that are owned by oneself. by Baheshtifar & Zare (2013) which proves that the encouragement of spirituality in the workplace can bring benefits in the areas of creativity, process improvement, customer service, honesty and trustworthiness, personal fulfillment, and commitment, which will ultimately lead to improved organizational performance. Thus, it can be concluded that the better the spiritual intelligence possessed by the tax consultant, the higher the performance in question.

### **Intelligence Emotional Influential \_ to Ego Depletion**

Based on the results of hypothesis testing, the effect of emotional intelligence on ego depletion shows a sig value of 0.000. This means that the sig value of 0.000 obtained is smaller than the probability value of 0.05. That is, this study meets the assumptions to state H3 is accepted. In addition, the standardized path coefficient of the effect of emotional intelligence on ego depletion is negative. That is, emotional intelligence is negatively related to the performance of tax consultants registered at IKPI Malang Branch. In other words, based on the results of data management with path analysis, it provides empirical evidence that there is a negative and significant influence between emotional intelligence and ego depletion of tax consultants registered at IKPI Malang Branch.

The results of this study support the research of Hurley (2015) which proves that emotional control and audit settings affect the rise or fall of ego depletion. In addition, there is research from Nugroho (2019) which proves that self-regulation has a negative effect on ego depletion in students. Thus, it can be concluded that the better the emotional intelligence possessed by the tax consultant, the lower the ego depletion for the person concerned.

### **Intelligence Spiritual Influential \_ to Ego Depletion**

Based on the results of hypothesis testing, the influence of spiritual intelligence on ego depletion shows a sig value of 0.000. This means that the sig value of 0.000 obtained is smaller than the probability value of 0.05. That is, this study meets the assumptions to state H4 is accepted. In addition, the standardized path coefficient of the influence of spiritual intelligence on ego depletion is negative. This means that spiritual intelligence is negatively related to the performance of tax consultants registered at IKPI Malang Branch. In other words, based on the results of data management with path analysis, it provides empirical evidence that there is a negative and significant influence between spiritual intelligence and ego depletion of tax consultants registered at IKPI Malang Branch. The results of this study support Hodge's (2020) research which proves that religion, spiritual intelligence, freedom of thought, effective self-regulation function as buffers for ego depletion.

Thus, it can be concluded that the better the spiritual intelligence possessed by the tax consultant, the lower the ego depletion for the person concerned.

### **Effect of Ego Depletion on Performance**

Based on the results of hypothesis testing, the effect of ego depletion on performance shows a sig value of 0.000. This means that the sig value of 0.000 obtained is smaller than the probability value of 0.05. That is, this study meets the assumptions to state H5 is accepted. In addition, the standardized path coefficient of the influence of spiritual intelligence on ego depletion is

## **Ego Depletion as Mediation Emotional Intelligence and Spiritual Intelligence to the Performance of Malang Tax Consultants**

negative. That is, ego depletion is negatively related to the performance of tax consultants registered at IKPI Malang Branch. In other words, based on the results of data management with path analysis, it provides empirical evidence that there is a negative and significant influence between ego depletion and the performance of tax consultants registered at IKPI Malang Branch. The results of this study support the research of Wang and Wei (2015) which found that participants with high levels of chronic ego depletion showed a stronger negative result of the relationship between mental effort and performance and Muraven and Slessareva (2013) who proved that depletion would affect performance decline in tasks that require self-control. Thus, it can be concluded that the higher the ego depletion level owned by the tax consultant, the higher the performance of the tax consultant.

### **Ego Depletion as Mediator of Emotional Intelligence on Performance**

Based on results testing hypothesis, influence ego depletion on the performance shows a sig value of 0.000. This means the value of sig of 0.000 obtained is smaller than the probability value of 0.05. Besides that, influence Y1 to Z1 as big as  $0.000 < 0.05$  (5%). It means, study This satisfies the assumption that H6 is accepted. In addition, based on analysis track which standardized influence no live from intelligence emotional toward performance mediated by ego depletion shows Mark more big than influence directly. So that, from resultsmanagement data with analysis track give proof empirical that there is a positive and significant influence between emotional intelligence and performance of tax consultants registered with IKPI Malang Branch with ego depletion as a mediating variable.

Empirical data shows that the average emotional intelligence score is 3.03 in the range of 2.61 – 3.40, so that emotional intelligence is stated quite agree. However, on the self-control indicator, there are 32 respondents who do not agree. This means that 45.1% of respondents are unable to control their actions in any situation. Therefore, the existence of the ability to control oneself must be increased. Efforts to improve self-control can be done by referring to Savitra (2017), including: 1) Holding emotions in silence, the first way to hold emotions is silence. Some people may disagree, because when anger has exploded, it can be very difficult to try to stay still. This opinion is also not wrong, because when you are in a state of anger and immediately speak, uncontrolled words will come out. Therefore, when emotions explode, it is advisable to be quiet for a moment, and give time for the brain to think. 2) Trying to calm down, when viewed from the point of view of emotional management, anger has a cycle of aggression consisting of escalation, exploration, and post-explosion. So, to make the cycle of aggression less messy, it can be addressed by trying to calm down. When we try to be calm, then we try to think logically. By thinking logically, then we will focus on finding solutions to overcome problems. Some examples that can be applied to try to calm down include taking a deep breath and trying to distract yourself. 3) Empathy, often emotions are caused by trivial things. To avoid it try to empathize. Empathy is a condition that allows us to feel the state or thoughts of others. For example, if we are in a hurry but someone overtakes carelessly, we might get angry. However, try to empathize by trying to think from the person's side. Maybe that person is in a hurry and has very urgent interests. By having an attitude of empathy, then our emotions will decrease. 4) Self-assessment or introspection, when doing introspection, try to review the existing problems with other people's perspectives. Dare to admit mistakes. Avoid overestimating self-esteem which will prevent yourself from doing introspection. 5) Remember the negative impacts caused, uncontrolled emotions can certainly cause new problems. Actions such as hitting, cursing or damaging may be unavoidable. Therefore, before emotions get out of control, remember the negative impact it has. 6) Exercise, emotions can be diverted by exercising. For example by walking, cycling, swimming or other sports. By exercising, the chemicals in the brain will be stimulated and ultimately make the mind more relaxed and calm. In addition, by exercising, it will make the nerves that were previously tense become flexible.

### **Ego Depletion As Mediator Intelligence Spiritual To Performance**

Based on results testing hypothesis, influence ego depletion on the performance shows a sig value of 0.000. This means the value of sig of 0.000 obtained is smaller than the probability value of 0.05. Besides that, influence Y1 to Z1 as big as  $0.000 < 0.05$  (5%). It means, study This fulfills the assumption to state H7 is accepted. In addition, based on analysis track which standardized influence no live from intelligence spiritual to performance which mediated by ego depletion show Mark more big than influence directly. So that, from resultsmanagement data with analysis track give proof empirical that there is a positive and significant influence between spiritual intelligence and the performance of tax consultants registered at IKPI Malang Branch with ego depletion as a mediating variable.

Empirical data shows that the average spiritual intelligence score is 3.17 in the range 2.61 – 3.40, so spiritual intelligence is stated to be quite agree. However, on the indicator of cooperation with colleagues, there are 31 respondents who answered they did not agree. This means that 43.7% of respondents do not agree to discuss any work difficulties with their co-workers. Discussing work difficulties with colleagues or working in a team has many advantages, so it is highly recommended that a tax consultant registered at IKPI Malang Branch can apply it. The benefits of teamwork according to Nugraha (2020) include: solving or solving a

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problem that is being faced; add insight, knowledge, and understanding of certain realities; train someone to speak in front of a group and learn to be a good listener; train individuals to respect each other's opinion; and efforts to enhance intellectual traditions.

### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusion

Based on the discussion, it can be concluded as follows:

1. Emotional intelligence has a positive effect on the performance of tax consultants , which means that the higher the level of emotional intelligence can improve the performance of tax consultants .
2. Spiritual intelligence has a positive effect on the performance of tax consultants , which means that the higher the level of spiritual intelligence can improve the performance of tax consultants .
3. Emotional intelligence has a negative effect on ego depletion, which means that the higher the level of emotional intelligence, the lower the ego depletion.
4. Spiritual intelligence has a negative effect on ego depletion, which means that the higher the level of spiritual intelligence, the lower the ego depletion.
5. Ego depletion has a negative effect on the performance of tax consultants, which means that the lower the level of ego depletion can improve the performance of tax consultants.
6. Ego depletion mediates the effect of emotional intelligence on the performance of tax consultants , which means that tax consultants who have a high level of emotional intelligence can reduce ego depletion, thereby increasing the performance of tax consultants.
7. Ego depletion mediates the influence of spiritual intelligence on the performance of tax consultants , which means that tax consultants who have a high level of spiritual intelligence can reduce ego depletion, thereby increasing the performance of tax consultants.

#### Suggestion

Based on on conclusion the, so put forward a number of suggestion among other:

1. Minimize e - go depletion so that the performance gets better by innovate for develop self ; have seriousness in complete job ; understand profession which done ; respect tall values honesty ; discuss with friends for complete job ; capable Act in accordance desire without must directed by people ; capable control action in situation whatever ; capable control thought in situation whatever ; attempted for understand what which currently occur, and J) capable recognize emotion on self alone.
2. Maintaining existing emotional intelligence, and intelligence emotional need upgraded with how to: think beforeAct, m listening person other, m controlling thought and take action , and motivate me self alone.
3. Maintaining intelligence existing spiritual and increased intelligence again spiritual upgraded again with method: i respect tall Mark honesty in life, I appreciate diversity, I understand profession carried out, as well as having a response and management stress which good .

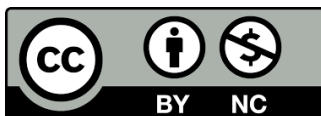
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## Perspective from E-Service Quality Barriers: Important Factors to Avoid to Increase Actual Usage of Transportation Apps in Indonesia



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**ABSTRACT:** In the midst of the Covid 19 pandemic in Indonesia, forcing everyone to do everything from home. This has become easier due to rapid advances in technology and information. Recently, developments in technology and information have encouraged the development of payment instruments into e-money. The development of e-money in Indonesia itself can be said to be growing rapidly. It has an impact on the competition in the e-money industry which is getting tougher every year. Therefore, it is important for the e-money industry to continue to increase actual usage, in order to remain competitive in the midst of fierce competition in the e-money industry. In this study, respondents collected were 150 users of Go-Pay in Surabaya according to the characteristics of respondents using snowball technique. Based on data analysis is that from six proposed hypotheses, all hypotheses are supported

**KEYWORDS:** Usage Barrier, Value Barrier, Risk Barrier, Traditional Barrier, Image Barrier, Actual Usage, and Innovation Resistance.

### I. INTRODUCTION

In the midst of the Covid 19 pandemic in Indonesia, forcing everyone to do everything from home. This has become easier due to rapid advances in technology and information. Recently, developments in technology and information have encouraged the development of payment instruments into e-money. The development of e-money in Indonesia itself can be said to be growing rapidly. It has an impact on the competition in the e-money industry which is getting tougher every year. Therefore, it is important for the e-money industry to continue to increase actual usage, in order to remain competitive in the midst of fierce competition in the e-money industry.

Indonesian Fintech Association (AFTECH) in January 2020 shows that the use of e-money via digital wallet reached 300 million transactions. It doesn't stop there, the number of transactions continues to increase even up to 50% in April 2020, occurred 450 million transactions. The amount of money involved in the transaction can also be spelled out quite fantastic. In March 2020, e-money transactions reached 15.04 trillion and in the following month increased to 17.55 trillion. Otherwise, transactions at ATMs and debit cards decreased from January which was there were 600 million transactions to 500 million transactions in April 2020.

Based on the description above, this research will discuss factors that affect the actual usage of the Go-Pay application in Surabaya. To see any factors that affect the actual usage, will be used innovation resistance as variables intervention. In this study, it will be investigated whether usage barrier, value barrier, risk barrier, traditional barrier and image barrier has a positive effect on the actual usage of the Go-Pay application in Surabaya.

### II. LITERATURE REVIEW

#### 2.1. Usage Barrier

Usage barriers are mostly related to the usability of an innovation and changes required from consumers. Barriers come when a innovation is not compatible with existing workflows, practices and habits (Ram & Sheth in Laukkanen et al., 2007). According to Mani and Chouk's research (2018) usage barrier is defined as consumer's perception of change needed to adapt to new innovations. Similar thing expressed by Ram and Sheth (1989) where the usage barrier is a consumer resistance to innovation when there is a new innovation because it exists non-conformance of current systems, customs and practices. From



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these statements, we can make hypotheses that:

A. H<sub>1</sub>: Usage barriers has a positive significant effect on innovation resistance

## 2.2 Value Barriers

Value barrier is the monetary value of an innovation which at the time innovation does not offer a good comparison between performance and price substitute, then there is no benefit for the consumer to change the way of working them (Ram & Sheth in Laukkanen et al., 2007). Besides, Mani and Chouk (2018) revealed that the value barrier is the consumer's perception of innovation performance against the value paid in terms of price compared with the alternative. In addition, Morar (2013) revealed that the value Barriers are barriers that result from deviations from innovation from the existing value system. The same thing was expressed by Moorthy et al., (2017), where the value Barriers are barriers to the use of products or services if they are not meet the user's perception of the value of performance to price, different with other substitutions. From these statements, we can make hypotheses that:

H<sub>2</sub>: Value barriers has a positive significant effect on innovation resistance

## 2.3. Risk Barriers

The risk barrier is the level of risk of an innovation where the level of Perceived risk is the result of the uncertainty of an innovation (Ram & Sheth in Laukkanen et al., 2007). Besides, Mani and Chouk (2018) revealed that the risk barrier is the consumer's perception of the innovation that have risks compared to the alternatives. Not only that Antioco & Kleijnen (2009) revealed that the risk barrier is a risk that occurs in almost all innovations, which has the potential for serious side effects cannot be anticipated. (almost all innovations, to some extent, is a risk and has the potential for unanticipated side effects). From these statements, we can conclude hypotheses as follows:

H<sub>3</sub>: Risk barriers has a positive significant effect on innovation resistance

## 2.4. Traditional Barriers

Traditional barriers can be explained as behaviors that conflict with values and norms that can cause obstacles to a tradition (Ram & Sheth in Laukkanen et al., 2007). Besides the tradition barrier is the implication of an innovation that can cause changes in the daily routines of consumers (Ram & Sheth in Laukkanen et al., 2007). Tradition barrier can also be explained as an important routine for consumers where these consumers have value social, family and social norms. (Ram & Sheth in Laukkanen et al., 2007). Traditional barrier is consumer perception that adopting innovation will change their habits and lifestyle compared to use of existing alternative products (Mani and Chouk, 2018). Thus, the following hypothesis is proposed:

H<sub>4</sub>: Traditional barriers has a positive significant effect on innovation resistance

## 2.5. Image Barriers

Image barrier is an image of an innovation that is obtained through the origin of the innovation (Ram & Sheth in Laukkanen et al., 2007). According to Mani and Chouk (2018) the image barrier is defined as the perception of consumers to new innovations about how difficult or easy it is to adopt. In addition, according to (Moorthy et al., 2017) the definition of image barrier is an individual's negative thinking about technological tools and complications their perceived use. Parasuraman expressed the same thing in (Laukkanen, 2016) where the image barrier is the relationship between readiness technology with the individual's overall mental state regarding technology as a whole general (related to technological readiness which refers to the mental state individuals about technology in general). From these statements, we can conclude hypotheses as follows:

H<sub>5</sub>: Image barriers has a positive significant effect on innovation resistance

## 2.6. Innovation Resistance

According to Ram and Sheth (1989) Innovation resistance is defined as: rejection by consumers due to a change in the current satisfactory state or differences from their innovative ideas. Innovation resistance is resistance or resistance offered by consumers to changes that forced by innovation (Heider, 1958). In addition, according to Heider (1958), innovation resistance is a special version of resistance to change, to the extent that consumers can experience changes in the way they obtain information about buying, using or disposing of a new product. Hew et al. (2017) also explains that innovation resistance is the result of consumer behavior that results from rational thinking and judgment new innovations that can bring about a change to the status quo and exists, deviating from their current belief system. Thus, the following hypothesis is proposed:

H<sub>6</sub>: Innovation resistance has a positive significant effect on Actual Usage

## 2.7. Actual Usage

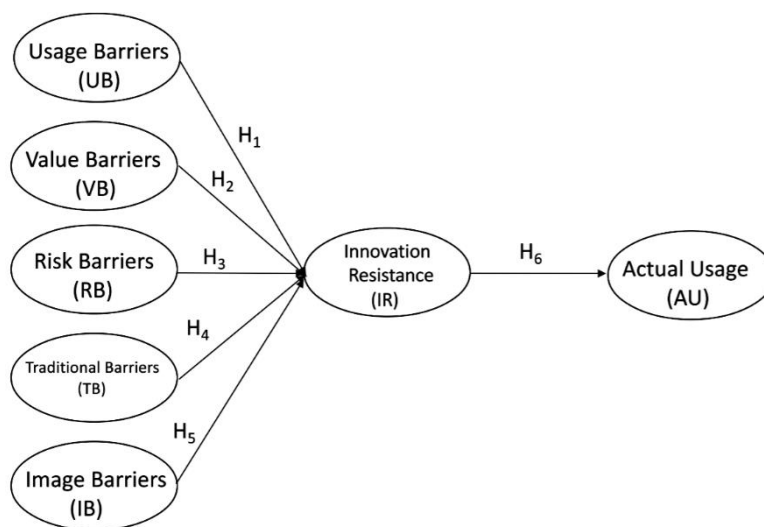
According to Wibowo (2006) actual usage is the real condition of use system which is conceptualized in the form of

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measurement of frequency and duration technology usage time. Fatmawati (2015) also revealed that actual usage can be defined as the use of the product by individuals who actually happened, where this usage must be proven over time usage and frequency of use. In addition, Sykes et al. (2009) revealing actual usage is the result of objective behavior that is measured as the amount of time an employee engages in direct interaction with a computer-based system. According to Igbaria et al., (1997), defining actual usage as the level of individual usage where the system is used not through coercion / voluntarily.

### III. RESEARCH ISSUE AND METHODOLOGY

The type of approach used in this study is a quantitative approach. The population used is users of Go-Pay in Surabaya. The sampling technique used is non-probability sampling using a questionnaire as a tool major in data collection. In this study, researchers will use snowball sampling techniques, where researchers choose respondents who will help researchers to distribute and fill out questionnaires. In this study respondents collected were 150 users of Go-Pay in Surabaya according to the characteristics of respondents. Research model can be seen below.



**Figure 1. Research Model**

Source: Analysis, 2021

### IV. FINDING AND DISCUSSION

#### 4.1. Findings

This study used Multiple Regression in testing between the variables. Statistical analysis tool used to answer the problem formulation of this research is SPSS 22.0. Once the questionnaires were returned, the next step that must be conducted is descriptive statistic-analysis.

In Table 1, it shows that respondents who fill out questionnaires are mostly done by women, this can be seen from 150 respondents (62%) of respondents who using Go-Pay while 90 respondents (38%) are men. This indicates that users of Go-Pay in Surabaya mostly is female.

**Table 1. Respondents Characteristic by Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	93	62.0	62.0	63.0
	Male	57	38.0	38.0	100.0
	Total	150	100.0	100.0	

Source: own calculation

From the results in Table 2, it can be seen that the characteristics of respondents based on age are dominated by age group 18-35 which is 144 respondents (96%), followed by 36-50 age group which is 6 respondents (4%). This shows that the majority of respondents are in the age subgroup of generation X and Y.

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**Table 2. Respondents Characteristic by Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 35	144	96.0	96.0	96.0
	35 - 50	6	4.0	4.0	100.0
	Total	150	100.0	100.0	

Source: own calculation

**Table 3. Descriptive Statistics**

	N	Mean	Std. Deviation
UB1	150	4.213	.7385
UB2	150	4.325	.7475
UB3	150	4.213	.8546
UB4	150	4.324	.7879
UB5	150	4.121	.7859
UB6	150	4.216	.8559
UB	150	4.23533	.64287
VB1	150	4.210	.5844
VB2	150	4.295	.5142
VB3	150	4.580	.6472
VB	150	4.36167	.40238
RB1	150	4.135	.6925
RB2	150	4.245	.7450
RB3	150	3.854	.6856
RB4	150	4.335	.6541
RB5	150	4.145	.7879
RB	150	4.1428	.55677
TB1	150	4.298	.7155
TB2	150	4.699	.7113
TB3	150	4.305	.7545
TB4	150	4.384	.8548
TB5	150	4.658	.8471
TB6	150	4.575	.8547
TB	150	4.48650	.64680
IB1	150	4.247	.7145
IB2	150	4.025	.7194
IB3	150	4.124	.6545
IB	150	4.13200	.65748
IR1	150	3.987	.8487
IR2	150	4.218	.8459
IR3	150	4.358	.8354
IR	150	4.18767	.73543
AU1	150	4.166	.7374
AU2	150	3.879	.8219
AU3	150	4.126	.7426
AU4	150	4.421	.7454
AU	150	4.14800	.74753
Valid N (listwise)	150		

Source: own calculation

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Based on the results from data processing in table 3, it shows that all average score of the mean for overall indicator is above 3.61 means that all indicators of variables can be perceived agree by all respondents. Also, the standard deviation is under 2.0 means that the answers given by respondents are homogeneous. The highest mean average is traditional barriers is 4.48650. This may indicate that respondents are agree with indicators of traditional barriers than other variables. Actual Usage has the highest score for standard deviation, that is 0.74753. This may indicate that the respondents give answers for Actual usage least homogeneous compared with other variables.

### 4.1.1 Validity Test

The criteria is if the value of the factor loading is higher than 0.160, then the statement is considered valid. Based on the test of the data validity, all indicators used to estimate each variable are valid, because the factor loading for every indicators are more than 0.160.

**Table 4. Validity Test**

Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL
Usage Barriers		Usage Barriers		Usage Barriers		Usage Barriers		Usage Barriers		Usage Barriers		Usage Barriers	
UB1	.502	VB1	.237	RS1	.681	TB1	.704	IB1	.748	IR1	.421	AU1	.651
UB2	.474	VB2	.365	RS2	.714	TB2	.593	IB2	.635	IR2	.629	AU2	.598
UE3	.523	VB3	.472	RS3	.715	TB3	.687	IB3	.778	IRL3	.757	AU3	.654
UE4	.451			RB4	.654	TB4	.421					AU4	.354
UE5	.395			RB5	.751	TB5	.235						
UE6	.541					TB6	.546						

Source: own calculation

### 4.1.2 Reliability Test

Reliability test is do by comparing cronbach's alpha value, if the value is higher than 0.6, then the statement is considered reliable.

**Table 5. Reliability Test**

Variable	Cronbach's Alpha Based on Standardized Items
Usage Barriers	.815
Value Barriers	.785
Risk Barriers	.828
Traditional Barriers	.757
Image Barriers	.826
Innovation Resistance	.847
Actual Usage	.789

Source: own calculation

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From the table 5, it is proven that the variable of Usage Barrier, Value Barrier, Risk Barrier, Traditional Barrier, Image Barrier, Actual Usage, and Innovation Resistance having the Cronbach alpha value higher than 0.60. So, it can be concluded that the statements develop the variables can be said to be consistent/reliable and can be used for further analysis.

### 4.1.3. Results of Multiple Regression

Result of multiple regression can be shown as follows:

#### 1. Usage Barrier, Value Barrier, Risk Barrier, Traditional Barrier, Image Barrier to innovation Resistance

The results of multiple regression are as follows:

**Table 6. Coefisien Regression Model 1**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.245	.127		.376	.708
	UB	.388	.063	.286	4.720	.000
	VB	.220	.072	.074	2.547	.000
	RB	.480	.068	.508	6.352	.000
	TB	.542	.054	.546	4.354	.000
	IB	.356	.645	.324	5.231	.000
a. Dependent Variable: IR						

Source: own calculation

From table 6, the regression equation can be written as follows:

$$IR = b_1UB + b_2VB + b_3RB + b_4TB + b_5IB$$

$$IR = 0.388UB + 0.220VB + 0.480RB + .0542TB + 0.356IB$$

Based on table 6, all the independent variables have positively influence towards innovation resistance. Traditional barriers have the greatest regression coefficient compare to other variables, that is 0.542. Therefore, traditional barriers is the most influence to innovation resistance. In the other side, value barriers have the smallest effect on innovation resistance that is 0.220.

#### 2. Innovation Resistance to Actual Usage

The results of multiple regression are as follows:

**Table 7. Coefisien Regression Model 3**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.120	.312		-1.047	.272
	IR	.636	.072	.485	5.158	.000
a. Dependent Variable: AU						

Source: own calculation

Based on table 7, independent variables have positively influence towards Actual Usage. Innovation Resistance has regression coefficient is 0.636.

From table 8, the regression equation can be written as follows:

$$AU = b_8 IR$$

$$AU = 0.636 IR$$

### 4.1.4 F-test

Based on the calculation of SPSS, the significance of F test value in the model 1 and model 2 are 0.000, so it can be concluded two model's independent variables together influencing dependent variable significantly.

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**Table 8. Result of F-test 1**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.082	5	17.027	79.150	.000 <sup>b</sup>
	Residual	48.172	196	.195		
	Total	88.253	199			
a. Dependent Variable: IR						
b. Predictors: (Constant), UB,VB,RB,TB,IB						
<b>Source:</b> own calculation						

**Table 9. Result of F-test 2**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.664	1	39.332	229.172	.000 <sup>b</sup>
	Residual	43.554	197	.170		
	Total	118.217	199			
a. Dependent Variable: AU						
b. Predictors: (Constant), IR						
<b>Source:</b> own calculation						

### 4.1.5. t-test

Below is the result of t-test:

#### 1. Usage Barrier, Value Barrier, Risk Barrier, Traditional Barrier, and Image Barrier to Innovation Resistance

The t test used to determine whether the independent variables of usage barrier, value barrier, risk barrier, traditional barrier, and image barrier (independently) have significant influence on innovation resistance. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced by partially. From table 6, it can be seen that in all independent variables have significant influence on innovation resistance.

#### 2. Innovation Resistance to Actual Usage

The t test used to determine whether the independent variables innovation resistance partially (independently) have significant influence on actual usage. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 7, it can be seen that innovation resistance has significant influence on actual usage.

## V. DISCUSSION

The results of this study shows that the variables which usage barrier, value barrier, risk barrier, traditional barrier, and image barrier have positive and significant effects on innovation resistance. Also, innovation resistance have positive and significant effect on actual usage. So, the conclusion is that from six proposed hypotheses, all of hypotheses are supported.

The first hypothesis indicate that usage barriers has a positive significant effect on innovation resistance is supported. The first hypothesis stating that usage barriers has a positive effect on innovation resistance is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Ram and Shethe (1989) that states that usage barrier have a significant positive effect on innovation resistance.

The second hypothesis stating that value barriers has a positive significant effect on innovation resistance is supported. The second hypothesis indicate that value barriers has a positive effect on innovation resistance is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Davis et al (1989) that states that value barriers have a significant positive effect on innovation resistance.

The third hypothesis stating that risk barriers has a positive significant effect on innovation resistance is supported. The third hypothesis indicate that risk barriers has a positive effect on innovation resistance is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Forsythe and Shi (2003) that states that risk barrier have a significant positive effect on innovation resistance.

The fourth hypothesis indicate that traditional barriers has a positive significant effect on innovation resistance is supported. The fourth hypothesis stating that traditional barriers has a positive effect on innovation resistance is supported because the t

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test value is 0.000, below 0.05. This shows the consistency results of this study with Herbig and Day (1992) that states that traditional barriers have a significant positive effect on innovation resistance.

The fifth hypothesis indicate that image barriers has a positive significant effect on innovation resistance is supported. The fifth hypothesis stating that image barriers has a positive effect on innovation resistance is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Fortin and Renton (2003) that states that image barrier have a significant positive effect on innovation resistance.

The sixth hypothesis indicate that innovation resistance has a positive significant effect on actual usage is supported. The sixth hypothesis stating that usage innovation resistance has a positive effect on actual usage is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Rogers (2003) that states that innovation resistance have a significant positive effect on actual usage.

### **VI. CONCLUSION**

This model was developed in order to research Actual Usage for Go-Pay users in Surabaya. This research model formed an influence relationship between usage barrier, value barrier, risk barrier, traditional barrier, and image barrier have positive and significant effects on innovation resistance. Also, innovation resistance has positive and significant effect on actual usage. So, the conclusion is that from six proposed hypotheses, all hypotheses are supported.

As derived from the research outcomes, variables such as usage barrier, value barrier, risk barrier, traditional barrier, and image barrier have been the factors that are important to note as those variables have critical influence toward actual usage on users of Go-Pay in Surabaya. Therefore, the managerial implication must be concentrated upon those variables.

The managerial implications of these findings can be based on the theories that have been developed as follows. First, innovation resistance is one of the important variables that affects the level of actual usage. Go-Pay is a breakthrough innovation in payments, where not all Indonesians, especially Surabaya, are familiar with this breakthrough. Therefore, in order for Go-Pay to be well received for use, Go-Pay users need to adjust and adapt Go-Pay application. When users Go-Pay can use the application well and feel the efficiency that Go-Pay offer, they will feel Go-Pay is new lifestyle. With the easiness that Go-Pay has, can make users happy and will use it to help their life.

Second, usage barriers is the second influential variable to increase actual usage and the first variable that is most influential to increase innovation resistance Go-Pay users. Usage barrier can be used to overcome obstacles caused by the possible changes presented by innovation and measure the resistance that comes from the effort from users to learn and use that innovation. From the research results that has been carried out, the results obtained those difficulties in using the Go-Pay include payment, use of features, top-ups, upgrades Go-Pay Premium, bank transfers and changing the PIN, it will increase Innovation Resistance. Because of that, Go-Pay can make users have barriers to use their payment in daily transactions.

Third, value barrier is the variable that influence innovation resistance variables. Users feel by using the Go-Pay can increasingly wasteful, users feel that using digital payment applications is not suitable for their financial transactions compared to other methods. Users feel that digital payment applications cannot improve its ability to manage users' own financial transactions. Also, users feel with the hassle of top-up from digital payment applications in the Go-Pay. Users find it difficult to accept the new technology the app uses digital payments, users are afraid to use payment applications digital data with a PIN code. Users feel that PIN Code have possibility to be access by third parties.

Fourth, risk barriers also influence innovation resistance variable. From the results of research, the results showed that the worry about the accuracy of the information that might lead to errors. Users have fear of losing the internet connection and cause transaction errors, also fear of misinformation bills, insecurity regarding the loss of a PIN code that may be in in the wrong hands. In the other hand, users have fear of a possible third party being access the user account, when using the Go-Pay application. This cause will increase innovation resistance. This causes obstacles innovation due to the obstacles caused by the possible risks involved happened to users of the Go-Pay application.

Fifth, traditional barriers are the third variable that influences the innovation resistance variable. In addition, Go-Pay tends to be the same as competitors of e-money where users tend to be unfamiliar using e-money. All this time, people usually use real money not e-money, This habit make users not that trust to use e-money because they afraid their money will lost and e-money can't show the form of money that can be seen by eyes like real money. This reason causes the traditional barrier have effect to innovation resistance

Sixth, image barriers are the fourth variable that influences the innovation resistance variable. the image of the Go-Pay application have good image because of Go-Jek. But, top-up often have many obstacles (balance does not come in, balance

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comes in long), and technology which are often too complex to use, will improve Innovation Resistance, namely the emergence of obstacles to using the application Go-Pay is due to the obstacles caused by the negative image emerge.

### VII. RESEARCH LIMITATION

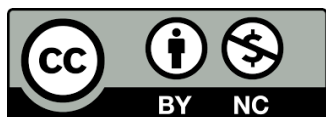
This study has limitation which is only examining in Indonesia. Future study can conduct on other countries where there are geographical differences that can be additional research attractiveness. Specifically, we take respondents residing in Surabaya only. Future research can develop for other areas. Also, this research only uses Go-Pay as research object, using other object can produce different results.

### ACKNOWLEDGMENT

The research for this study was supported by Pelita Harapan University, Surabaya Campus.

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## Improving Start Up Performance Using Store Environment Variables to Increase Customer Satisfaction, Brand Trust and Brand Preference of Cafe in Indonesia



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**ABSTRACT:** The culinary industry in Indonesia is experiencing very rapid growth due to the influence of globalization. ZYBRICK Coffee & Cantina Surabaya, is one of the cafes following the globalization era, offering customers a unique charm with up-to-date atmosphere, service, and product variations. This study aims to analyze the effect of atmosphere, food quality, service quality, brand image, customer satisfaction and brand trust on ZYBRICK Coffee & Cantina store brand preferences. The data processing method used is SPSS version 22.0. The sample used is ZYBRICK Coffee & Cantina customers in Surabaya, men and women aged 18-60 years, who have eaten at ZYBRICK Coffee & Cantina Surabaya at least 2 times in the last 6 months, as many as 150 respondents. Based on data analysis is that from ten proposed hypotheses, all hypotheses are supported.

**KEYWORDS:** Atmospherics, Food Quality, Service Quality, Brand Image, Customer Satisfaction, Brand Trust, Brand Preference.

### I. INTRODUCTION

Developments that occur in the culinary industry are increasing at this time, this can happen because food is a daily necessity of the community. But along with the progress of the times, culinary is not only a product that can only be consumed, but now culinary has become part of people's lifestyles. This can be seen from the number of culinary businesses currently developing by utilizing technology, presenting unique, creative and highly innovative products in order to gain customers. The conditions of increasingly fierce competition are not only from the increasing number of competitors but also from the side of customers who are easily bored with a particular culinary. More and more new cafes are opening by providing a variety of uniqueness, so marketers have to think about solutions in order to increase sales and make customers have the desire to come back to the cafe. Based on data from the Central Statistics Agency (BPS) and Bekraf released in 2018 revealed that the creative economy sub-sector with the largest income in 2016 in the culinary sub-sector contributed Rp. 382 Trillion or 41.40% in the Gross Domestic Product (GDP) of the creative economy. Throughout 2018, the culinary industry was able to grow by 7.91%, which even surpassed the national economic growth of 5.17%. The culinary industry is one of the sectors that supports the increase in the value of national investment, which in 2018 contributed up to IDR 56.60 trillion. The Minister of Industry is optimistic that the culinary industry is able to make product innovation breakthroughs to meet the tastes of customers both from within and outside the country. Especially with the implementation of industry 4.0, by utilizing the latest technology which is considered to be able to produce quality and competitive products.

The culinary industry that is quite widely established in Surabaya is a cafe where it is a form of the culinary industry which is quite occupied by several entrepreneurs in Surabaya. The cafes that are present in Surabaya have different concepts, such as vintage, outdoor, old times, colonial, thematic, industrial and many other concepts. While the cafe also has a variety of different and interesting concepts with interiors that will spoil the eyes of customers. By seeing the increasing variety and type of culinary that is developing in the city of Surabaya, it becomes the author's attraction to research the culinary business which is focused on one type of culinary business, namely a cafe and eatery called ZYBRICK Coffee & Cantina Surabaya. In the midst of increasingly business competition in Indonesia it is important for ZYBRICK Coffee & Cantina Surabaya to always increase brand preference from ZYBRICK Coffee & Cantina Surabaya customer, so this research will focus on examining the effect of atmospherics, food quality, service quality, brand image, customer satisfaction, brand trust to brand preference ZYBRICK Coffee & Cantina customer in Surabaya.

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## II. LITERATURE REVIEW

### 2.1 Atmospheric

Atmosphere according to Levy and Weits (2007) refers to the design of the environment through visual communication, lighting, colors, music, and smells to stimulate perceptual and emotional responses of customers and ultimately influence buying behavior. The use of the right atmosphere will create an attractive impression and help improve the image of a cafe in customer perception. According to Kotler (2005) atmosphere is a planned atmosphere in accordance with the target market and which can attract consumers to buy. According to Christina Widhya Utami (2010) atmosphere is a combination of physical characteristics of the store such as architecture, layout, lighting, display, color, temperature, music, aroma as a whole will create an image in the form of consumers. From these statements, we can make hypotheses that:

*H1: Atmospheric has a positive significant effect on Brand Image*

*H2: Atmospheric has a positive significant effect on Customer Satisfaction*

### 2.2 Food Quality

According to Potter and Hotchkiss (2012) food quality is a quality characteristic of food that is acceptable to consumers such as size, shape, color, consistency, texture, and taste. Delicious and fresh food plays an important role in the effort to surpass the competitors. Thus, food quality is one of the best ways to maximize success in the cafe business. Quality is not only found in goods or services, but also includes food products. Customers who come to look for food certainly want to buy quality food. From these statements, we can make hypotheses that:

*H3: Food Quality has a positive significant effect on Brand Image*

*H4: Food Quality has a positive significant effect on Customer Satisfaction*

### 2.3 Service Quality

Service quality can be manifested in meeting the needs and expectations of consumers and the accuracy of delivery to balance consumer expectations. Lovelock and Wirtz (2007) describe service quality as a long-term cognitive evaluation of consumers towards service delivery by the company. Zeithaml, Bitner, and Gramler (2009) state that service quality is the consumer's perception of a set of services for a product. Service quality is the quality of services provided to customers based on standard service procedures (Suwithi, 2002). Service quality can also be interpreted as an effort to meet the needs and desires of consumers and the provision of delivery to consumers (Tjiptono, 2007). From these statements, we can make hypotheses that:

*H5: Service Quality has a positive significant effect on Brand Image*

*H6: Service Quality has a positive significant effect on Customer Satisfaction*

### 2.4 Brand Image

Brand image is the consumer's perception of the brand of a product that is formed from the information obtained by consumers through the experience of using the product. According to Keller (2013), brand image is a consumer's response to a brand that is based on the good and bad of the brand that consumers remember. Brand image is a belief in the minds of consumers about the object of the product that has been felt. According to Kotler and Keller (2012) brand image is the perception and belief made by consumers as reflected in associations that occur in consumer memory. A strong brand image can provide a major advantage for the company where one of them can create a competitive advantage. From these statements, we can make hypotheses that:

*H7: Brand Image has a positive significant effect on Customer Satisfaction*

*H8: Brand Image has a positive significant effect on Brand Trust*

### 2.5 Customer Satisfaction

According to Santourdis and Trivelas (2010) customer satisfaction is the degree to which the company's performance meets or meets customer expectations. According to Kotler (2014) customer satisfaction is a feeling of pleasure or disappointment that arises after comparing the performance (outcome) of the product thought to the expected performance (result). From this definition it can be said that if the product's performance is not in accordance with consumer expectations and if the expectations are set too low, then consumers will feel dissatisfied and end up disappointed. Meanwhile, if the performance is in line with expectations, the consumer will feel satisfied, but if the product performance exceeds expectations, the consumer will feel happy and very satisfied. From these statements, we can make hypotheses that:

*H9: Customer Satisfaction has a positive significant effect on Brand Trust*

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## 2.6 Brand Trust

Brand trust according to Tjiptono (2014) is the willingness of consumers to trust or rely on a brand in a risk situation due to the expectation that the brand in question will give positive results. Meanwhile, according to Delgado (2005) brand trust is a high expectation or possibility that the brand will lead to positive results for consumers. Therefore, companies need to build and maintain consumer trust in order to create consumer commitment from now on to the future. Experience with the brand will be a source for consumers to create trust in the brand. From this experience, it will affect consumers' evaluations of consumption, use, or satisfaction directly and indirectly with the brand. From these statements, we can make hypotheses that:

H10: Brand Trust has a positive significant effect on Brand Preference

## 2.7 Brand Preference

Brand preference is a relative preference for choosing and using a particular brand compared to other brands. Chomvilailuk et al., (2010) define brand preference as everything where consumers prefer the brand of a product based on their first experience in using other similar brands. The opinion of Ardhanari (2008) which states that brand preference is a strong degree of consumer preference for a brand that can provide quality assurance for consumers. Companies that are able to develop brand preferences will be able to defend against attacks from competitors. A good brand preference can provide quality assurance for consumers.

### III. RESEARCH ISSUE AND METHODOLOGY

The type of approach used in this study is a quantitative approach. The population used is customer of ZYBRICK Coffee & Cantina Surabaya. The sampling technique used is non-probability sampling using a questionnaire as a tool major in data collection. In this study, researchers will use snowball sampling techniques, where researchers choose respondents who will help researchers to distribute and fill out questionnaires. In this study respondents collected were 150 customer of ZYBRICK Coffee & Cantina Surabaya according to the characteristics of respondents. Research model can be seen below.

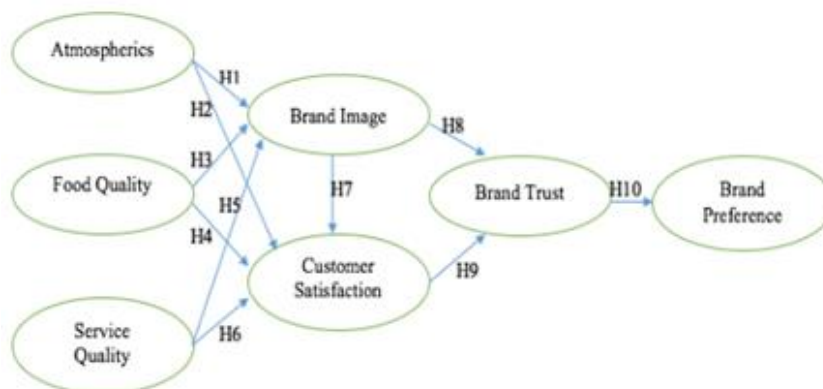


Figure 1. Research Model  
Source: Hancer (2019)

### IV. FINDING AND DISCUSSION

#### 4.1 Findings

This study used Multiple Regression in testing between the variables. Statistical analysis tool used to answer the problem formulation of this research is SPSS 22.0. Once the questionnaires were returned, the next step that must be conducted is descriptive statistic-analysis. In Table 1, it shows that respondents who fill out questionnaires are mostly done by women, this can be seen from 84 respondents (56%) of respondents are the customer of ZYBRICK Coffee & Cantina Surabaya while 66 respondents (44%) are men. This indicates that customer of ZYBRICK Coffee & Cantina Surabaya mostly is female.

Table 1. Respondents Characteristic by Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	84	56.0	56.0	56.0
	Male	66	44.0	44.0	100.0
	Total	150	100.0	100.0	

Source: own calculation

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From the results in Table 2, it can be seen that the characteristics of respondents based on age are dominated by age group 18-35 which is 126 respondents (84%), followed by 36-50 age group which is 24 respondents (16%). This shows that the majority of respondents are in the age subgroup of generation X and Y.

**Table 2. Respondents Characteristic by Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 35	126	84.0	84.0	84.0
	35 - 50	24	16.0	16.0	100.0
	Total	150	100.0	100.0	

**Source:** own calculation

**Table 3. Descriptive Statistics**

	N	Mean	Std. Deviation
A1	150	3,25	1,099
A2	150	3,67	1,223
A3	150	3,01	1,007
A4	150	3,07	0,974
A	150	3,2533	0,84988
FQ1	150	4,02	0,979
FQ2	150	3,23	1,12
FQ3	150	3,26	1,089
FQ4	150	3,13	1,072
FQ5	150	3,25	1,063
FQ6	150	4,14	1,056
FQ	150	3,5067	0,92688
SQ1	150	3,86	1,193
SQ2	150	3,43	1,161
SQ3	150	3,85	1,195
SQ4	150	3,85	0,908
SQ	150	3,75	0,88897
BI1	150	3,53	1,208
BI2	150	4,12	1,146
BI3	150	4,1	1,06
BI	150	3,9157	1,01868
CS1	150	4,13	1,107
CS2	150	4,19	1,013
CS3	150	3,73	1,174
CS	150	4,0157	0,99566
BT1	150	3,98	1,178
BT2	150	4,07	1,182
BT3	150	3,82	1,21
BT	150	3,962	1,07961
BP1	150	3,91	1,178
BP2	150	4,11	1,106
BP3	150	3,85	1,197
BP	150	3,9551	1,0223
Valid N (listwise)	150		

**Source:** own calculation

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Based on the results from data processing in table 3, it shows that all average score of the mean for overall indicator is above 3.61 means that all indicators of variables can be perceived agree by all respondents. Also, the standard deviation is under 2.0 means that the answers given by respondents are homogeneous. The highest mean average is Customer Satisfaction is 4,0157. This may indicate that respondents are agree with indicators of Customer Satisfaction than other variables. Brand Trust has the highest score for standard deviation, that is 1,07961 this may indicate that the respondents give answers for merchandise value least homogeneous compared with other variables.

### 4.1.1 Validity Test

The criteria is if the value of the factor loading is higher than 0.159, then the statement is considered valid. Based on the test of the data validity, all indicators used to estimate each variable are valid, because the factor loading for every indicators are more than 0.159.

**Table 4. Validity Test**

Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	
<i>Brand Preference</i>		<i>Brand Trust</i>		<i>Customer Satisfaction</i>		<i>Brand Image</i>		<i>Service Quality</i>		<i>Food Quality</i>		<i>Atmospherics</i>		
BP1	0.672	BT1	0.781	CS1	0.814	BI1	0.659	SQ1	0.741	FQ1	0.673	A1	0.598	
BP2	0.837	BT2	0.867	CS2	0.803	BI2	0.839	SQ2	0.691	FQ2	0.803	A2	0.594	
BP3	0.668	BT3	0.703	CS3	0.721	BI3	0.787	SQ3	0.704	FQ3	0.855	A3	0.594	
								SQ4	0.357	FQ4	0.858	A4	0.619	
										FQ5	0.869			
										FQ6	0.781			
<b>Source:</b> own calculation														

### 4.1.2 Reliability Test

Reliability test is do by comparing cronbach's alpha value, if the value is higher than 0.6, then the statement is considered reliable.

**Table 5. Reliability Test**

Variable	Cronbach's Alpha Based on Standardized Items
<i>Atmospherics</i>	0,793
<i>Food Quality</i>	0,936
<i>Service Quality</i>	0,794
<i>Brand Image</i>	0,877
<i>Customer Satisfaction</i>	0,893
<i>Brand Trust</i>	0,889
<i>Brand Preference</i>	0,854
Source: own calculation	

From the table 5, it is proven that the variable of atmospherics, food quality, service quality, brand image, customer satisfaction, brand trust, brand preference having the Cronbach alpha value higher than 0.60. So, it can be concluded that the statements develop the variables can be said to be consistent/reliable and can be used for further analysis.

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## 4.1.3 Results of Multiple Regression

Atmospherics, Food Quality, Service Quality to Brand Image

The results of multiple regression are as follows:

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
		B		Beta		
1	(Constant)	0,119	0,168		0,708	0,48
	A	0,528	0,083	0,44	6,356	0
	FQ	0,301	0,086	0,274	3,509	0,001
	SQ	0,273	0,08	0,239	3,406	0,001

From table 6, the regression equation can be written as follows:

$$BI = b1.A + b3.FQ + b5.SQ$$

$$BI = 0.44.A + 0.274.FQ + 0.239.SQ$$

Based on table 6, all the independent variables have positively influence towards brand image. Food quality has the greatest regression coefficient compare to other variables, that is 0.274. Therefore, food quality is the most influence to customer satisfaction. In the other side, atmospherics has the smallest effect on customer satisfaction, that is 0.44.

Atmospherics, Food Quality, Service Quality, Brand Image, to Customer Satisfaction

The results of multiple regression are as follows:

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
		B		Beta		
1	(Constant)	0,122	0,138		0,882	0,379
	A	0,231	0,077	0,197	3,007	0,003
	FQ	0,215	0,073	0,2	2,932	0,004
	SQ	0,312	0,068	0,278	4,561	0
	BI	0,311	0,068	0,319	4,589	0

From table 7, the regression equation can be written as follows:

$$CS = b2.A + b4.FQ + b6.SQ + b7.BI$$

$$CS = 0.197.A + 0.2.FQ + 0.278.SQ + 0.319.BI$$

Based on table 7, all the independent variables have positively influence towards customer satisfaction. Service quality has the greatest regression coefficient compare to other variables, that is 0.278. Therefore service quality is the most influence to customer satisfaction. In the other side food quality has the smallest effect on customer satisfaction, that is 0.2.

Brand Image, Customer Satisfaction to Brand Trust

The results of multiple regression are as follows:

Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
		B		Beta		
1	(Constant)	-0,132	0,133		-0,994	0,322
	BI	0,547	0,065	0,516	8,423	0
	CS	0,486	0,066	0,448	7,319	0

From table 8, the regression equation can be written as follows:

$$BT = b8.BI + b9.CS$$

$$BT = 0.516 + 0.448.CS$$

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Based on table 8, all the independent variables have positively influence towards Brand Trust. Brand image has the greatest regression coefficient compare to other variables, that is 0.516. Therefore brand image is the most influence to Brand Trust. In the other side customer satisfaction has the smallest effect on Brand Trust, that is 0.448.

### 4.1.4 Results of Simple Regression

#### Brand Trust to Brand Preference

The results of simple regression are as follows:

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	0,593	0,142		4,182	0
	BT	0,849	0,035	0,896	24,568	0

From table 9, the regression equation can be written as follows:

$$BP = b_{10}.BT$$

$$BP = 0.896.BT$$

Based on table 9, the independent variable have positively influence towards Brand Preference. Brand Trust has the greatest regression coefficient that is 0.896. Therefore, Brand Trust is the most influence to Brand Preference.

### 4.1.5 F-test

Based on the calculation of SPSS, the significance of F test value in the model 1, model 2, model 3, and model 4 are 0.000, so it can be concluded four model's independent variables together influencing dependent variable significantly.

**Table 10. Result of F-test 1**

Model		Sum of Squares	Mean Square	F	Sig.
1	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: BI					
b. Predictors: (Constant), A, FQ, SQ					
Source: own calculation					

**Table 11. Result of F-test 2**

Model		Sum of Squares	Mean Square	F	Sig.
2	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: CS					
b. Predictors: (Constant), A, FQ, SQ, BI					
Source: own calculation					

**Table 12. Result of F-test 2**

Model		Sum of Squares	Mean Square	F	Sig.
3	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: BT					
b. Predictors: (Constant), BI, CS					
Source: own calculation					

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**Table 13. Result of F-test 2**

Model		Sum of Squares	Mean Square	F	Sig.
4	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: BP					
b. Predictors: (Constant), BT					
Source: own calculation					

## 4.1.6 t-test

### 1. Atmospherics, Food Quality, Service Quality to Brand Image

The F test used to determine whether the independent variables Atmospherics, Food Quality, Service Quality to Brand Image partially (independently) have significant influence on Brand Image. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 6, it can be seen that Atmospherics, Food Quality, Service Quality have significant influence on Brand Image.

### 2. Atmospherics, Food Quality, Service Quality, Brand Image, to Customer Satisfaction

The F test used to determine whether the independent variables Atmospherics, Food Quality, Service Quality, Brand Image partially (independently) have significant influence on Customer Satisfaction. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 7, it can be seen that Atmospherics, Food Quality, Service Quality, Brand Image have significant influence on Customer Satisfaction.

### 3. Brand Image, Customer Satisfaction to Brand Trust

The F test used to determine whether the independent variables Brand Image, Customer Satisfaction partially (independently) have significant influence on Brand Trust. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 8, it can be seen that Brand Image, Customer Satisfaction have significant influence on Brand Trust.

### 4. Brand Trust to Brand Preference

The F test used to determine whether the independent variables Brand Preference partially (independently) have significant influence on repurchase intention. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 9, it can be seen that Brand Trust have significant influence on Brand Preference.

## V. DISCUSSION

The results of this study shows that the variables which Atmospherics, Food Quality, Service Quality, Brand Image, Customer Satisfaction, Brand Trust have positive and significant effects on Brand Preference. Also, Customer Satisfaction have positive and significant effect on Repurchase Intention. So, the conclusion is that from six proposed hypotheses, all hypotheses are supported.

The first hypothesis stating that Atmospherics has a positive significant effect on Brand Image is supported. The first hypothesis stating that Atmospherics has a positive effect on Brand Image is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Levy and Weits (2007) that states that Atmospherics have a significant positive effect on Brand Image.

The second hypothesis stating that Atmospherics has a positive significant effect on Customer Satisfaction is supported. The second hypothesis stating that Atmospherics has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Christina Widhya Utami (2010) that states that Atmospherics have a significant positive effect on Customer Satisfaction.

The third hypothesis stating that Food Quality has a positive significant effect on Brand Image is supported. The third hypothesis stating that Food Quality has a positive effect on Brand Image is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Potter and Hotchkiss (2012) that states that Food Quality have a significant positive effect on Brand Image.

The fourth hypothesis stating that Food Quality has a positive significant effect on Customer Satisfaction is supported. The fourth hypothesis stating that Food Quality has a positive effect on Customer Satisfaction is supported because the t test value is



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0.004, below 0.05. This shows the consistency results of this study with Potter and Hotchkiss (2012) that states that Food Quality have a significant positive effect on Customer Satisfaction.

The fifth hypothesis stating that Service Quality has a positive significant effect on Brand Image is supported. The fifth hypothesis stating that Service Quality has a positive effect on Brand Image is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Lovelock and Wirtz (2007) that states that Service Quality have a significant positive effect on Brand Image.

The sixth hypothesis stating that Service Quality has a positive significant effect on Customer Satisfaction is supported. The fifth hypothesis stating that Service Quality has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Gramler (2009) that states that Service Quality have a significant positive effect on Customer Satisfaction.

The seventh hypothesis stating that Brand Image has a positive significant effect on Customer Satisfaction is supported. The fifth hypothesis stating that Brand Image has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Keller (2013) that states that Brand Image have a significant positive effect on Customer Satisfaction.

The eighth hypothesis stating that Brand Image has a positive significant effect on Brand Trust is supported. The fifth hypothesis stating that Brand Image has a positive effect on Brand Trust is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Kotler and Keller (2012) that states that Brand Image have a significant positive effect on Brand Trust.

The ninth hypothesis stating that Customer Satisfaction has a positive significant effect on Brand Trust is supported. The fifth hypothesis stating that Customer Satisfaction has a positive effect on Brand Trust is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Tjiptono (2014) that states that Customer Satisfaction have a significant positive effect on Brand Trust.

The tenth hypothesis stating that Brand Trust has a positive significant effect on Brand Preference is supported. The fifth hypothesis stating that Brand Trust has a positive effect on Brand Preference is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Delgado (2005) that states that Brand Trust have a significant positive effect on Brand Preference.

## **VI. CONCLUSION**

This model was developed in order to research Brand Preference for Zybrick Coffee & Cantina customers in Surabaya. This research model formed an influence relationship between Atmospherics, Food Quality, Service Quality to Brand Image, Atmospherics, Food Quality, Service Quality, Brand Image to Customer Satisfaction, Brand Image, Customer Satisfaction to Brand Trust and also Brand Trust to Brand Preference. So, the conclusion is that from ten proposed hypotheses, all of the hypotheses are supported. As derived from the research outcomes, variables such as Atmospherics, Food Quality, Service Quality, Brand Image, Customer Satisfaction, Brand Trust have been the factors that are important to note as those variables have critical influence toward Brand Preference on Zybrick Coffee & Cantina customers in Surabaya. Therefore, the managerial implication must be concentrated upon those variables.

The managerial implications of these findings can be based on the theories that have been developed as follows. First, Brand Trust is one of the important variables that affects the level of Brand Preference. I can count on Zybrick Coffee & Cantina branch of Siwalankerto Surabaya for their good service, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya always keeps its sales promotion promises to customers, I feel that Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, always keeps its promise of the best product quality provided. I always choose Zybrick Coffee & Cantina branch of Siwalankerto Surabaya when I make a decision to eat out, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, satisfies my eating needs better than other restaurants that have comparable, I am interested in trying various product menus at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya more than other comparable restaurants. One of the forming indicators of Brand Trust is I feel that Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, always keeps its promise of the best product quality provided, where this indicator gets the lowest results among other indicators. For this reason, Zybrick Coffee & Cantina need to be develop this indicator by make a promotion if you have made a purchase on the main dish menu for 10 times in the last 6 months, you will get a special dessert that is not on the menu and is not sold.

Second, the Brand Image Variable is the variable that most influences the Brand Trust variables also influences Customer Satisfaction. Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has a modern cafe image, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, has a reputation for a cafe with good quality, Zybrick Coffee & Cantina branch of Siwalankerto

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Surabaya, has the image of a trendy youth cafe. One indicator of Brand Image is Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has a modern cafe image, so it is important for Zybrick Coffee & Cantina to develop this indicator by implementing a touchless system at the cafe entrance, touchless sink, touchless hand sanitizer and touchless hand soap, even touchless payment to minimize the level of contact between customers and customers and customers with cafe employees and to suppress the spread of the virus.

Third, the Customer Satisfaction Variable is the variable that influences the Brand Trust variables. I am satisfied with my overall experience at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, I am satisfied with the quality of the food at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, I am satisfied with the quality of service at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya. One indicator of Customer Satisfaction is I am satisfied with the quality of service at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya where this indicator gets the lowest results among other indicators, so it is important Zybrick Coffee & Cantina to pay attention to this. For this reason Zybrick Coffee & Cantina needs to develop this indicator by giving rewards or awards to the 5 most loyal customers measured by the most purchases and the most frequent use of member cards.

Fourth, the Food Quality variable is the variable that influences the Customer Satisfaction variable and Brand Image variable. Zybrick Coffee & Cantina branch of Siwalankerto Surabaya offers delicious food, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya offers nutritious food, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya offers a variety of menus, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya offers fresh food, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has a tantalizing aroma of food, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya serves visually appealing food. One indicator of Food Quality is Zybrick Coffee & Cantina branch of Siwalankerto Surabaya offers delicious food gets the lowest results among other indicators, so it is very important for Zybrick Coffee & Cantina to improve the indicator by when serving food, the cafe also gives customers a paper containing the benefits of consuming the food ordered, for example if a customer orders spaghetti it will include writing about the benefits of eating spaghetti as an energy source that contains carbohydrates which are the main energy source for the body.

Fifth, the Atmospherics is one of the variable that influences the Customer Satisfaction variable and Brand Image variable. Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has an attractive interior design. Example: interesting painting, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, has a pleasant background music, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, has a clean dining area, Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has an attractive decoration design. Example: interesting photo spots. One indicator of Atmospherics Zybrick Coffee & Cantina branch of Siwalankerto Surabaya has an attractive interior design gets the lowest results among other indicators, so it is very important for Zybrick Coffee & Cantina to improve the indicator by innovate with interesting decorations according to the season (christmas, easter, ramadan)

Sixth, the Service Quality is one of the variable that influences the Customer Satisfaction variable and Brand Image variable. The waiter at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, serves the exact same food as the one ordered, The waiter at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, provides fast service, The waiters at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya are always willing to help fulfill customer desires, The waiter at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya, made me feel comfortable with their service. One indicator of Service Quality is The waiter at Zybrick Coffee & Cantina branch of Siwalankerto Surabaya made me feel comfortable with their service, gets the lowest results among other indicators, so it is very important for Zybrick Coffee & Cantina to improve the indicator by provide a button on each customer's desk that is useful for calling the nearest employee, the button in question is connected to the walkie talkie of the nearest employee so as not to disturb other consumers.

### **VII. RESEARCH LIMITATION**

This study has limitation which is only examining in Indonesia. Future study can conduct on other countries where there are geographical differences that can be additional research attractiveness. Specifically, we take respondents residing in Surabaya only. Future research can develop for other areas. Also, this research only uses ZYBRICK Coffee & Cantina as research object. Using other object can produce different results.

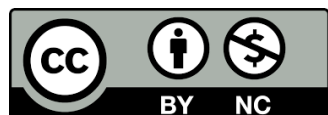
### **ACKNOWLEDGMENT**

The research for this study was supported by STIE PGRI Dewantara Jombang and Universitas Pelita Harapan, Surabaya Campus.

## Improving Start Up Performance Using Store Environment Variables to Increase Customer Satisfaction, Brand Trust and Brand Preference of Cafe in Indonesia

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## The Importance of Store Environment to Customer Satisfaction and Customer Loyalty of Family Restaurant in Indonesia



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**ABSTRACT:** The development of the food and beverage industry is still one of the drivers of the economy in Indonesia. The food and beverage industry sector contributed 2.03% in 2020 at which time all countries were affected by Covid-19. Despite the Covid-19 outbreak, this industrial sector is a sector that has the potential to continue to be stimulated because it also makes a significant contribution to the country's economy so that it can make the country survive and not cause a crisis impact for the Indonesian state. It can be said that Ayam bakar Primarasa and Resto also plays a role in developing the economy in Indonesia. This study aims to determine how the effect of service quality, social enjoyment, cleanness, aesthetics, cost, and customer satisfaction on customer loyalty. The expected benefit of this research is to increase knowledge in the field of management, especially how much influence customer satisfaction has so that it can increase customer loyalty which in turn will increase customers of Ayam Bakar Primarasa Restaurant in Surabaya. This research uses causal research. The method in this study used is a quantitative method with data processing using SPSS software. Data collection was carried out by distributing questionnaires with a total of 148 respondents with the characteristics of male and female respondents aged 18-60 years, who lived in Surabaya, had consumed food and drink at the Ayam Bakar Primarasa in Surabaya directly (dine in) at least twice in the past year, as well as buying and trying other seafood dishes other than the Ayam bakar Primarasa Restaurant in Surabaya in the last three months.

**KEYWORDS:** Effect of Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, Customer Satisfaction, Customer Loyalty.

### I. INTRODUCTION

The development of the food and beverage industry remains one of the drivers of the Indonesian economy. The food and beverage industry contributes 2.03% in 2020, when all countries are affected by Covid-19. Despite Covid-19, this industrial sector is one that has a lot of potential to be stimulated because it also makes a significant contribution to the country's economy, so that it can keep the country alive without compromising Indonesia. The food and beverage industry contributed 36.4% to manufacturing GDP in 2020. During the same period, the industrial sector recorded a growth of 3.9%. Restaurants are places or buildings that seek profit and also to satisfy restaurant guests by providing good service and providing quality food and drinks. Consumer habits and choices are developed based on customs, culture and religion. In this case, the quality of food greatly affects the interests and choices of consumers, one of which is beneficial to the health of consumers. Food quality is an important role that consumers always strive to meet the needs and expectations of the restaurant of their choice.

In the city of Surabaya there are many restaurants with a variety of different menus and foods. One of them is the most famous and popular Ayam Bakar Primarasa. Ayam Bakar Primarasa Resto provides a menu of fresh food which is processed with good quality ingredients and served as the main menu.

Ayam Bakar Primarasa Restaurant opened its first branch in Surabaya, Jalan Kusuma Bangsa, followed by a second branch on Jalan Manyar Kertoarjo, followed by a second branch on Jalan Kupang Indah, Jalan Ahmad Yani 166 and Jalan Dr. Soetomo No. 76 Surabaya. The distinctive taste of the "Primarasa" grilled chicken seasoning, as an ancestral recipe, has been the secret of home cooking for generations and is missed by many customers everywhere. Responding to customer requests, finally opened the first out-of-town branch in Semarang City, and then expanded it again with a new branch in Labuan Bajo NTT. Primarasa Grilled Chicken Resto's delicious taste and legendary spices make it a favorite now and a recommended place to dine with family

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and office friends. In fact, the restaurant, which was founded in 1993, has long been a customer of celebrities, artists, and officials.

In the midst of increasingly business competition in Indonesia it is important for Ayam Bakar Primarasa to always increase Customer Loyalty from Ayam Bakar Primarasa customer, so this research will focus on examining the effect of Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, Customer Satisfaction and Customer Loyalty Ayam Bakar Primarasa customer in Surabaya. In the midst of increasingly business competition in Indonesia it is important for Mitra10 to always increase Repurchase Intention from Mitra10 customer, so this research will focus on examining the effect of Merchandise Value, Merchandise Variety, Interaction With Staff, Internal Shop Environment to Repurchase Intention through Customer Satisfaction Mitra10 customer in Surabaya.

## II. LITERATURE REVIEW

### 2.1 Service Quality

Starini (2013) examined the effect of service quality on consumer loyalty with satisfaction as a mediating variable showing that service quality has a positive and significant influence on customer satisfaction. Products in a broader sense can be in the form of goods or services (services). Lupiyoadi and Hamdani (2006), state that one way to create customer satisfaction is to improve service quality, because customers are the main focus when talking about satisfaction and loyalty. It is also said that the consistency of product/service quality can contribute to the success of a company in terms of customer satisfaction. Research conducted by Suryanto et al., (2002) proves that service quality has a positive influence on customer satisfaction. From these statements, we can make hypotheses that:

*H1: Service Quality has a positive significant effect on Customer Satisfaction*

### 2.2 Social Enjoyment

This study is in line with Orel and Kara (2013) who stated in their research that social enjoyment has a significant effect on consumer satisfaction. Social Enjoyment is the most important part in creating customer satisfaction where consumers may spend 2 hours or more in an upper-middle restaurant, and consumers will feel the surrounding atmosphere consciously or unconsciously before, during, and after eating food and this will have an impact major role in determining overall customer satisfaction (Ryu, 2005). This research is in line with Bitner (1990 and 1992) because services are largely intangible and often require the customer to be present during the process, the physical environment can have a significant impact on the perception of the overall quality of service encounters, which in turn affects customer satisfaction in the restaurant industry. From these statements, we can make hypotheses that:

*H2: Social Enjoyment has a positive significant effect on Customer Satisfaction*

### 2.3 Cleanness

According to Wakefield and Bolgett (1996) cleanness is the most important thing, where consumers spend their time in service providers, such as restaurants. According to Aritonang (2015) cleanliness is something that really has a big influence because cleanliness will be felt directly by customers. So that customers who feel their surroundings are clean when they enter cleanliness are satisfied with what the restaurant provides to customers. This research is in line with research according to Granizoa et al (2019), cleanness has a significant effect on customer satisfaction. From these statements, we can make hypotheses that:

*H3: Cleanness has a positive significant effect on Customer Satisfaction*

### 2.4 Aesthetics

According to Zhang (2010) also found a similar thing that there is a positive and significant influence between aesthetics on customer satisfaction. according to research conducted by El-Adly, M. I. (2019) found that aesthetics had significant effect on customer satisfaction. From these statements, we can make hypotheses that:

*H4: Aesthetics has a positive significant effect on Customer Satisfaction*

### 2.5 Cost

Setiawan (2012) cost has a positive effect on customer satisfaction. The more affordable and according to consumer expectations, the customer satisfaction will increase. Price is one of the vital elements in an effort to satisfy consumers. This study is in line with the results of research conducted by Gunawan (2012) which states that cost has a significant effect on customer satisfaction. Tajab (2017) states that cost has a significant effect on customer satisfaction. From these statements, we can make hypotheses that:

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H5: Cost has a positive significant effect on Repurchase Intention

## 2.6 Customer Satisfaction

According to Elkhani, et al. (2014) in their research shows that customer satisfaction has a direct and significant effect on customer loyalty. Le Blanc (1994) in Rivai (2005) which states that there is a positive relationship between satisfaction and customer loyalty. The findings of this study are in line with those proposed by Aryani (2010) and Kandampully (2000) which show that customer satisfaction has a positive relationship with customer loyalty.

H6: Customer Satisfaction has a positive significant effect on Customer Loyalty

## 2.7 Customer Loyalty

According to Haw and Hamilton (2015), customer loyalty is the result of positive emotional experiences that are consistently felt by customers. According to Oliver (2014) customer loyalty is a commitment held by customers to buy or prioritize a product in the form of goods or services consistently, this causes repeated purchases of the same brand, even though the customer gets situational or marketing influences from competitors to change brands. other. According to Kotler and Armstrong (2015) customer loyalty is keeping customers loyal, it makes economic sense. Loyal customers use the company's products more and for a longer time. Losing a loyal customer can mean a loss of revenue stream for that customer in the future. According to Shaq (2014) customer loyalty is a process, at the end of the process, satisfaction has an effect on perceived quality, which can have an impact on loyalty and intentions for certain behaviors of a customer. According to Lovelock et al. (2016) customer loyalty is the willingness of customers to always use the company's products in the long term, use exclusively, and recommend the company's products to friends or colleagues.

### III. RESEARCH ISSUE AND METHODOLOGY

The type of approach used in this study is a quantitative approach. The population used is customer of Ayam Bakar Primarasa Surabaya. The sampling technique used is non-probability sampling using a questionnaire as a tool major in data collection. In this study, researchers will use snowball sampling techniques, where researchers choose respondents who will help researchers to distribute and fill out questionnaires customer had consumed food and drink at the Ayam Bakar Primarasa in Surabaya directly (dine in) at least twice in the past year, as well as buying and trying other seafood dishes other than the Ayam bakar Primarasa Restaurant in Surabaya in the last three months. In this study respondents collected were 148 customer of Ayam Bakar Primarasa Surabaya according to the characteristics of respondents. Research model can be seen below.

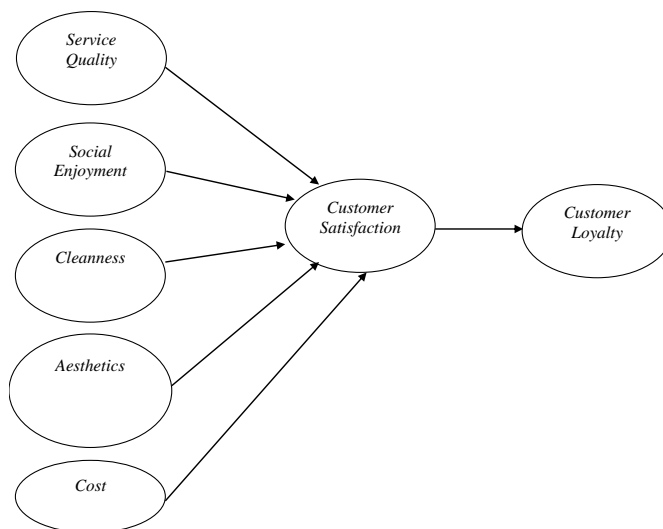


FIGURE 1. RESEARCH MODEL  
SOURCE: GRANIZO ET AL (2019)

### IV. FINDING AND DISCUSSION

#### 4.1 Findings

This study used Multiple Regression in testing between the variables. Statistical analysis tool used to answer the problem formulation of this research is SPSS 22.0. Once the questionnaires were returned, the next step that must be conducted is

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descriptive statistic-analysis. In Table 1, it shows that respondents who fill out questionnaires are mostly done by women, this can be seen from 80 respondents (54%) of respondents are the customer Ayam Bakar Primarasa Surabaya while 68 respondents (46%) are men. This indicates that customer of Ayam Bakar Primarasa Surabaya mostly is female.

**Table 1. Respondents Characteristic by Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	80	54.0	54.0	54.0
	Male	68	46.0	46.0	100.0
	Total	148	100.0	100.0	
<b>Source:</b> own calculation					

From the results in Table 2, it can be seen that the characteristics of respondents based on age are dominated by age group 18-35 which is 118 respondents (80%), followed by 36-50 age group which is 30 respondents (20%). This shows that the majority of respondents are in the age subgroup of generation X and Y.

**Table 2. Respondents Characteristic by Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 35	118	80.0	80.0	80.0
	35 - 50	30	20.0	20.0	100.0
	Total	148	100.0	100.0	
<b>Source:</b> own calculation					

**Table 3. Descriptive Statistics**

	N	Mean	Std. Deviation
CL1	148	0.7950	0.7950
CL2	148	0.9136	0.9136
CL3	148	0.9150	0.9150
CL4	148	1.0472	1.0472
CS1	148	3.98	0.7865
CS2	148	4.12	0.8073
CS3	148	4.13	0.7794
SQ1	148	4.23	0.8440
SQ2	148	4.39	0.7965
SQ3	148	4.18	0.8678
SQ4	148	4.29	0.8826
SQ5	148	4.20	0.8726
SE1	148	4.10	.8817
SE2	148	4.01	.9109
SE3	148	4.08	.9179
CN1	148	3.97	.8407
CN2	148	4.14	.8166
CN3	148	4.12	.8105
AES1	148	4.09	.8276
AES2	148	3.86	.9594
AES3	148	3.97	.7820
AES4	148	4.27	.8233

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C1	148	4.00	.9440
C2	148	3.96	1.0780
C3	148	3.92	1.0308
Valid N (listwise)	148		
<b>Source:</b> own calculation			

Based on the results from data processing in table 3, it shows that all average score of the mean for overall indicator is above 3.61 means that all indicators of variables can be perceived agree by all respondents. Also, the standard deviation is under 2.0 means that the answers given by respondents are homogeneous.

## 4.1.1 Validity Test

The criteria is if the value of the factor loading is higher than 0.196, then the statement is considered valid. Based on the test of the data validity, all indicators used to estimate each variable are valid, because the factor loading for every indicators are more than 0.161.

**Table 4. Validity Test**

Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL
<i>Customer Loyalty</i>		<i>Customer Satisfaction</i>		<i>Service Quality</i>		<i>Social Enjoyment</i>		<i>Cleanness</i>		<i>Aesthetics</i>		<i>Cost</i>	
CL.1	0.425	CS.1	0.542	SQ.1	0.720	SE.1	0.412	CN.1	0.670	AES.1	0.566	C.1	0.663
CL.2	0.538	CS.2	0.566	SQ.2	0.658	SE.2	0.448	CN.2	0.652	AES.2	0.445	C.2	0.650
CL.3	0.579	CS.3	0.640	SQ.3	0.720	SE.3	0.491	CN.3	0.780	AES.3	0.492	C.3	0.700
CL.4	0.624			SQ.4	0.701					AES.4	0.396		
				SQ.5	0.741								
<b>Source:</b> own calculation													

## 4.1.2 Reliability Test

Reliability test is do by comparing cronbach's alpha value, if the value is higher than 0.6, then the statement is considered reliable.

**Table 5. Reliability Test**

Variable	Cronbach's Alpha Based on Standardized Items
<i>Customer Loyalty</i>	0.742
<i>Customer Satisfaction</i>	0.754
<i>Service Quality</i>	0.877
<i>Social Enjoyment</i>	0.640
<i>Cleanness</i>	0.837
<i>Aesthetics</i>	0.692
<i>Cost</i>	0.818
<b>Source:</b> own calculation	

From the table 5, it is proven that the variable of Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, Customer Satisfaction and Customer Loyalty having the Cronbach alpha value higher than 0.60. So, it can be concluded that the statements develop the variables can be said to be consistent/reliable and can be used for further analysis.

## 4.1.3 Results of Multiple Regression

Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, to Customer Satisfaction



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The results of multiple regression are as follows:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.197	.469		2.551	.012
	SQ	.203	.080	.220	2.553	.012
	SE	.068	.076	.072	.896	.372
	CN	.154	.075	.170	2.064	.041
	AES	.157	.079	.148	1.975	.050
	C	.120	.059	.161	2.032	.044

a. Dependent Variable: CS

From table 6, the regression equation can be written as follows:

$$CS = b_2.SQ + b_3.SE + b_4.CN + b_5.AES + b_6.C$$

$$CS = 0,220.SQ + 0,072.SE + 0,170.CN + 0,148.AES + 0,161.C$$

Based on table 6, all the independent variables have positively influence towards customer satisfaction. Service Quality has the greatest regression coefficient compare to other variables, that is 0.220. Therefore, Service Quality is the most influence to customer satisfaction. In the other side, Social Enjoyment has the smallest effect on customer satisfaction, that is 0.072.

## 4.1.4 Results of Simple Regression

### Customer Satisfaction to Customer Loyalty

The results of simple regression are as follows:

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.113	.354		8.802	.000
	CS	.277	.086	.259	3.235	.002

a. Dependent Variable: CL

From table 7, the regression equation can be written as follows:

$$CS = b_7CL$$

$$CS = 0.259 CL$$

Based on table 7, the independent variable have positively influence towards Customer Loyalty. Customer Satisfaction has the greatest regression coefficient that is 0.259. Therefore, Customer Satisfaction is the most influence to Customer Loyalty.

## 4.1.5 F-test

Based on the calculation of SPSS, the significance of F test value in the model 1 and model 2 are 0.000, so it can be concluded two model's independent variables together influencing dependent variable significantly.

**Table 8. Result of F-test 1**

Model		Sum of Squares	Mean Square	F	Sig.
1	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: CS					
b. Predictors: (Constant), SQ, SE,CN,AES, C					
Source: own calculation					

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**Table 9. Result of F-test 2**

Model		Sum of Squares	Mean Square	F	Sig.
2	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: CS					
b. Predictors: (Constant), CL					
Source: own calculation					

## 4.1.6 t-test

### 1. Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, Customer Satisfaction

The F test used to determine whether the independent variables Service Quality, Social Enjoyment, Cleanness, Aesthetics, Cost, Customer Satisfaction partially (independently) have significant influence on customer satisfaction. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 8, it can be seen that Customer Satisfaction have significant influence on Customer Loyalty.

### 2. Customer Satisfaction to Customer Loyalty

The F test used to determine whether the independent variables Customer Satisfaction partially (independently) have significant influence on repurchase intention. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 9, it can be seen that Customer Satisfaction have significant influence on Customer Loyalty.

## V. DISCUSSION

The results of this study shows that the variables which service quality, cleanness, and cost have positive and significant effects on customer satisfaction. Customer satisfaction have positive and significant effect on customer loyalty. Also social enjoyment and aesthetics have no significant effect on customer satisfaction. So, the conclusion is that from six proposed hypotheses, four hypotheses are supported and two hypotheses are rejected.

The first hypothesis stating that service quality has a positive significant effect on Customer Satisfaction is supported. The first hypothesis stating that service quality has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Starini (2013) that states that service quality have a significant positive effect on Customer Satisfaction.

The second hypothesis stating that social enjoyment has a positive significant effect on Customer Satisfaction is rejected. The second hypothesis stating that social enjoyment has a positive effect on Customer Satisfaction is not supported because the t test value is not below 0.05.

The third hypothesis stating that cleanness has a positive significant effect on Customer Satisfaction is supported. The third hypothesis stating that cleanness has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Granizoa et al (2019) that states that cleanness have a significant positive effect on Customer Satisfaction.

The fourth hypothesis stating that aesthetics has a positive significant effect on Customer Satisfaction is rejected. The fourth hypothesis stating that aesthetics has a positive effect on Customer Satisfaction is not supported because the t test value is not below 0.05.

The fifth hypothesis stating that cost has a positive significant effect on customer satisfaction is supported. The fifth hypothesis stating that cost has a positive effect on customer satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Tajab (2017) that states that cost have a significant positive effect on customer satisfaction.

The sixth hypothesis stating that Customer Satisfaction has a positive significant effect on customer loyalty is supported. The third hypothesis stating that Customer Satisfaction has a positive effect on customer loyalty is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Elkhani, et al. (2014) that states that Customer Satisfaction have a significant positive effect on customer loyalty.

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### VI. CONCLUSION

This model was developed in order to research customer loyalty for Ayam Bakar Primarasa in Surabaya. This research model formed an influence relationship between quality, social enjoyment, cleanness, aesthetics, cost have positive and significant effects on Customer Satisfaction. Also, Customer Satisfaction have positive and significant effect on customer loyalty. So, the conclusion is that from six proposed hypotheses, four hypotheses are supported and two hypotheses are rejected.

As derived from the research outcomes, variables such as service quality, social enjoyment, cleanness, aesthetics, cost and Customer Satisfaction have been the factors that are important to note as those variables have critical influence toward customer loyalty on Ayam Bakar Primarasa customer in Surabaya. Therefore, the managerial implication must be concentrated upon those variables.

The managerial implications of these findings can be based on the theories that have been developed as follows. First, Customer Satisfaction is one of the important variables that affects the level of customer loyalty. Good customer satisfaction will be seen from satisfied with the food and drinks from the Ayam Bakar Primarasa Surabaya, satisfied with the services provided at the Surabaya, satisfied with the experience of visiting Surabaya. Loyalty of customer can also be seen from I will be returning to Ayam Bakar Primarasa Surabaya branches for the next few years, I will suggest to my friends to eat at Ayam Bakar Primarasa Surabaya branches, I will say positive things about Ayam Bakar Primarasa Surabaya branches to my relatives, I would recommend the Surabaya branch of Ayam Bakar Primarasa to people asking for Resto recommendations. One of the forming indicators of Customer Satisfaction is satisfied with the food and drinks from the Ayam Bakar Primarasa Surabaya, where this indicator gets the lowest results among other indicators. For this reason, Ayam Bakar Primarasa Surabaya need to be develop this indicator by added a new menu of Javanese specialties such as rujak cingur, tofu tek, soto, gudeg, etc.

Second, the service quality is the variable that most influences the Customer Satisfaction variables. Received health protocol attention from the employees of the Ayam Bakar Primarasa Surabaya branches, when called the employees of the Ayam Bakar Primarasa Surabaya the employees quickly came to my table, I feel that the employees of the Ayam Bakar Primarasa Surabaya branches are well behaved with regard to health protocols. (example: always keep your distance and use a mask and face shield), I feel that the employees of the Ayam Bakar Primarasa Surabaya branches are honest in providing information regarding the menu offered, I feel that I don't have to wait a long time to enjoy the menu that I ordered at the Ayam Bakar Primarasa Surabaya is very important and affects the satisfaction of customer. One indicator of service quality is when customer called the employees of the Ayam Bakar Primarasa branches the employees quickly came to my table where this indicator gets the lowest results among other indicators, so it is important for Ayam Bakar Primarasa Surabaya to develop this indicator by placing one employee for 2 customer tables who will place an order for food and further developed by dividing the employee job desk into three parts, the first part is to receive orders, the second part is to deliver orders, and the third part is to serve customers who need help.

Third, the cleanness Variable is the one of the variable that influences the Customer Satisfaction variables. Food preparation area at Ayam Bakar Primarasa always clean, the places to eat at the Ayam Bakar Primarasa are always kept clean, I feel that the toilets at the Ayam Bakar Primarasa always look clean is very important and affects the satisfaction of customer. One indicator of cleanness is the places to eat at the Ayam Bakar Primarasa are always kept clean, where this indicator gets the lowest results among other indicators, so it is important for Ayam Bakar Primarasa to pay attention to this. For this reason Ayam Bakar Primarasa needs to develop this indicator by checking and cleaning every 2 hours, adding a small trash can outside the bathroom, adding bathroom fragrance, and arranging equipment in the bathroom such as tissue, toilet brush, and hand bidet.

Fourth, the cost variable is one of the variable that influences the Customer Satisfaction variable. I feel that the costs incurred to eat at Ayam Bakar Primarasa are appropriate, I feel the prices for food and drinks at Ayam Bakar Primarasa are affordable, I feel that the prices for food and drinks at Ayam Bakar Primarasa are appropriate for the quality of food and drinks provided. One indicator of cost is I feel the prices for food and drinks at Ayam Bakar Primarasa are affordable gets the lowest results among other indicators, so it is very important for Ayam Bakar Primarasa to improve the indicator such as adding a new package that is more affordable at certain hours. for example, making a lunch package from 11.00 - 13.00 where customers can enjoy a package of dishes containing rice, side dishes and cafe-style drinks at lower prices than other packages.

Fifth, the social enjoyment is one of the variable that not influences the Customer Satisfaction variable. So it is very important for Ayam Bakar Primarasa to improve the variable indicator by providing free wifi facilities for every customer who dine-in, so that customers can enjoy their time by accessing the internet while in the cafe area, and mproving it by setting up several photo booths that are in line with the current trend, decorated with ornaments in the style of the Ayam Bakar Primarasa.

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Sixth, aesthetics is one of the variable that not influences the Customer Satisfaction variable. So it is very important for Ayam Bakar Primarasa to improve the variable indicator by decorate the inside of the cafe with ornaments and decorations according to national celebrations or religious celebrations in certain months. For example, decorating the inside with red and white ornaments in when Christmas season comes, increase the lighting in the cafe area by adding a few small lanterns in areas that still look dark, for example in the corner area of the room that is not exposed to light from the main lamp.

### VII. RESEARCH LIMITATION

This study has limitation which is only examining in Indonesia. Future study can conduct on other countries where there are geographical differences that can be additional research attractiveness. Specifically, we take respondents residing in Surabaya only. Future research can develop for other areas. Also, this research only uses Ayam Bakar Primarasa as research object. Using other object can produce different results.

### ACKNOWLEDGMENT

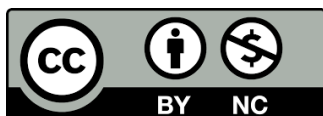
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## International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia



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**ABSTRACT:** The retail industry sector is one of the marketing products which selling goods directly to consumers. In general the retail industry is a business activity selling various kinds of goods for direct and indirect consumption. In the trade chain, retail business is at the very end of the distribution process of goods and services. Therefore the presence of Mitra10 is very influential in the development of the retail industry, particularly in Surabaya. This study aims to analyze the effects of variables such as Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety towards Repurchase Intentions through Customer Satisfaction of the customers of the Mitra10 in Surabaya. The sample in this study is men and women, aged 18-50 who live in Surabaya. Total respondents who make purchase for personal needs and have made purchases within 2 times in the last 3 months. Data were analysed using the SPSS 22, according to the characteristics of respondents using snowball technique. Based on data analysis is that from six proposed hypotheses, all hypotheses are supported

**KEYWORDS:** Merchandise Value, Merchandise Variety, Interaction With Staff, Internal Shop Environment, Customer Satisfaction, Repurchase Intention.

### I. INTRODUCTION

Today, the development of the retail industry in Indonesia is growing rapidly. Retail business in Indonesia is among the fastest growing in comparison to other countries. Since 2000s, the retail business development in Indonesia has grown a lot which can be proved through the increasing number of retail companies that settled in Indonesia. This business arises because of the growth that occur in middle class society which causes demand towards supermarkets and departments store (convenience store) especially in the urban area. In general the retail industry is a business activity selling various kinds of goods for direct and indirect consumption. In the trade chain, retail business is at the very end of the distribution process of goods and services. One of the foreign retailers that have settled in Indonesia is Mitra10, the presence of Mitra10 is very influential in the development of the retail industry, particularly in Surabaya.

Mitra10 designs and sells ready-to-assemble furniture, kitchen appliances and home accessories, among other useful goods and occasionally home services. PT Catur Mitra Sehati Sentosa (CMSS) with the brand Mitra10, which is a subsidiary of PT Catur Sentosa Adiprana (CSA), is the first modern retailer that gave birth to the concept of shopping for building materials and home appliances under one roof in Indonesia. At its inception, in 1997-1998, Mitra10 opened 10 supermarkets in the Greater Jakarta area. Furthermore, with aggressive business expansion, Mitra10's total stores to date have reached 42 stores, spread across Greater Jakarta, Cibarusah Cikarang, Karawang, Cirebon, Tegal, Yogyakarta, Solo, Semarang, Sidoarjo, Surabaya, Malang, Bali, Lampung, Palembang, Medan, Batam, Lombok, Makassar, Banjarmasin, and Balikpapan. Mitra10 will also be present in a number of other strategic locations. The expansion of the business wing will continue with the target of reaching a total of 50 stores in the next few years in Indonesia.

In the midst of increasingly business competition in Indonesia it is important for Mitra10 to always increase Repurchase Intention from Mitra10 customer, so this research will focus on examining the effect of Merchandise Value, Merchandise Variety, Interaction With Staff, Internal Shop Environment to Repurchase Intention through Customer Satisfaction Mitra10 customer in Surabaya.

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## II. LITERATURE REVIEW

### 2.1 Merchandise Value

According to Baker et al. (2002) merchandise value is the result of the perception of product prices, merchandise quality and that merchandise value has a positive influence on repurchase intention and customer satisfaction. Boonlertvanich (2011) supports this statement by stating that merchandise value has a positive and significant effect on customer satisfaction. Sivadas and Jindal (2017) also agree that merchandise value has a strong influence on customer satisfaction. From these statements, we can make hypotheses that:

H1: Merchandise Value has a positive significant effect on Customer Satisfaction

### 2.2 Internal Shop Environment

According to Levy & Weitz (2001) in Lili Harlina Putri (2013), the internal shop environment aims to attract the attention of consumers to visit, make it easier for them to find the items they need, keep them in the store for a long time, motivate them to plan carefully. suddenly, influencing them to make a purchase, and causing customer satisfaction in shopping. Zeithaml and Bitner (1996) suggest that customer satisfaction is influenced by several factors including service factors. The services provided by a retailer can be in the form of providing a comfortable physical environment for consumers. This physical environment is known as the internal shop environment or store atmosphere. Marques et al. (2013) also emphasize the importance of the internal shop environment because it creates opportunities for customers to explore more, while also having a positive relationship with customer satisfaction. From these statements, we can make hypotheses that:

H2: Internal Shop Environment has a positive significant effect on Customer Satisfaction

### 2.3 Interaction with Staff

According to Bitner et al. (1994), customer satisfaction is often influenced by the quality of interpersonal interactions between consumers and employees who are in direct contact. Interaction with staff with consumers that improves relationships and responsiveness has an impact on greater customer satisfaction (Menon et al. 2000). Marques et al (2013) stated that interaction with staff is the most important factor when consumers assess customer satisfaction with environmental stimuli. Puccinelli et al. (2009) stated that of all atmospheric elements, the interpersonal nature of interactions with staff and employees may be the key to customer satisfaction in a retail environment. From these statements, we can make hypotheses that:

H3: Interaction with Staff has a positive significant effect on Customer Satisfaction

### 2.4 Merchandise Variety

Donovan et al. (1994) found that cognitive factors, such as merchandise variety, lead to positive customer behaviors such as spending more money and time than planned in the store, that is, if the customer is satisfied with the merchandise variety. Marques et al. (2013) determined that the variety of merchandise offered emerged as the most influential factor on customer satisfaction. From these statements, we can make hypotheses that:

H4: Merchandise Variety has a positive significant effect on Customer Satisfaction

### 2.5 Customer Satisfaction

This direct significant relationship between customer satisfaction and repurchase intention is supported by various product and service studies (Patterson and Spreng, 1997). Pusparani and Rastini, (2014) found that there are two main variables that determine customer satisfaction, namely expectations and perceived performance. will feel dissatisfied and there will be a transfer of brands or goods and services that have been commonly used. According to research conducted by Fang, et al (2011) showed a positive influence on customer satisfaction on repurchase intention. From these statements, we can make hypotheses that:

H5: Customer Satisfaction has a positive significant effect on Repurchase Intention

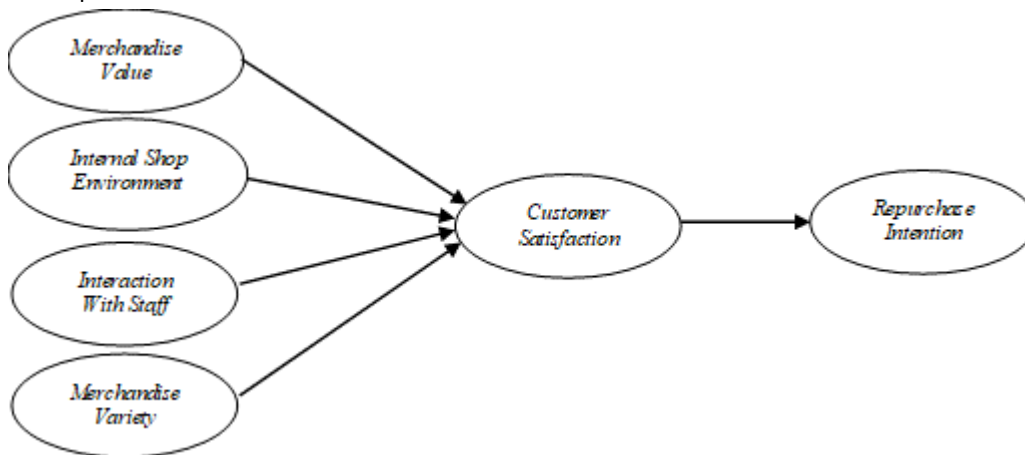
### 2.6 Repurchase Intention

According to Hellier, et al. (2003) repurchase intention is a person's planned decision to repurchase certain services, taking into account the situation that occurs and the level of preference. According to Ike Kusdyah (2012) repurchase intention or repurchase intention is one of the consumer buying behavior where there is a match between the value of goods or services that can generate consumer interest to consume them again in the future. Ndubisi and Moi (2005) say that the definition of repurchase intention or repurchase is varied depending on the level of durability (durability) of a product. For non-durable products, repurchase is defined as the act of buying again after the first purchase or trial. As for durable products, it is defined as the willingness of consumers to repurchase or give at least one suggestion to others to make a purchase.

# International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

## III. RESEARCH ISSUE AND METHODOLOGY

The type of approach used in this study is a quantitative approach. The population used is customer of Mitra10 Surabaya. The sampling technique used is non-probability sampling using a questionnaire as a tool major in data collection. In this study, researchers will use snowball sampling techniques, where researchers choose respondents who will help researchers to distribute and fill out questionnaires. In this study respondents collected were 100 customer of Mitra10 Surabaya according to the characteristics of respondents. Research model can be seen below.



**Figure 1. Research Model**  
Source: Terblanche (2018)

## IV. FINDING AND DISCUSSION

### 4.1 Findings

This study used Multiple Regression in testing between the variables. Statistical analysis tool used to answer the problem formulation of this research is SPSS 22.0. Once the questionnaires were returned, the next step that must be conducted is descriptive statistic-analysis. In Table 1, it shows that respondents who fill out questionnaires are mostly done by women, this can be seen from 55 respondents (55%) of respondents are the customer of Mitra10 Surabaya while 45 respondents (45%) are men. This indicates that customer of Mitra10 Surabaya mostly is female.

**Table 1. Respondents Characteristic by Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	55	55.0	55.0	55.0
	Male	45	45.0	45.0	100.0
	Total	100	100.0	100.0	

Source: own calculation

From the results in Table 2, it can be seen that the characteristics of respondents based on age are dominated by age group 18-35 which is 90 respondents (90%), followed by 36-50 age group which is 10 respondents (10%). This shows that the majority of respondents are in the age subgroup of generation X and Y.

**Table 2. Respondents Characteristic by Age**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 35	90	90.0	90.0	90.0
	35 - 50	10	10.0	10.0	100.0
Total		100	100.0	100.0	

Source: own calculation



# International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

**Table 3. Descriptive Statistics**

	N	Mean	Std. Deviation
MV1	100	3.77	.694
MV2	100	4.12	.573
MV3	100	4.08	.580
MV	100	3.986666667	.4517580075
IS1	100	3.97	.731
IS2	100	4.07	.607
IS2	100	4.1	.732
IS	100	4.046666667	.5276209229
IW1	100	4.07	.685
IW2	100	4.07	.607
IW3	100	4.16	.615
IW4	100	4.09	.621
IW	100	4.0975	.47527
MVr1	100	4.06	.617
MVr2	100	3.78	.660
MVr3	100	3.82	.716
MVr	100	3.886666667	.5237780391
CS1	100	4.07	.685
CS2	100	4.07	.607
CS3	100	3.98	.724
CS4	100	4.07	.671
CS	100	4.0475	.55924
RI1	100	3.91	.637
RI2	100	3.86	.636
RI3	100	3.96	.602
RI	100	3.91	.5357164769
Valid N (listwise)	100		
Source: own calculation			

Based on the results from data processing in table 3, it shows that all average score of the mean for overall indicator is above 3.61 means that all indicators of variables can be perceived agree by all respondents. Also, the standard deviation is under 2.0 means that the answers given by respondents are homogeneous. The highest mean average is Customer Satisfaction is 4.0475. This may indicate that respondents are agree with indicators of Customer Satisfaction than other variables. Customer Satisfaction has the highest score for standard deviation, that is .55924 this may indicate that the respondents give answers for merchandise value least homogeneous compared with other variables.

### 4.1.1 Validity Test

The criteria is if the value of the factor loading is higher than 0.196, then the statement is considered valid. Based on the test of the data validity, all indicators used to estimate each variable are valid, because the factor loading for every indicators are more than 0.196.

**Table 4. Validity Test**

Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL	Indicator	FL
<b>Merchandise Value</b>		<b>Internal Shop Environment</b>		<b>Interaction with Staff</b>		<b>Merchandise Variety</b>		<b>Customer Satisfaction</b>		<b>Repurchase Intention</b>	
MV1	0.355	IS1	0.422	IW1	0.514	MVr1	0.460	CS1	0.703	RI1	0.585
MV2	0.455	IS2	0.445	IW2	0.609	MVr2	0.471	CS2	0.696	RI2	0.718

## International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

MV3	0.453	IS2	0.488	IW3	0.541	MVr3	0.603	CS3	0.707	RI3	0.722
				IW4	0.484			CS4	0.661		
<b>Source:</b> own calculation											

### 4.1.2 Reliability Test

Reliability test is do by comparing cronbach's alpha value, if the value is higher than 0.6, then the statement is considered reliable.

**Table 5. Reliability Test**

Variable	Cronbach's Alpha Based on Standardized Items
Merchandise Value	0.686
Internal Shop Environment	0.642
Interaction With Staff	0.744
Merchandise Variety	0.691
Customer Satisfaction	0.852
Repurchase Intention	0.820
Source: own calculation	

From the table 5, it is proven that the variable of Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety, Customer Satisfaction and Repurchase Intention having the Cronbach alpha value higher than 0.60. So, it can be concluded that the statements develop the variables can be said to be consistent/reliable and can be used for further analysis.

### 4.1.3 Results of Multiple Regression

Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety to Customer Satisfaction

The results of multiple regression are as follows:

**Table 6. Coefisien Regression Model 1**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.837	.223		-3.749	.000
	MV	.305	.074	.247	4.100	.000
	IS	.268	.062	.252	4.320	.000
	IW	.452	.080	.384	5.638	.000
	MVr	.188	.064	.176	2.922	.004
a. Dependent Variable: CS						
Source: own calculation						

From table 6, the regression equation can be written as follows:

$$CS = b_1MV + b_2IS + b_3IW + b_4MVr$$

$$CS = 0.305 MV + 0.268 IS + 0.452 IW + 0.188 MVr$$

Based on table 6, all the independent variables have positively influence towards customer satisfaction. Interaction with staff has the greatest regression coefficient compare to other variables, that is 0.452. Therefore, Interaction with staff is the most influence to customer satisfaction. In the other side, merchandise variety has the smallest effect on customer satisfaction, that is 0.188.

### 4.1.4 Results of Simple Regression

Customer Satisfaction to Repurchase Intention

The results of simple regression are as follows:

# International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

**Table 7. Coefisien Regression Model**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
2	(Constant)	2.536	.370		6.860	.000
	CS	.339	.090	.354	3.752	.000
a. Dependent Variable: RI						
Source: own calculation						

From table 7, the regression equation can be written as follows:

$$RI = b1CS$$

$$RI = 0.339 CS$$

Based on table 7, the independent variable have positively influence towards Repurchase Intention. Customer Satisfaction has the greatest regression coefficient that is 0.339. Therefore, Customer Satisfaction is the most influence to Repurchase Intention.

### 4.1.5 F-test

Based on the calculation of SPSS, the significance of F test value in the model 1 and model 2 are 0.000, so it can be concluded two model's independent variables together influencing dependent variable significantly.

**Table 9. Result of F-test 1**

Model		Sum of Squares	Mean Square	F	Sig.
1	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: CS					
b. Predictors: (Constant), MV, IS, IW, MVr					
Source: own calculation					

**Table 10. Result of F-test 2**

Model		Sum of Squares	Mean Square	F	Sig.
2	Regression	0.000	0.000	0.000	0.000
	Residual	0.000	0.000	0.000	0.000
	Total	0.000	0.000	0.000	0.000
a. Dependent Variable: CS					
b. Predictors: (Constant), RI					
Source: own calculation					

### 4.1.6 t-test

#### 1. Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety to Customer Satisfaction

The F test used to determine whether the independent variables merchandise value, internal shop environment, interaction with staff, merchandise variety to customer satisfaction partially (independently) have significant influence on customer satisfaction. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 6, it can be seen that Customer Satisfaction have significant influence on Repurchase Intention.

#### 2. Customer Satisfaction to Repurchase Intention

The F test used to determine whether the independent variables Customer Satisfaction partially (independently) have significant influence on repurchase intention. If the value of t test is below 0.05, then it can be stated that the variable is significantly influenced partially. From table 7, it can be seen that Customer Satisfaction have significant influence on Repurchase Intention.

# International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

## V. DISCUSSION

The results of this study shows that the variables which Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety have positive and significant effects on Customer Satisfaction. Also, Customer Satisfaction have positive and significant effect on Repurchase Intention. So, the conclusion is that from six proposed hypotheses, all hypotheses are supported.

The first hypothesis stating that Merchandise Value has a positive significant effect on Customer Satisfaction is supported. The first hypothesis stating that Merchandise Value has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Sivadas and Jindal (2017) that states that Merchandise Value have a significant positive effect on Customer Satisfaction.

The second hypothesis stating that Internal Shop Environment has a positive significant effect on Customer Satisfaction is supported. The second hypothesis stating that Internal Shop Environment has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Marques et al. (2013) that states that Internal Shop Environment have a significant positive effect on Customer Satisfaction.

The third hypothesis stating that Interaction With Staff has a positive significant effect on Customer Satisfaction is supported. The third hypothesis stating that Interaction With Staff has a positive effect on Customer Satisfaction is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Puccinelli et al. (2009) that states that Interaction With Staff have a significant positive effect on Customer Satisfaction.

The fourth hypothesis stating that Merchandise Variety has a positive significant effect on Customer Satisfaction is supported. The fourth hypothesis stating that Merchandise Variety has a positive effect on Customer Satisfaction is supported because the t test value is 0.004, below 0.05. This shows the consistency results of this study with Marques et al. (2013) that states that Merchandise Variety have a significant positive effect on Customer Satisfaction.

The fifth hypothesis stating that Customer Satisfaction has a positive significant effect on Repurchase Intention is supported. The fifth hypothesis stating that Customer Satisfaction has a positive effect on Repurchase Intention is supported because the t test value is 0.000, below 0.05. This shows the consistency results of this study with Pusparani and Rastini, (2014) that states that Customer Satisfaction have a significant positive effect on Repurchase Intention.

## VI. CONCLUSION

This model was developed in order to research Repurchase Intention for Mitra10 in Surabaya. This research model formed an influence relationship between Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety have positive and significant effects on Customer Satisfaction. Also, Customer Satisfaction have positive and significant effect on Repurchase Intention. So, the conclusion is that from five proposed hypotheses, all of the hypotheses are supported.

As derived from the research outcomes, variables such as Merchandise Value, Internal Shop Environment, Interaction With Staff, Merchandise Variety and Customer Satisfaction have been the factors that are important to note as those variables have critical influence toward Repurchase Intention on Mitra10 customer in Surabaya. Therefore, the managerial implication must be concentrated upon those variables.

The managerial implications of these findings can be based on the theories that have been developed as follows. First, Customer Satisfaction is one of the important variables that affects the level of Repurchase Intention. Good customer satisfaction will be seen from user satisfied with the services provided, provides a satisfying shopping experience, satisfied with the products. Intention to repurchase of customer can also be seen from customer consider Mitra10 to be first choice store for home appliances, intend to shop in the future and will continue to shop for more home appliances in the future. One of the forming indicators of Customer Satisfaction is Overall satisfied with Mitra10, where this indicator gets the highest results among other indicators. For this reason, Mitra10 need to be develop this indicator by giving rewards or awards to the 5 most loyal customers measured by the most purchases and the most frequent use of member cards. Repurchase Intention will automatically increase with increasingly satisfied customer.

Second, the Interaction With Staff Variable is the variable that most influences the Customer Satisfaction variables. Employees are always willing to help, employees served customer quickly, has courteous employees and employees have good knowledge about the products sold, is very important and affects the satisfaction of customer. One indicator of Interaction With Staff is employees have good knowledge about the products, where this indicator gets the highest results among other indicators, so it is important for Mitra10 to develop this indicator by provide a button at least on each product shelf that is useful for calling the nearest employee, the button in question is connected to the walkie talkie of the nearest employee so as not to disturb other consumers.

## International Shopping Environment Variables to Increase Customer Satisfaction and Repurchase Intention of Furniture Store in Indonesia

Third, the Merchandise Value Variable is the second variable that influences the Customer Satisfaction variables. Offers products with guaranteed quality from well-known brands in the community, products are free from damage so that they are in accordance with the price paid, and product prices represent good product value is very important and affects the satisfaction of customer. One indicator of Merchandise Value is offers products with guaranteed quality from well-known brands in the community, where this indicator gets the highest results among other indicators, so it is important for Mitra10 to pay attention to this. For this reason Mitra10 needs to develop this indicator by educate customers by making a list on every product from the most famous brands to those that are not well known to the public.

Fourth, the Internal Shop Environment variable is the third variable that influences the Customer Satisfaction variable. Has an attractive in-store promotion setup, has an interesting decoration., has attractive in-store physical facilities is very important and affects the satisfaction of customer. One indicator of Internal Shop Environment is has an attractive in-store promotion setup gets the highest results among other indicators, so it is very important for Mitra10 to improve the indicator by decorate the shelves of products available in the store which shows that the product has an attractive and profitable promotion for customers

Fifth, the Merchandise Variety is one of the variable that influences the Customer Satisfaction variable. Offers a wide selection of good quality product categories, offers a variety of brands available in various sizes, offers a variety of good quality imported products is very important and affects the satisfaction of customer. One indicator of Merchandise Variety is offers a wide selection of good quality product categories gets the highest results among other indicators, so it is very important for Mitra10 to improve the indicator by minimizing possible damage when shipping goods to each existing branch. By providing double protection.

### VII. RESEARCH LIMITATION

This study has limitation which is only examining in Indonesia. Future study can conduct on other countries where there are geographical differences that can be additional research attractiveness. Specifically, we take respondents residing in Surabaya only. Future research can develop for other areas. Also, this research only uses Mita10 as research object. Using other object can produce different results.

### ACKNOWLEDGMENT

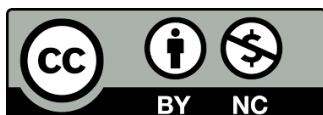
The research for this study was supported by Pelita Harapan University, Surabaya Campus.

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## Equity and Debt Financing on the Profitability of Cement Industry in Nigeria



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**ABSTRACT:** This study examined equity and debt financing on the profitability of the cement industry in Nigeria. Data were collected 2010 to 2020 for 3 cement firms. The results revealed that total debt (TDTA) has a positive effect on return on assets (ROA), equity (DER) has a negative effect on return on Asset (ROA) and the control variables; sales growth (SG) has a negative effect, while firm size (FMSZ) is positive. This study, therefore recommends that cement industry owners should diversify their sources of financing their businesses by focusing more on debts so as to save their costs and reduce their risk in the investment. Industry owners should look outside the box by employing other sources of financing their businesses like debentures, bonds and so on, other than absolute dependence on equity.

**KEYWORDS:** Profitability, capital structure, debt, equity, panel data, pooled regression

### INTRODUCTION

Profitability is one of the primary reasons for the existence and operation of a business enterprise. It is the ability of a given investment to earn a return from its use (Ryan, 2007). Profit is the difference between the revenue and expenses and expired costs of a particular period (Okwoli, 1998). This implies that, it is the maximum amount, which can be spent during a period if there is to be an expectation of maintaining intact the capital value of prospective receipts (in money terms).

No trading firm can survive; or government can earn income through taxation; or can a society guarantee employment; or can there be any meaningful growth of an industry and economy; or can an industry discharge its social responsibilities effectively, without making a profit, the cement company inclusive. Therefore, it is appropriate to state that profitability is the pivot element of a business sustainability. It is obvious that Cement companies struggle with the best combination of funding sources to enhance profitability.

A firm's capital structure decisions are affected by such variables as its philosophy on borrowing, degree of leverage, cost of capital and income tax savings. Debt decisions refer to the firm's strategy regarding the use of debts as a means of debt financing, which usually centres around the firm's debt capacity. Equity, on the other hand, is the summation of issued capital shares and retained earnings. The choice of optimal capital structure is one of the puzzling issues in corporate finance that has not been fully resolved. Many theories have been advanced, but the researchers are still not able to utilise the existing theories to explain capital structure choices in practice, or prescribe what constitutes an optimal capital structure. Financing is represented in the balance sheet by two important types of capital: equity and debt funding, otherwise known as the capital structure.

Prior studies have shown that debt financing has negative and positive effects on the firm value; it depends upon the investment opportunities that firms avail in the future (Stulz, 1990). Eriotis, Frangouli and Ventoura (2011) studied profit margin and capital structure, the study uses panel data for various industries, covering 1995-96, concluded that firms using more debt financing are earning less profit than firms with equity finance in times of recession. Debt finance causes the payment of interest, which reduces the profit (Eriotis, Frangouli & Ventuora, 2011). Contradictory results show that companies using only equity financing have weak financial position and low credit rating (Coyle, 2000). This reveals that, negative correlation exists between equity financing and profitability (Efobi & Uremadu, 2009). Of all the aspects of capital investment decisions, capital structure decision is the vital one, since the profitability of an enterprise is directly affected by such decision.

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## LITERATURE REVIEW

### Conceptual Review

**Capital structure** refers to the firm's financial framework, which consists of the debt and equity used to finance the firm. Capital structure is one of the popular topics among scholars in the finance field. The ability of the industry to carry out its social responsibility is tightly related to capital structure. Therefore, this derivation is an essential fact that we cannot neglect. Capital structure in financial terms means how a firm finances its assets through the combination of equity, debt, or hybrid securities (Saeed & Mahmoodi, 2011). In short, capital structure is a mixture of a company's obligations, shared equity and preferred equity. Capital structure is essential for how a firm finances its overall operations and growth by using different sources of funds.

**Debt:** Business enterprises use debt in their businesses because it can increase their operations' volume and increase the average return on their equity funds. The use of debt will have this effect only if the rate of return on the investment is greater than the rate of return on the debt, Watkins (2002). The borrowing firm takes a chance to use debt to elevate the firm to a more practical level by increasing the turnover and, therefore, increasing the profits.

Debt instruments are assets that require a fixed payment to the holder, usually with interest. Stocks are securities that are a claim on the earnings and assets of a corporation (Mishkin, 1998). Some of the common types of debt instruments are:

1. **Debentures:** Debentures are not backed by any security
2. **Bonds:** Bonds on the other hand are issued generally by the government, central bank or large companies and are backed by a security.
3. **Mortgage:** A mortgage is a loan against a residential property.

Debt is money that an individual borrows to run a business. Debt refers to the borrowing of funds to finance a purchase, acquisition or expansion. For companies and corporations, debt often involves selling notes, bonds, mortgages, or other debt instruments. The individuals and financial institutions which provide the debt financing become creditors. Since debt involves borrowed funds, a debt must be repaid, typically in instalments and with interest. The interest compensated on debt financing is controlled by the borrower's creditworthiness, the intended use of the funds, and the current financial climate. Businesses and corporations find debt financing attractive because the interest paid is tax-deductible.

The financial leverage chance will arise if the rate of interest charged to the firm is lower than the internal rate of return (IRR) for the company, in which case the firm will be making enough to pay the interest charged and the principal repayment and retain the surplus for the shareholders. On the other hand, the firm may experience a financial leverage risk that the returns of the business are not enough to cover the interest charged. It occurs when the rate of interest exceeds the internal rate of return of the company. To avoid liquidation, the firm will have to use part of the shareholders' funds to repay the interest and principal. It could eventually lead to erosion of equity and the collapse of the business. The simplest way to assess whether borrowing has increased the return on equity is to contrast the return on the investment with the loan interest rate. There is positive leverage when the return is higher than the loan interest rate (the return on equity increases as more is hired, Rowland (2002). Loan capital may be obtained from a bank or finance company as long term loans or debt-equity investors in the form of debentures or preferred stock (preference shares) and are usually secured by a fixed and floating charge on the company's assets.

There are many variables in a capital structure choice and debt maturity structure that will affect a company's profitability. Debt maturity will influence a company's option in investing. In this case, examining the impact of capital structure's variables based on the company's performance will present proof for a company's performance due to the effect of capital structure (Tian & Zeitun, 2007). A study by Abor (2005) on the influence of capital structure on the profitability of listed companies on the Ghana Stock Exchange during five years. Found out a significant positive interrelationship between short-term debt and ROE, revealing that firms that earn a lot use more short-term debt to finance their business. In other words, short-term debt is an essential source of financing in favour of Ghanaian companies, representing 85 per cent of total debt financing. Yet, the results showed a negative relationship between long-term debt and ROE. The regression output led to a positive relationship between Debt and ROE which measure the relationship between total debt and profitability. It indicates that firms that earn a lot depend on debt as their key financing option. The opposite of debt financing is equity financing.

Some studies have shown that debt harms firm's profitability. For instance, Fama and French (1998) argue that the use of excessive debt creates agency problems among shareholders and creditors, resulting in a negative relationship between leverage and profitability. Majumdar and Chhibber (1999) found in their Indian study that leverage harms performance. Gleason, Marthur and Mathur, (2000) support a negative impact of leverage on the firm's profitability. In a Polish study, Hammes (1998) also found a negative



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relationship between debt and profitability. In another study, Hammes (2003) examined the relation between capital structure and performance by comparing Polish and Hungarian firms to a large sample of firms in industrialised countries. The researcher used panel data analysis to investigate the relationship between total debt and performance and between different sources of debt, namely, bank loans and trade credits and firms' performance measured by profitability. The results showed a significant and negative effect for most countries. Authors have discovered that bank loans or trade credit are not of considerable importance; what matters is debt in general.

ii. **Equity:** Equity financing could mean money obtained from investors in exchange for an ownership share in the business. An equity investment generally refers to the buying and holding of shares of stock on a stock market by individuals and firms in anticipation of income from dividends and capital gains as the value of the stock rises. It may also refer to acquiring equity (ownership) participation in a private (unlisted) company or a start-up investment in infant companies. It also refers to venture capital investment, generally understood as higher risk than investment in listed going-concern situations. It is called risk capital because investors assume the risk of losing their money if the business fails. It does not have to be reimbursed with interest like a loan. It means that an entrepreneur must give up some ownership of the company to outside investors.

From the perspective of accounting and finance, equity is the residual claim or interest of the most junior class of investors in assets; after all, liabilities are compensated. If penalty exceeds assets, negative equity exists. The components of equity include the following:

1. **Common stock:** Common stock is a security that represents ownership in a corporation. Holders of common stock elect the board of directors and vote on corporate policies. This form of equity ownership typically yields higher rates of return long term.
2. **Preferred stock:** Preferred stock is often described as a hybrid security that has features of both common stock and bonds. It combines the stable and consistent income payments of bonds with the equity ownership advantages of common stock, including the potential for the shares to rise in value over time.
3. **Contributed surplus:** The contributed surplus is the amount of capital from the issuance of shares above the par value. Also known as additional paid-in capital, the surplus is recorded in shareholders' equity on the balance sheet.
4. **Retained earnings:** Retained earnings are a portion of a company's profit that is held or retained from net income at the end of a reporting period and saved for future use as shareholder's equity. Retained earnings are also the key component of shareholder's equity that helps a company determine its book value.
5. **Treasury stock:** Treasury stock is a contra equity account recorded in the shareholder's equity section of the balance sheet. Because treasury stock represents the number of shares repurchased from the open market, it reduces shareholder's equity by the amount paid for the stock.

Businesses can be considered to be, for accounting purposes, sums of liabilities and assets; this is the accounting equation. After liabilities have been accounted for, the positive remainder is deemed the owner's interest in the business. This creates a penalty on the company in the shape of capital as it is a separate entity from its owners.

Equity capital is the owners' interest in the enterprise's assets after deducting all its liabilities. It is an important element that appears on the statement of financial position of an organisation.

### Profitability

Profitability is a situation in which an entity is generating a profit. Profitability arises when the aggregate amount of revenue is greater than the aggregate amount of expenses in a reporting period. Profitability can be achieved in the short term through the sale of assets that garner immediate gains. Profitability is the primary goal of all business ventures. Without profitability, the business will not survive in the long run. So, measuring current and past profitability and projecting future profitability is very important. Profitability is basically viewed from two perspectives: Accountant's view and the Economist's view.

The net profit margin, or simply net margin, measures how much net income or profit is generated as a percentage of revenue. It is the ratio of net profits to revenues for a company or business segment. Net profit margin is typically expressed as a percentage but can also be signified in decimal form.

Return on Equity measures the benefits that the shareholders enjoy from their investments in the firm. It is also stated as return on average common equity, return on net worth, return on ordinary shareholders' funds, and measures the rate of return on the joint-stock owners' ownership interest (equity).

Earnings per share (EPS) is evaluated as a company's profit divided by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability.

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Return on Assets measures the firm's effectiveness in generating profits, that is, the -return achieved on a company's total assets (Firer et al., 2012). The return is the attributable profit (Profit after tax, minority interests and preference dividends, attributable to ordinary shareholders).

The dividend Coverage ratio is a financial metric that measures the number of times a company can pay dividends to its shareholders. The dividend coverage ratio is the company's net income separated by the compensation paid to shareholders.

### THEORETICAL REVIEW

#### The Theory of Capital Structure

Suppose there have been areas where Finance Discipline has engaged the most significant attention and caused the highest argument. In that case, it is the theory of Capital Structure and leverage and how they affect organizational performance. The Capital Structure and its effect on profitability can be traced back to David Durand (1959), who suggested two approaches to Capital Structure, namely Net Income Approach and Operating Income Approach as well as traditional approach.

Therefore, there are many approaches to capital theory, which discuss it in many different ways. It is referred to how a firm mixes debt and equity to finance itself, or in other words, it is concerned about combinations of funds in the form of debt and equity. Therefore, there is still a challenging debate as to whether an optimal Capital Structure exist, and how it affects the profitability of the cement industry.

Considering supporters of the capital structure theory, Modigliani and Miller (1958) would always be counted fundamental in this direction. Taking Modigliani and Miller (1958) standpoint to its extreme, it could be argued that a company could have a capital structure consisting of 100% debt and that will still not in any way affect the value of the company. Furthermore, Modigliani and Miller (1958) also purposed that the expected ROE is an increasing function of the firm's leverage, meaning that higher leverage should yield a higher return on a company's equity. However, Modigliani and Miller (1958) admitted that these propositions were only valid given certain theoretical environmental conditions, namely a so called "ideal capital market". An ideal capital market, according to (Gansuwan & Önel, 2012), relies in short form on the existence of the following five assumptions: 1. Capital markets are frictionless: No transaction cost or taxes. No costs associated with bankruptcy. 2.

#### Empirical Review

The result is in line with the findings of Abbasali (2012) who examined the relationship between capital structure and firm performance, where multiple regression model was applied to determine the relationship between independent variables of debt ratios against dependent variables of return on asset (ROA) and return on equity (ROE). The findings of the review indicated a negative relationship between debt ratio and financial performance.

Goyal (2013); 'Impact of Capital Structure on Performance of Listed Public Sector Banks in India'. The study sought to examine the impact of capital structure on the Performance of Listed Public Sector Banks in India. The study adopted a quantitative technique and used secondary data from all banks listed in the National stock exchange for a period of 5years from 2008- 2012. Data were collected from the annual financial statements of the selected banks documented on the National stock exchange; and analyzed using descriptive statistics, correlation matrix and regression models. The findings showed that the study validated a solid positive dependence of short-term debt to the capital with all profitability measures of ROA, ROE and EPS. In contrast, long term debt to capital and total debt to capital had a negative relationship with return on assets (ROA), Return On Equity (ROE) and Earning Per Share (EPS). The study concluded that there exists a positive relationship between short term debt and the profitability of Indian banks. It recommended that the study be extended by adding more banks or by conducting a survey of the global level with the inclusion of all banks around the world. Contribution to knowledge is seen from the findings of this study that the study validated a robust positive dependence of short-term debt to the capital with all profitability measures of ROA, ROE and EPS, while long term debt to capital and total debt to capital had a negative relationship with return on assets (ROA), Return On Equity (ROE) and Earning Per Share (EPS). The study is similar to this study as both studies used the constructs of ROA and ROE to determine the dependent variable, profitability.

Kipesha and Moshi (2014); 'Effects of Capital Structure and Firm performance: Evidence from commercial banks in Tanzania'. The study sought to assess the impact of capital structure on bank performance in Tanzania. The study adopted panel data and used secondary data on a sample of 38 banks operating in the country listed on the Tanzanian stock exchange for five years, from 2007-2011. Data were collected from the financial report of the selected banks documented in the Tanzanian Stock Exchange. The study used a fixed effect regression model to estimate the relationship between firm leverage and firm performance. Their findings indicated a presence of a significant negative relationship between total debt to equity and long-term debt to equity with bank cost efficiency

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and return on equity, which implies the existence of a negative tradeoff between firm leverage and firm performance. The study concludes that banks in Tanzania prefer to use more short-term debts in the form of deposits other than commercial debts; hence they still have a chance to excel as the debts to asset ratio was found to have a significant positive impact on return on equity. It recommended that the management of the commercial banks in Tanzania have a chance of using commercial debts to expand their services to rural areas and other areas with an unbanked population. Its contribution to knowledge is seen from the findings indicated a presence of a significant negative relationship between total debt to equity and long-term debt to equity with bank cost efficiency and return on equity, something which implies the existence of negative trade-off between firm leverage and firm performance. This empirical study is similar to this study because both of them have debt and equity as part of their independent variables pushing on their individualistic dependent variables.

Chechet and Olayowola (2014); 'Capital Structure and Profitability of Nigerian Quoted Firms: The Agency cost theory perspective'. The study sought to examine the Capital Structure and Profitability of Nigerian Quoted Firms: The Agency Cost Theory Perspective targeted to establish the relationship between capital structure and profitability of firms. The study adopted panel data methodology and used secondary data of a sample of 70 firms listed on the Nigerian Stock Exchange, NSE, was selected for ten years: 2000-2009. Data were collected from the annual financial reports of the companies. Multiple regression analysis was used where Profitability for a given period was the dependent variable, and the independent variables were debt ratio for the period and equity ratio for the period.

The findings showed a significant positive correlation of 5 % between profitability and equity and a negative correlation of 1 % between profitability and debt ratio. Therefore, the study concluded that a higher proportion of debt in capital structure hurts the firm profitability, and equity financing positively affects the profitability of a firm's profits though not significantly.

It recommended that the management (i) experiencing agency conflicts and wishing to raise funds for operations or expansions, debt ratio (higher) should not be given priority. A suitable and correct combination of equity and debt must be ensured, with equity given priority over debt. (ii) In raising finance, firms should strive and ensure that they are wholly financed by equity, but if impossible, very little proportion should be debt. No firm should rely only on the issue of debt financing in structuring their capital for profitability. Should that be done, it results in worsening the performance. The contribution to knowledge is seen in the findings of this study that a significant positive correlation of 5 % between profitability and equity and a negative correlation of 1% between profitability and debt ratio should be vigorously pursued.

### Gap

The debate on the effects of capital structure on profitability of the cement industry has remained inconclusive. Studies conducted in this area both in Nigeria and in developed economies show conflicting results.

However, with regards to other industries in Nigeria, a few scientific and detailed studies have been undertaken by different researchers and institutions. After going through various studies conducted by way of research articles, journals, magazines, PHD theses and various books, yet there is a gap where the analysis of capital structure must be found out. Unfortunately, the cement industry has not been able to draw the attention of researchers to any noticeable event.

## METHODOLOGY

### Research Design and Data

This study employed the descriptive and causal research designs. Descriptive research design that shows characteristics of the data while causal design is applied to determine the effect of the independent variables on the dependent variable (Sileyew, 2019).

The population for this study is made up of all the cement companies in Nigeria. As at December 2020, there were nine (9) cement companies in Nigeria. From the nine cement companies that form the study population, a sample of three cement companies was taken using the purposive sampling technique. The three cement companies were selected because they are the only cement companies listed on the Nigerian Stock Exchange throughout the period covered by the study (from 2010 to 2020).

The research utilizes secondary data because it is the most appropriate for the survey since much of the information needed to answer the research questions is ratio-related, which have been collected from the published annual financial statements of the cement industries in Nigeria. The contents of the financial statement include the following: (i) Statement of financial position; (ii) Statement of comprehensive income;(iii) Statement of cash flow and (iv) Statement of changes in equity.

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## METHOD OF DATA ANALYSIS

This study adopted a panel regression estimation technique. Panel data is an important method of longitudinal data analysis because it allows for a number of regression analyses in both spatial (units) and temporal (time) dimensions. In Panel regression, there are three possibilities: Pooled Regression Model, Fixed Effect Model, and the Random Effects Model.

### Model Specification

For the purpose of the study we will adopt the traditional approach by Duran (1958) as modified by Shoab, Onalapo and Kajola (2012) and Olusuyi, Araoye (2017) with little modifications to suit the objective and purpose of the study. The explicit model is stated as follows:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 X_{it} + \epsilon_{it}$$

Where,

Y = dependent, X = independent,  $\epsilon$  = error, i = the total of individual, t = the time, i x t = Total of observation.

$$ROA_{it} = \beta_0 + \beta_1 DER_{it} + \beta_2 TDTA_{it} + \beta_3 SG_{it} + \beta_4 FMSZ_{it} + \mu_{it} \dots\dots\dots (1)$$

ROA<sub>it</sub> = Return on assets of firm i at period t (Proxy for firm profitability, a dependent variable)

DER<sub>it</sub> = Debt–equity ratio of firm i at period t (proxy for capital structure, an independent variable)

TDTA<sub>it</sub> = Total debt to total assets of firm i at period t (proxy for capital structure, an independent variable)

SG<sub>it</sub> = Sales growth of firm i at period t (control variable, an independent variable)

FMSZ<sub>it</sub> = Firm size of firm i at period t (control variable, an independent variable)

i = Selected Company

t = Time Series

u<sub>it</sub> = Error Term

$\beta_0$  = Constants

$\beta_1, \beta_2,$  and  $\beta_3$  = Coefficient of determination

**Decision Rule:** Reject Ho if  $P < 0.05$

Accept Ho if  $P > 0.05$

The decision rule is that if the p-value is less than the level of significance of 0.05, the null hypothesis will be rejected while the alternate hypothesis is accepted. But if the p-value is greater than the level of 0.05, accept the null hypothesis and reject the alternate.

## ESTIMATION AND RESULTS

**Table 1. Correlation**

	ROA	TDTA	DER	SG	FMSZ
ROA	1				
TDTA	0.565978	1			
DER	-0.13692	-0.54269	1		
SG	-0.14503	-0.1767	0.083203	1	
FMSZ	-0.18053	-0.53259	0.956754	0.125658	1

Table 1 shows the correlation among the variables. The correlation result revealed that debt Debt equity, and total debt correlated to return on assets (ROA) by -13. 6%, and 56.6 %. While the control variables sales growth and firm size are negatively correlated to ROA by -14.5% and 18.1%. The result indicated a mixture of weak and strong correlations among the variables.

### Pre-diagnostic test

This study tested for data normality by applying the Jarque-Bera test. The result shows that since the p-value is 0.4561 is greater than 0.05 level of significance, the data is normally distributed and appropriate for a parametric analysis such as adopted in this study. Consequently, Unit root test was conducted to ascertain the level of stationarity of the data.

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**Table 2. Im, Pesaran and Shin (IPS) Unit Root Test**

Variable	Level	P-value	First Difference	P-value	Order of co-Integration
ROA	-2.43	0.0075	-4.44	0.0000	I(0)
DER	-1.88	0.0299	-1.75	0.0401	I(0)
TDTA	-1.80	0.0358	-3.31	0.0005	I(0)
SG	-2.53	0.0058	-6.12	0.0000	I(0)
FMSZ	-3.541	0.0002	-3.752	0.0001	I(0)

Source: Eviews output

Table 2 shows the unit root result of the variables used for this study. It revealed that the non-stationary data was transformed by differencing each variable. The result of the first difference for all the variables under IPS method indicated stationarity. This is because the p-values for each variable are less than the level of significance of 0.05. It is therefore, concluded that all the variables are stationary at level difference and all the variables are integrated at order 0, i.e I(0). Based on this result, there is no need for co-integration.

**Table 3. Results of Pooled Regression Estimates**

	Coeff.	Std	t-test	P-value
$TDTA_{it}$	0.194376	0.047000	4.135695	0.0002**
$DER_{it}$	-0.057572	0.101346	-0.568076	0.5733
$SG_{it}$	-0.020528	0.052719	-0.389387	0.6992
$FMSZ_{it}$	0.027516	0.025000	1.100647	0.2780
CONSTANT	-0.035844	0.139482	-0.256977	0.7986
$R^2$	0.3433			
N	42			
$F^*$	6.623	0.0010		

**Dependent variable: ( $ROA_{it}$ ).**

Note: \* \*\* \*\*\* show significance at 1 percent, 5 percent and 10 percent respectively

The OLS regression shows that total debt (TDTA) has a positive effect on return on assets (ROA) with a coefficient value of 0.1943. This means that total debt (TDTA) has led to increase in the return on asset (ROA).

The OLS regression shows that equity (DER) has a negative effect on return on Asset (ROA) with a coefficient value of -0.05757. This means that equity (DER) has led to decrease in the return on Asset (ROA).

The result from Table 3 shows that the control variables, sales growth (SG) has a negative effect, while firm size (FMSZ) is positive. This indicated that sales growth (SG) and firm size (FMSZ) have negatively and positively affected the level of ROA respectively of cement firms in Nigeria. The coefficient of determination  $r^2=0.3434$  shows that a 34.34% change in  $ROA_{it}$  is as a result of the changes in total debt (TDTA), sales growth (SG) and firm size (FMSZ). The F- test with a value of 6.62 and p-value of 0.001040 shows that there is a strong linear dependency existing between the independent and dependent variable.

### DISCUSSION OF FINDINGS

Debt has significant effect on the profitability of cement industry in Nigeria is accepted. The result is not consistent with the findings of Kipasha and Moshi (2014) who explored Capital structure and firm performance, with evidence from commercial banks in

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Tanzania. Their findings indicated a presence of significant negative relationship between total debt to equity and long-term debt to equity with bank cost efficiency and return on equity.

The finding is in line with the theory of capital structure because increased debt would facilitate efficient functioning of cement industry in Nigeria. Debts are cost savings and they reduce the risk of owners. Effective and efficient use of Debt in the cement industry can lead to profitability and consequently the performance of the cement industry in Nigeria. When the cement industry is performing well, it improves the gross domestic product (GDP) of a country and invariably solving the problem of unemployment of the land.

Debt equity does not lead to increase in profitability of cement industry in Nigeria. The result is consistent with the capital structure theory even though the finding shows that equity has no significant effect on the profitability of cement industry in Nigeria. The result is in line with the findings of Abbasali (2012) who examined the relationship between capital structure and firm performance, where multiple regression model was applied to determine the relationship between independent variables of debt ratios against dependent variables of return on asset (ROA) and return on equity (ROE). The findings of the review indicated a negative relationship between debt ratio and financial performance. However, the result is not in agreement with the findings of Chechet and Olayowola (2014) who studied the relationship between capital structure and profitability of firms from an agency theory perspective. Multiple regression analysis was used where Profitability for a given period was the dependent variable and the independent variable was equity ratio for the period. The results showed that equity has a negative correlation of 1% on the capital structure of firms. Therefore, the study concluded that a higher proportion of debt in capital structure has a negative impact on the firms' profitability and equity financing as such will affect the profitability of a firm's profits though, not significantly.

The cement industry that solely depends on equity capital for sustainability will find it difficult to succeed because the cement industry is a very high capital-intensive venture that needs versatility through external funding for it to thrive or survive. Therefore, the cement industry that depends on equity capital alone would find it difficult to grow and develop, and as a result of that, may not contribute meaningfully to the growth of a country's GDP, thus, increasing a nation's unemployment problem.

## CONCLUSION AND RECOMMENDATIONS

The main objective of this study is to identify the main factors of capital structure and their effects on the profitability of cement industry in Nigeria. Specifically, the study examines the effects of debt, and equity financing on the value of the firm or the cement industry in Nigeria. From the findings and discussions, the following conclusions were derived: Debt has a significant effect on the profitability of the cement industry in Nigeria. On the other hand, Equity financing do not have any significant effect on the profitability of the cement industry in Nigeria.

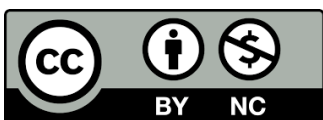
It is recommended that cement industry owners should diversify their sources of financing their businesses by focusing more on debts so as to save their costs and reduce their risk in the investment. Industry owners should look outside the box by employing other sources of financing their businesses like debentures, bonds and so on, other than absolute dependence on equity.

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## Building Shared Values in Hospitals through the TCR Concept of Relational Success



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**ABSTRACT:** Hospitals are one of the health industries that are engaged in services that are very important to support a healthy standard of living for everyone to realize and ensure the health of every community who comes to get out of any health problems. Hospitals as a health facilities to provide health services to the community have a strategic role in accelerating the increase in the degree of public health. This study used a conceptual framework model that was proposed using the perspective of human relations theory and was intended as a novelty in this study to be tested on paramedics from hospitals. Namely as many as 16,968 personnel, both paramedical and non-paramedical staff. In this case, there is the influence of shared values, including trust and commitment. In this case, there are similarities between the beliefs between hospitals and medical personnel and the values that exist in the hospital's goals, it will cause medical personnel to have compatibility or chemistry with the duties, obligations and responsibilities given by the Hospital.

**KEYWORDS:** Hospital; Medical Personnel; Health Services

### INTRODUCTION

Hospitals are one of the health industries that are engaged in services that are very important to support a healthy standard of living for everyone in order to realize and ensure the health of every community who comes to get out of any health problems. Hospitals as a health facility to provide health services to the community have a strategic role in accelerating the increase in the degree of public health. For this reason, hospitals are required to provide quality services in accordance with established standards and can be reached by all levels of society. The hospital is a health service institution for the community with its own characteristics that are influenced by the development of health science, technological progress, and the socio-economic life of the community while continuing to take concrete steps in improving health services of high quality and affordable by all levels of society in order to realize the highest degree of health and is actually based on existing service standards.

Hospitals as an organization engaged in services also have interests and obligations in improving and managing their resources, both in the form of facilities and infrastructure as well as human resources. In terms of human resources, hospitals are HR-intensive organizations, because of the many kinds of professions and the number of workers who carry out sub-sections of work in the hospital, starting from the managerial scope which oversees the management of everything that exists, including human resources, to the technical department that deals directly with the field or the patients. The resources in a hospital consist of health workers (including doctors, nurses, pharmacists, analysts, nutritionists, physiotherapists, radiographers, paramedic recorders) and non-health workers (finance, administration, personnel, security, and etc) (Putri, 2019).

One of the factors that affect the quality of service is the role of human resources (HR) as service actors. The attitude, ability and integrity of human resources in an organization or business affect the success of establishing relationships between companies, employees and customers (Kotler & Armstrong, 2008). The improvement and development of the quality of services carried out by human resources in the hospital is of course the key to achieving the desired goal (success) of the hospital as a health service provider. However, at this time there are also not a few who then unwittingly share the values that they do have put aside the social side and social humanism as external forces that they should accommodate to increase the value of health services provided to all patients.

So then, in this study, we examine more deeply about the shared values carried out by hospitals in achieving the desired goals (relation success) using the TCRC concept (Trust, Commitment, Relationship Learning, and Cooperation). Shared values that have been carried out so far have often defined values that are too narrow, which are only synonymous with short-term benefits,



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so that they often sacrifice something broader and have a significant influence on long-term performance, especially as a provider of public health services. What should continue to be improved and pursued in various forms of performance practice in a hospital is not only thinking about how to get the realization of payments from patients or customers, but how to create social value in the external environment of the hospital as well as in the hospital's internal environment which includes owners, investors, leaders, and staff. So that at the next stage, all parties will be able to understand the will and conflict of interest of the 4 main components involved in the activity or process of managing the health service provider, starting from the leader or owner, customers, staff, and investors/financiers in this case. government or individuals. When all these things are done well, the Hospital as a legal entity organization engaged in health services can achieve its target as they set out in their vision and mission as a form of system success as well as material success. investors, leaders, and personnel. So that at the next stage, all parties will be able to understand the will and conflict of interest of the 4 main components involved in the activity or process of managing the health service provider, starting from the leader or owner, customers, staff, and investors/financiers in this case. government or individuals. When all these things are done well, the Hospital as a legal entity organization engaged in health services can achieve its target as they set out in their vision and mission as a form of system success as well as material success. So that at the next stage, all parties will be able to understand the will and conflict of interest of the 4 main components involved in the activity or process of managing the health service provider, starting from the leader or owner, customers, staff, and investors/financiers in this case. government or individuals. When all these things are done well, the Hospital as a legal entity organization engaged in health services can achieve its target as they set out in their vision and mission as a form of system success as well as material success. So that at the next stage, all parties will be able to understand the will and conflict of interest of the 4 main components involved in the activity or process of managing the health service provider, starting from the leader or owner, customers, staff, and investors/financiers in this case. government or individuals. When all these things are done well, the Hospital as a legal entity organization engaged in health services can achieve its target as they set out in their vision and mission as a form of system success as well as material success. So that at the next stage, all parties will be able to understand the will and conflict of interest of the 4 main components involved in the activity or process of managing the health service provider, starting from the leader or owner, customers, staff, and investors/financiers in this case. government or individuals. When all these things are done well, the Hospital as a legal entity organization engaged in health services can achieve its target as they set out in their vision and mission as a form of system success as well as material success.

Based on the observations and evaluations carried out by the parties as well as listening and media literacy about public opinion regarding the service and the existence of the Hospital; it seems that not all hospitals get good value from several parties, especially from the community as customers for the services they (hospitals) provide.

As an example; not a few patients who come to get good service so that they can overcome their health problems, in fact this goal cannot be pursued optimally by the existing medical personnel; even though they are back in good health, the patients still take bad stories as a negative rating for the hospital concerned. It can even be said that patients or customers who then return to using health services at the hospital are related to the reason not because the services provided and health needs are given well; but out of necessity sometimes because there is no other place to go. This means that there is a need for a complete understanding and learning related to the shared values that should be carried out by each of these hospitals.

## RESEARCH METHODS

This study used a conceptual framework model that was proposed using the perspective of human relations theory and was intended as a novelty in this study to be tested on paramedics from hospitals. The reason for using paramedical personnel from hospitals was because paramedics have their own characteristics which were always influenced by developments in health science, technological advances, and were required to be able to provide good service to patients regardless of their own needs, especially during the COVID-19 pandemic such as now.

## DISCUSSION

### 1. Hospital List

No	Nama Rumah Sakit	Jumlah Tenaga
1	Regional General Hospital Prof Dr Soekandar	59
2	Hospitals National Hospital	173
3	Undaan Eye Hospital	211
4	Sumberlagah General Hospital	266

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5	Siti Khodijah General Hospital Muhammadiyah Branch throughout	326
6	Manyar Medical Center Hospitals	426
7	General Hospital Mitra Keluarga Waru	470
8	Siti Hajar Islamic Hospital	501
9	Siloam Hospitals Surabaya Hospitals	525
10	Ibn Sina Regional General Hospital	548
11	Premier Surabaya Hospital	559
12	PHC Hospitals (Primasatya Husada Citra)	566
13	Adi Husada Hospital Undaan	651
14	Husada Main Hospital	658
15	Dr Wahidin Sudiro Husodo General Hospital	759
16	Islamic Hospital Surabaya Jemursari	830
17	Regional General Hospital Dr Soegiri	836
18	Regional General Hospital Syarifah Ambami Rato Ebu	1,005
19	Hospital Dr. Mohamad Soewandhie	1,026
20	Muhammadiyah General Hospital Lamongan	1,321
21	Sidoarjo Regional General Hospital	1,558
22	RSUD Haji Surabaya	1,601
23	Catholic Hospital (RKZ) Surabaya	2,093
	<b>Total</b>	<b>16,968</b>

Source: Processed by Researchers 2021

Hospital selection is based on the reason that this type of hospital exists in almost all districts, according to the requirements that have been determined by the government. The selection of hospitals in the research area includes: Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo, and Lamongan (GERBANG KERTASUSILA), so that 23 hospitals are sampled in this study with a total population of 23 hospitals. namely as many as 16,968 personnel, both paramedical and non-paramedical staff. Thus, in this research, it will be a relatively large number of respondents, and it is intended that the results of this study have a sufficiently strong level of evidence.

### 2. Shared Values Indicator in Hospitals through the TCRC Concept of Relational Success

The definition of Shared value used refers to the opinion (Chaurasia et al., 2020) that shared value is a form of active participation, interaction, and collaboration of all stakeholders in the exchange of ideas to develop a deeper understanding as an effort to solve problems that occur between members in an organization or in other ways. There are 3 indicators of Share Value used in this study as disclosed (Chaurasia et al., 2020) including the following.

- a. Indicator 1 (X.1): Interaction.
- b. Indicator 2 (X.2): Participation.
- c. Indicator 3 (X.3): Collaboration.

#### 1) Trust (Z1)

The definition of trust used is based on the opinion of Mowen & Minor in Donni, (2017:116) that trust is all knowledge possessed by consumers and all conclusions made by consumers about objects, attributes and benefits. In addition, the opinion expressed by Rousseau et al Donni (2017:116). There are 5 indicators of trust (trust) used in this study as follows:

- a. Indicator 1 (Z1.1): Integrity.
- b. Indicator 2 (Z1.2): Competence.
- c. Indicator 3 (Z1.3): Consistency.
- d. Indicator 4 (Z1.4): Loyalty.
- e. Indicator 5 (Z1.5): Openness.

Based on the indicators of respondents, the Trust variable can be described in the table below:

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Indicator	Answer Frequency					mean	Category
	1	2	3	4	5		
Z1.1	4	22	126	187	52	3.67	High
Z1.2	4	22	128	185	52	3.66	High
Z1.3	6	24	117	181	63	3.69	High
Z1.4	6	24	118	180	63	3.69	High
Z1.5	4	22	128	184	53	3.66	High
Z1.6	4	22	128	185	52	3.66	High
Z1.7	4	22	129	185	51	3.66	High
Z1.8	4	35	140	163	49	3.56	High
Z1.9	4	36	135	165	51	3.57	High
Z1.10	4	22	128	185	52	3.66	High
<b>Overall average</b>						3.65	High

Source: Researcher Data Processing, 2021

This shows that paramedics (nurses and midwives) agree that they have a willingness to save the organization. Based on all respondents' answers regarding the trust variable, the mean is 3.65. This shows that trust in paramedical personnel (nurses and midwives) from hospitals is included in the high category.

### 2) *commitment* (Z2)

The definition of commitment used in the study refers to the opinion of Luthans (2011) that organizational commitment is an attitude of employee loyalty and is a continuous process of how an employee expresses their concern for the success and goodness of the company. There are 3 indicators of commitment used in this study including the following.

- a. Indicator 1 (Z2.1): Power Safety
- b. Indicator 2 (Z2.2): Energy Loyalty
- c. Indicator 3 (Z2.3): Power pride

### Description of Respondents' Answers Variable Commitment

Indicator	Answer Frequency					mean	Category
	1	2	3	4	5		
Z2.1	5	31	97	164	94	3.80	High
Z2.2	6	36	104	155	90	3.73	High
Z2.3	4	32	103	164	88	3.77	High
Z2.4	7	39	99	158	88	3.72	High
Z2.5	5	38	96	167	85	3.74	High
Z2.6	5	29	97	170	90	3.80	High
<b>Overall average</b>						3.76	High

Source: Researcher Data Processing, 2021

Based on all respondents' answers regarding the commitment variable, the mean is 3.76. This shows that the commitment to paramedical staff (nurses and midwives) from hospitals is included in the high category.

### 3) *Relationship Learning* (Z3)

*Relationship Learning* is the process of bringing together various tools and technologies to achieve the look, feel, and functionality of a Learning Relationship. This process combines learning modules and assessment features with other capabilities, namely a constituent relationship management (CRM) platform, solution success or multiple solutions combined into a single unit, and predictive analytics. There are 7 indicators of Relationship Learning used in this study including the following.

- a. Indicator 1 (Z3.1): Able to build vision and goals
- b. Indicator 2 (Z3.2): Communicate openly
- c. Indicator 3 (Z3.3): Able to resolve conflicts
- d. Indicator 4 (Z3.4): Have the right work method
- e. Indicator 5 (Z3.5): Able to lead
- f. Indicator 6 (Z3.6): Able to motivate individual development

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g. Indicator 7 (Z3.7): Build good relations with other groups

### Description of Respondents' Answers Relationship Learning Variables

Indicator	Answer Frequency					mean	Category
	1	2	3	4	5		
Z3.1	2	34	125	159	71	3.67	High
Z3.2	4	40	119	162	66	3.63	High
Z3.3	1	40	122	160	68	3.65	High
Z3.4	4	38	118	162	69	3.65	High
Z3.5	2	37	120	157	75	3.68	High
Z3.6	5	37	122	157	70	3.64	High
Z3.7	2	38	118	162	71	3.67	High
Z3.8	5	43	117	156	70	3.62	High
Z3.9	2	34	129	153	73	3.67	High
Z3.10	3	40	116	162	70	3.65	High
Z3.11	3	38	116	168	66	3.65	High
Z3.12	1	41	125	150	74	3.65	High
Z3.13	4	35	114	173	65	3.66	High
Z3.14	4	32	123	159	73	3.68	High
<b>Overall average</b>						3.66	High

Source: Researcher Data Processing, 2021

Based on all respondents' answers regarding the relationship learning variable, the mean is 3.66. This shows that the relationship learning of paramedical staff (nurses and midwives) from hospitals is included in the high category.

#### 4) Cooperation (Z4)

The definition of Cooperation used in this study refers to the opinion of Smith et al., (1995) that Cooperation is a construct when it is used widely but has various definitions. Some experts define when as a process of interaction carried out by individuals, groups and organizations to obtain benefits. There are 7 Cooperation indicators used in this study including the following.

- a. Indicator 1 (Z4.1): Clear goals
- b. Indicator 2 (Z4.2): Be open and honest:
- c. Indicator 3 (Z4.3): Cooperative decision making,
- d. Indicator 4 (Z4.4): Atmosphere of trust,
- e. Indicator 5 (Z4.5): The sense of belonging between the workforce and the company
- f. Indicator 6 (Z4.6): Good listening skills.
- g. Indicator 7 (Z4.7): Participation of all members.

### Description of Respondents' Answers Variable Cooperation

Indicator	Answer Frequency					mean	Category
	1	2	3	4	5		
Z4.1	1	33	124	162	71	3.69	High
Z4.2	1	42	119	161	68	3.65	High
Z4.3	1	34	126	161	69	3.67	High
Z4.4	3	42	118	161	67	3.63	High
Z4.5	0	37	137	159	58	3.61	High
Z4.6	2	36	132	154	67	3.63	High
Z4.7	0	41	120	166	64	3.65	High
Z4.8	3	31	121	163	73	3.70	High
Z4.9	1	42	111	170	67	3.66	High
Z4.10	1	32	126	159	73	3.69	High
Z4.11	2	41	114	164	70	3.66	High
Z4.12	1	43	104	174	69	3.68	High

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Z4.13	1	34	124	171	61	3.66	High
Z4.14	0	41	115	162	73	3.68	High
<b>Overall average</b>						3.66	High

Source: Researcher Data Processing, 2021

Based on all respondents' answers regarding the cooperation variable, the mean is 3.66. This shows that the cooperation of paramedics (nurses and midwives) from hospitals is in the high category.

### 5) Relationship Success (Y)

*Relational Success* is a marketing strategy to understand customers better, companies can provide a higher level of customer service and develop deeper customer relationships. Relational Success aims to be able to build good and sustainable relationships. The use of relationships is not only used within the scope of business but is also used in a wider scope and in order to survive and struggle in the competition zone, a good relationship is needed between one party and another. There are 2 Relational Success indicators used in this study including the following.

- a. Indicator 1 (Y.1): Communication (communication)
- b. Indicator 2 (Y.2): Conflict handling (conflict handling)

### Description of Respondents' Answers Relational Success Variables

Indicator	Answer Frequency					mean	Category
	1	2	3	4	5		
Y.1	9	40	126	155	61	3.56	High
Y.2	8	26	113	166	78	3.72	High
Y.3	7	35	127	159	63	3.60	High
Y.4	9	41	126	153	62	3.56	High
Y.5	8	27	114	164	78	3.71	High
<b>Overall average</b>						3.63	High

Source: Researcher Data Processing, 2021

Based on all respondents' answers regarding the relational success variable, the mean is 3.63. This shows that the relational success of paramedics (nurses and midwives) from hospitals is in the high category.

### 3. Concept Influence TCRC Against Relational Success in Hospitals

#### a. Trust

Based on research by (Mukherjee & Nath, 2007) explains that to achieve relational success it is necessary to have trust (belief) this can have a significant influence between shared values on trust. In addition, research conducted by (Kassim & Abdulla, 2006) concludes that there is a positive and significant effect between shared value and trust on internet banking users in Doha, Qatar.

Meanwhile, the research conducted by (Cote & Latham, 2015) is actually the opposite, which shows that there is no influence between shared value and trust. In this case, shared value can be interpreted as a value that can be believed together and can be considered as the main guideline for every company.

Based on the characteristics, shared values tend to be abstract or invisible from the outside and can be felt by insiders. However, shared values are very important because these values are the foundation of the culture in a company (Admadja, 2009:48). If the staff has confidence in the values that exist, the staff will carry out their duties in accordance with the values that exist in the hospital.

The existence of similar beliefs between hospitals and medical personnel with the values that exist in the hospital's goals will cause medical personnel to have a match or chemistry with the duties, obligations and responsibilities given by the hospital.

Thus, it will create a bond between paramedics and shared values in the hospital organization. The existence of a fabric of attachment to one another will encourage the emergence of trust (trust) of paramedics in achieving the goals of the hospital organization.

#### b. Commitment

Regarding the effect of shared value on commitment, the results of this study are in accordance with research conducted by (Mukherjee & Nath, 2007) which confirms that there is a very positive influence between share value and commitment. In

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contrast to the research conducted by (Kassim & Abdulla, 2006) concluded the results of his research that there is a negative and significant relationship between shared values and commitment to internet banking users in Doha, Qatar.

However, it is inversely proportional to the results of research conducted by (Cote & Latham, 2015) which shows that there is no influence between share value and commitment. This research can produce different findings between share value and commitment. Shared values are shared values that exist in an organization that can be used as a basis for reference for all parties involved in an organization. If these shared values are in line with the values that exist in employees, it will have an impact and a good image in an organization.

Commitment in an organization becomes very important as explained by Dunnette and Hought (1998) that organizational commitment is a reflection of attitudes such as involvement in an organization, the object of the attitude in question is a whole in an organization not the role of special work characteristics.

The role and benefits in organizational membership is the absence of a desire to stop leaving or resigning from an organization. In addition, Dessler (2003) also explains that organizational commitment is to recognize organizational employees with organizational goals that can be used as a reference to achieve the company's goals.

In this case, there are three indicators to measure the extent of employee commitment to the existence of an organization:

- 1) Willingness of energy, the desire of employees to seek to achieve an interest that exists in an organization.
- 2) Loyalty of energy, energy has the desire to seek and maintain its membership in order to remain part of an organization.
- 3) Employee pride, this is one of the pride that exists in employees because they have become part of an organization.

In an organization the number of value drivers is quite potential and can be special. The essence of the existence of inter-organizational arrangements is to encourage trust and commitment as described by (Cooper & Slagmulder, 2004). An increase in transactions is the frequent interaction between companies and companies that occur at the level of individual transactions. Over time, the peak of this transaction is to build a history which of course leads to a relationship that can reach a continuum of success within an organization.

At a subtle and abstract level, it is the cause of the building of a foundation that guides the course of a transaction between companies. To identify a role and characteristics in intangible relationships in driving a value for an organization can offer an opportunity to transform an unobservable construct into a phenomenon that can be measured by monitoring causally related antecedents. (Cooper & Slagmulder, 2004).

### **c. The effect of trust on commitment**

In addition to the influence of shared value with trust and share value with commitment, it can be investigated how the influence of trust on commitment. This can be proven by the results of hypothesis testing obtained from the results of the trust variable that affect commitment with a CR value of 2,620 and p-value of 0.000. So, H3 is accepted.

In line with the results of this study, it is in accordance with research conducted by (Mukherjee & Nath, 2007) and (Kim Yoo & Lee, 2012) it confirms that there is a significant positive influence both trust and commitment. In addition, research was conducted by (Kassim & Abdulla, 2006) concluded that there is a positive and significant relationship between trust and commitment to internet banking users in Doha, Qatar.

Research by (Xiao, et al, 2010) confirms that the existence of trust from all parties is very influential as well as individual trust (individual trust) and team trust (team trust) it can significantly affect the commitment relationship. In addition to research conducted by Xiao, et al.

Subsequent research conducted by (Hadjikhani et al., 2012) shows that there is an effect of trust in a commitment to group a sustainable business relationship in order to show a significant level of strength that is in line with the unsustainable business relationship group. Then the research was concluded by (Kar & Soch, 2013) and Cote & Latham (2015) who concluded that there was a significant influence between trust and commitment.

The existence of trust is very important as an indicator to foster positive relationships, especially in the service industry, which has been stated in many studies. Trust is a very important thing for a commitment or a promise and commitment can be applied if needed. There is a trust if there is a customer who believes that the service provider can be trusted and also has a high degree of integrity (Karsono: 2006).

As according to Morgan and Hunt (1994) in Xiao et al (2010) argues that trust is a trust in the current partner, while commitment is a desire to continue the relationship in the future and trust will help to continue the desire to maintain relationship commitments in the future. So that the level of trust will have an impact on the quality and quality of the commitment relationship.

Trust is often referred to as a strong predictor in developing a relationship. Based on a study conducted by (Kim, Yoo, & Lee, 2012) explained that the recovered customer trust in the dependability and reliability of the service provider has a positive effect on their intention to maintain a relationship with the service provider.

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When referring to an organization that is engaged in health services, it shows that if service providers have provided adequate facilities and infrastructure to support the rights they get and to support employee performance in carrying out their duties and responsibilities, it will have a positive impact on their intention to maintain (commit to) the organization.

Therefore, in this case it can be concluded that employee trust after the restoration of facilities and infrastructure as well as attention to employee rights is very important and necessary in order to build and strengthen relationship commitments with health service providers.

### **d. The effect of trust on relationship learning**

In addition, there is an influence between trust and relationship learning. Based on the hypothesis test, the results showed that the trust variable had an effect on relationship learning with a CR value of 4.631 and a p-value of 0.000. So, H4 is accepted. This is in line with research conducted by (Jiang & Chen, 2017) that organizational trust has a positive influence on organizational learning.

Looking at a company that is superior and victorious in the future is an organization that continues to strive to involve personnel from various levels and is able to continue to learn. Organizational Learning refers to organizations that exist in the surrounding environment and are able to bear to build internal and external knowledge and have adequate actions to have a good management control strategy.

In addition, this research was conducted by (Al-tarawneh & Al-Adaileh, 2021) which concludes that there is a significant relationship between trust and Relationship Learning. Other research results by (Arrow, 2014) it found a significant positive effect of organizational trust on organizational learning.

The characteristic of Organizational Learning is that there is a belief that the individual is a proactive form of self-improvement, trying to progress and learn by creating an open organizational climate and clear information flow. This condition will be able to obtain a continuous projection while still referring to an internal condition of the organization which will later refer to external conditions and demands outside the organization. In addition to the need for team learning, team learning is a process of surrendering and developing the capacity of a team in order to create results that members of the organization really want (Senge in Nunuk Adiarni, 1995: 235).

In addition to the effect of trust on relationship learning, Trust can also affect Cooperation. Based on the hypothesis test, the results obtained that the trust variable has an effect on cooperation with a CR value of 5.355 and a p-value of 0.000. So, H5 is accepted. Based on the results of the study as in accordance with the research conducted by (Xiao, et al, 2010) shows that there is a direct and indirect relationship between trust and cooperation performance.

Individual trust and team trust are significant on the relationship between cooperation performance. The direct influence of individual trust on the performance of cooperation is greater than the indirect effect of individual trust which is mediated by the relationship of commitment to the performance of cooperation. Meanwhile, the indirect effect of team trust on the performance of cooperation mediated by the commitment relationship is greater than the direct influence.

(Hadjikhani et al., 2012) also found that the strength of the influence of Trust on Cooperation on unsustainable business groups was two times higher than the influence on sustainable business groups of business relationships and significant at the same level. A high level of trust will result in significant cooperation to a much higher level than in a sustainable business relationship.

Another study was conducted by (Kim, Yoo, & Lee, 2012) which confirmed that there was a positive and significant influence between Trust on Cooperation. Research by (Cote & Latham, 2015) also concludes that there is a significant effect between Trust and Commitment. The influence of the existence of trust on the performance of cooperation can be reflected in three things including;

- 1) Trust in supply chain transactions is an important requirement for partners to obtain information.
- 2) Can increase a mutual trust from the various parties that will reduce the burden of business costs and allow to increase a business success and of course will increase a profitability.
- 3) The existence of mutual trust which is a sign that is also needed to establish long-term cooperation (Xiao et al, 2010).

These are the three key factors in order to maintain a continuity of partnership. In an organization, one of which is health services, there is a mutualistic relationship that can be based on a trust which can certainly help and maintain long-term relationships both within the middle and from the company.

If both parties have carried out the task of building a high level of trust, the focus will be on the performance of Cooperation and the resulting output will be able to increase mutual trust in an organization and a good cooperation will be created.

### **e. The Effect of Commitment on Relationship Learning**

Based on the hypothesis test, it was found that the commitment variable had an effect on relationship learning with a CR value of 16.691 and a p-value of 0.000. So, H6 is accepted. The results of research conducted by (Ro et al., 2021) shows that there

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is a relationship between commitment and relationship learning. In Relationship Learning or organizational learning, one of the triggers to be able to motivate individual development. Other research results by (Pool & Pool, 2007) shows a significant positive effect between organizational commitment to motivation.

In addition, Slater & Narver (1995) in Kraus & Ma, (2012) One of the goals of a strategic process is to advance, develop and communicate a strategy that can state the vision and targets within a company. In the process of identifying and being able to explain a company's strategic goals and targets which is the most important aspect of an organizational learning because it can involve an organization member in a strategic dialogue, in order to increase an understanding in personnel about tactics and strategies that can lead an organizational learning in a certain direction.

So that participatory strategic planning can provide organizational learning facilities so that it is able to build a vision and mission within an organization which is for management and personnel who can develop a common understanding in corporate strategy. As according to Dunnette & Hought (1998) which explains that "organizational commitment is a reflection of attitudes such as involvement in the organization, the object of the attitude in question is the whole organization, not the role of special work characteristics".

Meanwhile, according to Lincoln and Bashaw organizational commitment has three indicators including;

- 1) There is a will from the workforce, namely where there is a desire for energy to be able to strive to achieve interests in an organization.
- 2) There is commitment or loyalty from employees who wish to maintain and continue to be part of the organization.
- 3) Pride of energy, this is indicated by energy feeling proud to have been part of the organization he is participating in and feeling that the organization has become a part of his life (Sopiah, 2008).

The results of this study are in line with the existing phenomenon because it turns out that the results of this study indicate that the greatest influence is found in the influence of commitment to relationship learning. This means that the more committed a person is to what is his or her job, the more they will have a desire to learn to relate better to fellow co-workers and to relate to patients.

This attitude of employee loyalty will be an ongoing process of how an employee expresses their concern for the success and goodness of the company. So that organizational commitment is the attachment of energy to the organization.

### **f. The Effect of Commitment on Cooperation**

Based on the hypothesis test, the results obtained that the commitment variable has an effect on cooperation with a CR value of 16,473 and a p-value of 0.000. So, H7 is accepted. The results of this study are in accordance with research by (Xiao, et al, 2010) which can show that there is an influence between Commitment to Cooperation. Another study by (Cote & Latham, 2015) which states that there is a significant influence between Commitment and Cooperation.

According to Hadjikhani, Lindh, & Thilenius, (2012) which shows that the existence of a sustainable and sustainable business group in displaying half the power in the influence of Commitment on Cooperation, this is the same as compared to an unsustainable group. Obviously, higher commitment in business relationships characterized by discontinuity leads to more cooperation than higher commitments in business relationships characterized by continuous character.

Research conducted by (Kim, Yoo, & Lee, 2012) can be concluded that there is a significant positive relationship between commitment to cooperation. However, the results of this study are different from research by (Sung & Kim, 2019) which can show that commitment does not have a significant effect on cooperation.

As Luthans (2011) can define organizational commitment as an attitude of employee loyalty and is an ongoing process of how an employee expresses their concern for the success and goodness of the company, organizational commitment is an employee's attachment to his organization.

The formation of organizational commitment is not formed just like that. There are many things that can be a forming factor in organizational commitment, one of the underlying factors can be seen from his personality. Because here personality is the basic foundation of organizational commitment. If the foundation is good it will produce a good commitment.

### **g. The Effect of Commitment on Relational Success**

Based on the hypothesis test, it was found that the commitment variable had an effect on relational success with a CR value of 2.925 and a p-value of 0.003. So, H8 is accepted. The results of this study are in accordance with research by (Kristanto, 2015) shows that Commitment has an influence on Relational Success through handling conflicts within the organization. Relational Success Management aims to be able to build good and sustainable relationships.

In achieving the success of an organization depends on the commitment of employees in communication both interpersonal communication and cross-cultural communication. In addition, success is achieved when the organization can provide solutions to conflicts that occur both between individuals, groups, and organizations. According to Balay (2007) in



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Kristanto, (2015) that the commitment of personnel should be something important in determining the conflict management to be adopted.

The climate of intense business competition requires organizational members to increase commitment at work, so that they are able to direct and develop their skills in managing conflict effectively. Predicting conflict management strategies through workforce commitment, arguing that increasing staff commitment will increase the other conflict management strategy and decrease the other conflict management strategy. Conflict is considered irrational and bad, and resolution emphasizes cooperation and shared goals.

Commitment occurs when employees have identified emotionally with the organization's ideas that are consistent with its values and aspirations. The relationship between the commitment of paramedics and conflict management strategies is based on the assumption of a unitarism perspective which states that the existence of an organization is very harmonious (perfect) and all conflicts are not needed.

The organization is perceived as an integrated and harmonious work team and family, where all members of the organization share common goals and emphasize mutually beneficial cooperation. This makes all members of the organization have a commitment to resolve conflicts that will occur (Kristanto, 2015).

The more they have commitment, the more successful the relational will be but the effect is very small, the more he should have a commitment to what is his duty, he should be able to create a good relationship or the relationship is successful, but in fact, according to the existing phenomenon, it turns out that paramedics are only committed to the hospital organization only, so they have the desire that if they have a commitment to the organization where they work, they have a sense of self-worth to get a reward.

In the relationship between paramedics and their patients, they are often unable to become the expected relationship, so there is an element of selfishness from each paramedic so that they get more value or rewards from the hospital. So the commitment here is their commitment to the hospital where they work where there is a tendency for their selfish nature to want to get a reward from the hospital.

However, when they are dealing with patients the tendency between them is not able to establish a good relationship. In this case there is an influence but it is relatively small, because there is an element of self-interest from. Their commitment to the organization of the hospital where they work, if it is selfish there is a sense of competition against co-workers.

### **h. The Effect of Relationship Learning on Relational Success**

Based on the hypothesis test, it was found that the relationship learning variable had an effect on relational success with a CR value of 19.754 and a p-value of 0.000. So, H9 is accepted. The characteristics of learning organizations are the belief that individuals are proactive to increase self-interest, strive to progress and continue to learn by creating an open organizational climate and clear information flow.

This condition will result in a continuous process while still referring to the internal conditions of the organization which ultimately refers to external conditions and demands outside the organization. According to Senge in Nunuk Adiarni (1995: 235) "Team learning is a process of surrendering and developing the capacity of a team to create the results that members of the organization really want".

Organizational learning is a very important thing done by organizations in the face of global competition that makes changes so fast in the internal and external environment of the organization. This is what underlies any form of organization that is required to always adapt in the face of challenges and competition.

Thus, in overcoming this, organizations need a learning process to foster creativity and dynamic innovations. The ability of an organization to learn is a sustainable advantage (Marsick & Watkins, 2003). The role of leaders/employees in achieving organizational goals is highly dependent on how well they communicate.

The nursing unit manager demonstrates educational leadership such as guidance, encouragement, and information provided to improve staff workability and increase team effectiveness of the nursing unit through the communication process towards goal attainment with staff (Choi et al., 2018).

### **i. The Effect of Cooperation on Relational Success**

Based on the hypothesis test, it was found that the relationship learning variable had an effect on relational success with a CR value of 26.177 and a p-value of 0.000. So, H10 is accepted.

Cooperation is a social construct that is used widely but has various definitions. Some experts define cooperation as an interaction process carried out by individuals, groups and organizations to obtain benefits (Smith, et al., 1995). Cooperation arises not only from the common goal of the members, but also because they work together because they are coordinated to achieve various goals. Furthermore, how the actions of each individual in the organization trying to achieve mutual benefits.

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Su et al. (2008) in Oduro et al., (2020) found that cooperation can improve the quality of relationships which in turn improve company performance. Thus, drawing on social exchanges, the study argues that in the health sector, close long-term cooperative relationships between health care/employees and organizations have a higher probability of increasing responsibility for achieving organizational goals, which, in turn, can improve to Relational Success in the organization.

So the more the paramedics are willing to work with colleagues and patients, the more likely it is that there will be a successful relationship, which means a pleasant relationship between the two parties, a comfortable, satisfied relationship that is beneficial for both parties.

### CONCLUSION

*Shared value* is a form of active participation, interaction and collaboration from all stakeholders in the exchange of ideas to develop a deeper understanding as an effort to solve problems that occur between members in an organization or in other matters. Based on the population of hospitals in Indonesia, it can be calculated a total of 16,968.

In this case, there is the influence of shared values which include trust and commitment, in this case there are similarities between the beliefs between hospitals and medical personnel and the values that exist in the hospital's goals, it will cause medical personnel to have compatibility or chemistry with the duties, obligations and responsibilities given by the Hospital.

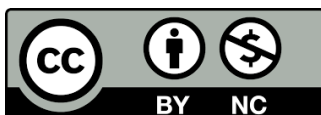
In addition, there is also the influence of the commitment of the staff to achieve the desired goals. The importance of the TRSC concept can be carried out after the restoration of facilities and infrastructure as well as attention to employee rights which are very important and necessary in order to build and strengthen commitment to relationships with health service providers.

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## Profit Distribution Management and Determinant Factors: Empirical Study on Sharia Commercial Bank in Indonesia



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**ABSTRACT:** Profit Distribution Management is critical for Islamic bank managers to ensure the banks they manage are sustainable. Profit Distribution Management will serve as the foundation for depositors' decision to invest in sharia banks. The study's overarching objective is to ascertain the level of profit distribution management at a sharia commercial bank and the factors that influence it. According to this study, the distinguishing characteristics of a sharia commercial bank that affect profit distribution management are capital adequacy, the percentage of third-party funds, and the age of the bank. While macroeconomic and Sharia Supervisory Board specific factors had no effect on the profit distribution management of a sharia commercial bank. This study made a significant contribution to the Islamic banking manager, Bank Indonesia, the Sharia Financial Accounting Standards Board, and the Islamic banking depositor.

**KEYWORDS:** Profit distribution management, determinant factors, sharia commercial bank

### I. INTRODUCTION

Banking institutions play a critical role in sustaining the country's economy (Mismiwati et al., 2022; Tharu & Shrestha, 2019). Banks play a critical role in boosting overall economic activity (Monnin & Jokipii, 2016). Banks serve as intermediaries between investors and lenders, facilitating cash transfers (Wu & Shen, 2013; Najwa et al., 2019). Following the passage of Law No. 21 of 2008, which regulates specifically Islamic banking, it has facilitated the rapid development of Islamic banks in Indonesia. Islamic banks, as defined by Law No. 21 of 2008, are those that conduct business in accordance with sharia principles. Sharia commercial banks, Sharia business units, and Sharia people's financing banks are all types of Islamic banks (Sharia Rural Bank). Islamic banks are pioneers in the Islamic finance sector, offering a diverse range of financial instruments based on Islamic sharia law (Lahrech et al., 2014). Alharbi (2015) defines Islamic banks as financial institutions that: (a) operate in accordance with sharia principles in all aspects of their operations, including their role as financial intermediaries between savers and investors; (b) provide banking services on a legitimate contract basis; and (c) strike a balance between economic and social benefits. Islamic banks operate in accordance with Islamic law and do not charge customers interest. The benefits of Islamic banks receiving and paying customers are contingent upon the terms of the customer's contract and agreement with the bank (Bank Indonesia, 2008).

Islamic banking and finance are subsets of a broader concept known as Islamic economics, which is concerned with the application of Islamic values and ethical systems to the economic environment (Muhammad, 2005). Islamic banking, as a result of this moral foundation, is not just a system of commercial transactions for the majority of Muslims. Many Muslims consider the way Islam is perceived in financial transactions to be a religious obligation. The benefits of Islamic financial institutions in attracting customers include their ability to generate profits and, on the other hand, the customer's belief that financial institutions adhere to Islamic sharia's limits (Wahyuni and Pujiharto, 2017). In line with this, Nadia et al. (2014) stated that Islamic banks' performance is determined by two factors: 1) their ability to increase profits for customers, and 2) their commitment to adhere to sharia limits for customers.

There are no distinctions between Islamic and conventional banks. The first is the bank's relationship with the customer. Islamic banks and customers have an agreement that establishes a partnership based on balanced rights (benefits), obligations, and responsibilities (risks). Second, Islamic banks operate in accordance with Islamic Muammalah, which promotes fairness and transparency and forbids actions inconsistent with Islamic sharia (Damayanti, 2008).

# Profit Distribution Management and Determinant Factors: Empirical Study on Sharia Commercial Bank in Indonesia

Profit-sharing arrangements in Islamic banking are agreed upon on the basis of a monthly ratio calculated by multiplying the choice of each banking product by a percentage determined by the agreement. Profit sharing or profit distribution management is the next responsibility of Islamic banks, namely the obligation to manage profits in order to meet profit sharing obligations to Islamic bank customers. Profit distribution management enables Islamic banks to compete on an equal footing with other banks, including conventional banks (Shahzadi et al., 2021). Profit Distribution Management is critical, according to researchers. Islamic banks in Indonesia have emphasized the importance of effective profit distribution management (Ernayani et al., 2017). In Indonesia, there are three market segments: traditional loyalists, sharia loyalists, and floating elements (Karim & Affif, 2005). Karim (2003) concluded that the majority, or approximately 70%, of depositors who entrust their funds to Islamic banks are floating segment depositors, who are highly sensitive to their earnings. According to Husnelly (2003) and Mangkuto (2004) research, the public considers profit-sharing when investing in Islamic banks. Muhlis (2011) discovered empirical evidence that the profit distribution in Islamic banks has the greatest influence on saving behaviour.

Additional research was conducted by researchers both within and outside the country to ascertain the determinants of the level of earnings distribution management. Farook, Hassan, and Clinch (2012) conducted research to determine whether Islamic banks engage in profit sharing and what factors influence this practice. The findings from a sample of 37 Islamic banks in 17 countries demonstrate that Islamic bank managers distribute profits according to the environment/market segment. Meanwhile, significant Earnings Distribution Management factors include religiosity, financial development, market concentration, depositor reliance, and bank age.

Numerous researchers have conducted research on this subject in Indonesia, including Mulyo and Mutmainnah (2012); Agus (2014); Waffaretta et al. (2015); Saputra and Muyassaroh (2015); Wati (2016); Agistia (2016); Rohmah et al. (2017); Ernayani et al. (2017); Fernando et al. (2017); and Rifadil and Munirudin (2017). (2017). The empirical evidence on the factors affecting Earnings Distribution Management obtained from various researchers remains inconsistent and inconsistent. This is what prompted the conduct of this study.

This research is critical. To begin, Islamic banks are founded on sharia principles that place a premium on Muammalah, justice, and cooperation in business, both in terms of profit and risk. Profit-sharing is determined by Islamic banks when they raise and pay funds through profit-sharing and profit-sharing. Profit sharing works only if the depositor's funds are first invested in the business, and then the profits are shared. As a result, Islamic bank managers must regulate profit sharing to ensure that Islamic banks can compete with their competitors and remain viable. This research is critical for Islamic bank managers to understand the factors that influence profit-sharing distribution. Second, this study examines in detail the factors affecting Islamic banks' profit distribution management, including financial factors, Islamic bank characteristics, DPS characteristics, and macroeconomic factors. It is critical for researchers and observers of Islamic banks to understand which factors have the greatest influence on how Islamic banks manage their profit distribution. Third, this study examines the development of Islamic Commercial Bank Management Profit Distribution over a six-year period (2015–2020).

## II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Theory of Prospects

This is a behavioral economic theory that explains how a person chooses between various alternatives when the possible outcomes are unknown.

### Management of Profit Distribution

Profit distribution management is defined as a manager's activity of managing profits in terms of profit sharing distribution to customers for Islamic banks (Mulyo & Mutmainnah, 2012). Profit distribution management refers to a manager's activity of managing profits in terms of profit sharing distribution to customers for Islamic banks.

This profit sharing management activity is conducted in accordance with an agreement reached prior to depositors investing their funds. Bank profits are distributed differently depending on the bank product selected by depositors.

### Islamic Banking in Indonesia: Its History and Development

Islamic banks are financial institutions whose primary purpose is to collect funds and distribute them interest-free to individuals or institutions in need. Islamic banks' primary function is to ensure sharia compliance in business operations and transactions (Jan et al., 2021). While Islamic banks do not withhold profits, usury on loan capital is strictly prohibited (Miglietta & Forte, 2012). Bank Muamalat Indonesia (BMI) was Indonesia's first Islamic bank and a pioneer of Islamic banking; it was established at the government's initiative through the Indonesian Ulema Council (MUI). Bank Muamalat Indonesia was later backed by the Indonesian Muslim Intellectuals Association (ICMI) and a number of Indonesian Muslim entrepreneurs. Along with

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its development, the government enacted Law No. 7 of 1992, which was updated by Law No. 10 of 1998, laying the groundwork for the rapid growth of Islamic banks in Indonesia, which grew at the same rate as conventional banks (Handayani et al., 2019). As with conventional banking, Islamic banking in Indonesia provides loans, funding, banking services, and other products. Islamic bank products are distinguished by the absence of elements prohibited by Islamic law, namely gambling (masyir), insecurity (gharar), usury or interest, bribes or riywah.

According to Indonesian Islamic Banking Statistics 2020, there were 14 Sharia Commercial Banks, 20 Sharia Business Units, and 163 Sharia Rural Banks in December 2020. Sharia Commercial Bank has 488 branches, while Sharia Business Unit 162 branches, spread across Indonesia. Sharia Commercial Bank's total assets are Rp397,073,000,000,000.00, and Sharia Business Unit's total assets are Rp196.875.000,000,000.00. Although Islamic banking capital in Indonesia is still less than conventional banks in terms of market share and performance (Handayani, 2021), the potential for Islamic banks in Indonesia is enormous.

## Development of Hypotheses

### Capital Adequacy's Effect on Profit Distribution Management

Bank capital adequacy is defined as the bank's ability to provide sufficient capital, protect capital from risky productive investment assets, and finance fixed assets and invest. The Capital Adequacy Ratio (CAR) is a standard for determining the capital capacity of banks, including Islamic banks (Muhammad, 2009). A bank is considered healthy if it possesses the required capital. Capital owned exceeds the bank's minimum risk tolerance. Capital that outperforms expectations demonstrates its ability to generate an enticing profit distribution. On the other hand, the CAR level is in trouble and uncertain because it is below the bank's requirement (Zheng et al., 2017). On the basis of this explanation, the study's first hypothesis is as follows:

**H1: Adequacy of capital has a beneficial effect on profit distribution management.**

### The Impact of Funds' Effectiveness on Profit Distribution Management

Third party funds (TPF) that are effective reflect the bank's ability to channel third party funds to financing. The financing can be used to determine the importance of third-party funds in relation to the Financing Deposit Ratio (FDR). The higher the ratio (according to Bank Indonesia, between 85 and 100 percent), the more sound the bank, as the funding disbursed by the bank is smooth, increasing the bank's income. Maintaining a high level of liquidity will facilitate customer relations, but will result in a decrease in profit sharing due to the abundance of idle funds. On the other hand, insufficient liquidity demonstrates a precarious liquidity position. As a result, if the effectiveness of third-party funds is greater as measured by the FDR ratio, the profit-sharing margin will be greater as well. The second hypothesis that will be tested in this study is as follows:

**H2: Third-party funds' effectiveness has a beneficial effect on profit distribution management.**

### Risk Financing's Effect on Profit Distribution Management

The term "funding risk" refers to the risk of non-performing loans that Islamic banks face. Non-Performing Financing can be used to quantify funding risk (NPF). NPF is a ratio used to assess a bank's ability to manage the risk of debtors defaulting on credit payments. The greater the percentage, the less reputable Islamic bank financing is. Bank Indonesia determined that the ideal NPF ratio is less than 6% in Circular Letter No.6/23/DPNP dated 31 May 2004. The higher the bank's financing quality, the lower the NPF level. Profit sharing will be reduced if the funding risk is greater. The third hypothesis to be tested in this study is as follows:

**H3: Finance risk has a detrimental effect on profit distribution management.**

### The Impact of Third-Party Funds on Profit Distribution Management

The proportion of third-party funds (PTPF) is a measure of a bank's reliance on depositor funds. Funds are a significant issue for banks as financial institutions because public funds are the most critical source of funds for banks. Without sufficient funds, the bank cannot perform its functions optimally or even at all. PTPF is a proxy for a bank's reliance on third-party funds. The fourth hypothesis that will be tested in this study is as follows:

**H4: The proportion of third-party funds has a beneficial effect on profit distribution management.**

### The Effect of Asset Loss Allowance on Profit Distribution Management

Bank Indonesia stipulates in Bank Indonesia Regulation No. 5/9/2003 regarding PPAP for Islamic banks that Islamic banks must establish a PPAP to cover the risk of loss associated with the investment of funds. Although Bank Indonesia limits the allowance amount to a specific percentage, the bank management retains the discretion to determine the quality of assets based on the provisions of the PBI and to establish PPAP reserves as objects for earnings management. As a result, this PPAP encourages banks to take greater risks in financing because they are assured that profits will be distributed to customers

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(Saputra & Muyassaroh, 2015). As a result, the greater the PPAP rate, the lower the level of Profit Distribution Management. According to Wati (2016)'s theory and explanation, the fifth hypothesis to be tested in this study is as follows:

**H6: PPAP has a detrimental effect on profit distribution management.**

### **The Profit Distribution Management Effects of Asset Composition (AC)**

The asset composition of Islamic banks, particularly those with exposure to fixed interest rate financing, can have an effect on how profits are distributed to depositors. The asset composition is calculated using the asset-to-loan asset ratio (LATA). LATA Fixed-rate Islamic bank financing (receivable side). Customers who own funds in the floating segment will be subject to interest rate changes and will hope to earn returns comparable to those offered by other banks. LATA determines the level at which Islamic banks manage profit distribution for return mismatches in market conditions where interest rates change (Farook et al., 2009). As a result, the higher the LATA ratio, the more sophisticated the earnings distribution management (PDM).

**H6: Asset composition has a beneficial effect on profit distribution management**

### **Profit Distribution Management's Effect on Earning Asset Management (PAM)**

Earning Asset Management demonstrates a bank's ability to generate interest income by examining its performance in disbursing financing, given that the bank's operating income is highly dependent on the interest spread (spread) on the disbursed financing. Earning Asset Management (PAM) can be calculated by dividing the Net Interest Margin (NIM) by the total number of assets (Ezohoa, 2011). Thus, the higher the NIM, the better a bank's cost control.

Therefore, if it is consistent with stakeholder theory, Islamic bank managers will maximize the spread between profit sharing and financing margins in order to avoid Islamic banks losing profit margins. Profit margin expansion will also result in an improvement in earnings distribution management (PDM) in line with the increase in NIM. According to the preceding description, the seventh hypothesis can be stated as follows:

**H7: Profit distribution management benefits from earning asset management.**

### **The Impact of Bank Life on Profit Distribution Management**

According to Farook et al. (2009), a new bank is synonymous with a newly established business in the context of a bank. The newly installed bank is unaware of the bank's condition. A newly established bank must be capable of taking actions that foster stakeholder trust. Farook et al. (2009) argue that it is challenging for a business to begin operations, let alone make a profit in the early years. It is disastrous for Islamic banks, owing primarily to a profit-sharing system. Due to the difficulty of earning a profit, profit sharing will be reduced, resulting in depositors withdrawing funds and transferring them to banks that offer higher yields (replacement funds). The eighth hypothesis that will be tested in this study is as follows:

**H8: bank maturity has a detrimental effect on profit distribution management.**

### **The Size of the Bank Has an Effect on Profit Distribution Management**

Larger companies are more likely to share profits than smaller banks. According to prospect theory, large companies typically engage in an increasing number of complex activities and possess the capability and opportunity to grow the funds they manage. That is, the larger the company, the more sophisticated the profit distribution management.

According to the description above, the following nine hypotheses will be tested in this study:

**H9: The size of an Islamic bank has a beneficial effect on profit distribution management.**

### **The Inflation Rate's (IR) Influence on Profit Distribution Management**

Inflation increases demand for a variety of goods, which stimulates their production. This increase in production will alter the existing pattern of factor allocation in the manufacturing process. The majority of economists argue that inflation can result in inefficient factor allocation. The tenth hypothesis to be tested in this study is as follows:

**H10: Inflation has a detrimental effect on profit distribution management.**

### **The Effects of Board Size on Profit Distribution Management in Sharia**

The size of the sharia supervisory board is determined by the number of members on the board. The large sharia supervisory board believes it will successfully carry out its mandate of ensuring Islamic banks adhere to higher ethical, legal, and sharia principles. DPS is expected to assist management in disseminating results that are sharia-compliant. It is based on the stakeholder theory; the sharia supervisory board can encourage management, as the executor of the company's operations, to comply with BI regulations and carry out Islamic banks' social functions that contribute to the community's economic welfare (Khoiruddin, 2013). As a result, the more Sharia Supervisory Board members there are, the higher the level of profit distribution management for Islamic banks. The eleventh hypothesis to be tested in this study is as follows based on this description:

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**H11: The Sharia Supervisory Board's size has a beneficial effect on profit distribution management.**

## The Effects of Sharia-Competent Supervisory Boards on Profit Distribution Management

Generally, Sharia supervisory boards are formed to satisfy a variety of stakeholders (Grassa & Chakroun, 2016). The sharia supervisory board's primary function is to direct, review, and supervise the activities of Islamic banks. It is responsible for ensuring that Islamic banks operate in accordance with Islamic law. The Sharia Supervisory Board should ideally be composed of scholars familiar with Islamic law and experts in the field of Islamic economics. The sharia supervisory board's general responsibilities include the prohibition of usury, the prohibition of Gharar, the calculation of zakat payments, the issuance of fatwas for new products, and guidance on profit and loss distribution between shareholders and investors (Grais & Pellegrini, 2006). Sharia supervisory boards should be completely self-sufficient, as they are appointed to conduct business in accordance with sharia law (Farag et al., 2018). The more competent DPS members there are, the higher the standard of BUS Profit Distribution Management will be. The twelfth hypothesis to be tested in this study is as follows based on the description above:

**H12: Sharia-compliant supervisory boards have a beneficial effect on profit distribution management**

### III. RESEARCH METHODS

This is quantitative research, which emphasizes theory testing by quantifying research variables with numbers in order to test hypotheses. Prospect theory and stakeholder theory will be tested in this research.

This research will focus on an Islamic commercial bank that was listed on the Indonesian Stock Exchange between 2015 and 2019. This study focuses on Islamic Commercial Banks because they conduct transactions in a manner that is distinct from conventional or general banking. Additionally, Islamic Commercial Banks has comprehensive data on the variables under study. The data used is secondary data, that is, data that has been obtained in an indirect manner and published. The data is derived from the annual report of Islamic banking, which can be accessed via the Bank Indonesia (BI) website or the official Islamic banking website. The documentation method was used to collect data for this study. Data are gathered, recorded, and analyzed.

Purposive sampling was used with specific criteria to obtain a representative sample that met the research objectives. The dependent variable (Y) and profit distribution management are used in this study (PDM). This study, based on the research model of Farook et al. (2012), calculates earnings distribution management using asset spreads. The asset spread is the absolute difference between the Return On Assets (ROA) and the Average Return On Investment Account Holders (ROIAH), the depositors' average return. The following formula can be used to calculate the asset spread:

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The average ROIAH can be calculated using the following formula:

$$\text{Averaga ROIAH} = (\text{profit to be share}) / (\text{average return for depositors}) \times 100\%$$

The regression model used is as follows:

$$\text{PDM} = \alpha + \beta_1 \text{CAR} + \beta_2 \text{FDR} + \beta_3 \text{NPF} + \beta_4 \text{PTPF} + \beta_5 \text{AWPA} + \beta_6 \text{LATA} + \beta_7 \text{EAM} + \beta_8 \text{BA} + \beta_9 \text{BS} + \beta_{10} \text{IR} + \beta_{11} \text{SSSDB} + \beta_{12} \text{CSSB} + \beta_{13} \text{ROA} + e$$

Notation:

PDM: Profit Distribution Management

$\alpha$ : constanta

$\beta_1 - \beta_{13}$ : coefficient



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CAR: Capital Adequacy Ratio; FDR: financing to Debt Ratio (effectiveness of third party funds); NPF: Non-Performing financing (financing risk); PTPF: Proportion of third party funds; AWWA: Allowance for a write-off of productive assets; LATA: loan assets to total assets (asset composition); EAM: Earnings Asset Management; BA: Bank Age; BS: Bank Size; IR: Inflation Rate; SSSB: Size of Sharia Supervisory Board; CSSB: Competence of Sharia Supervisory Board; ROA: Return on Assets; e: error term

## IV. RESULT

### RESEARCH SAMPLE SELECTION RESULTS

**Table 1. Research Sample Selection Process**

No.	Criteria	Total Sampel
1	Sharia Commercial Banks registered in Bank Indonesia for the period 2015-2019	14
2	Islamic Commercial Banks that have not published the company's annual report for 2015-2019	(5)
3	Islamic Commercial Banks as the research sample	9
4.	Total observation data (9 x 6 years of observation)	54

### Results of Descriptive Statistical Analysis of Research Variables

The results of the descriptive analysis of the research variables are shown in table 2 below:

**Table 2. Descriptive Statistics of Research Variables**

The Name of variable	n	Minimum	Maximum	Means	Standard Deviation
PDM	54	-3.400	55.00	0.1022	9.62498
CAR	54	0.11	75,83	23.2324	15.97438
FDR	54	71.87	197.70	95.6878	21.30758
NPF	54	0.001	4,93	2.3893	1.63763
PTPF	54	0.001	1.00	0.6939	0.26794
AWPA	54	0.001	29.35	2.4139	5.15303
LATA	54	8.53	100.20	61.9602	24.47863
EAM	54	-11.75	22.09	4.3526	4.3983
BA	54	2.00	26.00	10.2778	6.36446
BS	54	24.00	38.00	29.49	2.296
IR	54	3.00	8.00	5.17	2.316
SSSB	54	2.00	23.00	2.7037	2.85257
CSSB	54	1.00	1.00	1.00	0.0000
ROA	54	-20.13	9.51	0.8070	3.68607
Valid N (by list)	54				

**Source:** secondary data processed, 2020

Results of Measurement of Profit Distribution Management (PDM) Levels of Islamic Commercial Banks

The results of the 2015-2020 Sharia PDM Measurement are shown in the following table 3

**Table 3 PDM Measurement Results for Islamic Commercial Banks in 2015-2020**

2015	2016	2017	2018	2019	2020
01.33	00.44	01.50	00.07	00.37	01.25

**Source:** Processed secondary data, 2020

Table 3 above shows that the highest average profit distribution management achieved in year 2017 is 01.50%. Meanwhile, the lowest level of average Profit Distribution Management occurred at year 2018, which was 00.07%.

Results of Hypothesis Testing Factors Determining Profit Distribution of Islamic Commercial Banks for the 2015-2019 Period are shown in table 4 below

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**Table 4. The Result of Testing Hypotheses**

The name of variables	Prediction of direction of hypotheses	Coefficient	t-statistics	p-value	Decision
CAR	$\beta_1(+)$	-0.246	-2.037	0.048**	Not supported
FDR	$\beta_2(+)$	0.034	0.319	0.751	Not supported
NPF	$\beta_3(-)$	1.203	1.276	2.209	Not supported
PTPF	$\beta_4(+)$	-6,975	-1,049	0.300	Not supported
AWPA	$\beta_5(+)$	0.613	1,915	0.063*	Supported
LATA	$\beta_6(+)$	0.044	0.720	0.476	Not supported
EAM	$\beta_7(+)$	-0.004	0.015	0.988	Not supported
BA	$\beta_8(+)$	-0.043	-0.181	0.857	Not supported
BS	$\beta_9(-)$	-1.269	-1.769	0.085*	Supported
IR	$\beta_{10}(+)$	- 0.252	0.429	0.670	Not supported
SSSB	$\beta_{11}(-)$	-0.108	0.176	0.861	Not supported
CSSB	$\beta_{12}(+)$	-0.032	-0.020	0.894	Not supported
ROA	$\beta_{13}(+)$	-0.824	2.118	0.040*	
R2 36.6% Adjusted R2 16.00% F-Stats 1,774 54 Observation ** significant up to 5% * Significant up to 10%					

## The Impact of Capital Adequacy on Islamic Commercial Banks' Profit Distribution Management (PDM)

According to the study's first hypothesis, Islamic Capital Adequacy has a beneficial effect on Earnings Distribution Management. According to the test results in Table 4, the Capital Adequacy coefficient is 0.246 with a negative sign and a t-statistic of 0.048. (significant at 5 percent). The direction of the coefficient is the inverse of what one would expect. The study's initial hypothesis is not supported. According to the findings of this study, the higher the CAR ratio, the lower the level of profit sharing by management. It demonstrates that Islamic Commercial Banks in Indonesia typically maintain an 8 percent CAR ratio. According to Muhammad (2009), CAR serves as a proxy for banks' ability to maintain sufficient capital to cover the risk of loss associated with investing in risky productive assets and financing fixed assets and investments. The findings of this study corroborate Muyassaroh and Saputra (2015) but contradict Rifadil and Munirrudin's investigation (2017).

## The Effect of Third-Party Funds' Effectiveness on Profit Distribution Management

The study's second hypothesis is that Third Party Funds improve profit distribution management. The test results in Table 4 indicate that coefficient 2 has a positive direction and a value of 0.034, the t-statistic is 0.319, and the p-value is 0.751. (not significant). As a result, the research hypothesis is invalid. This means that regardless of the size of the Third Party Funds ratio, it has no effect on the level of profit shared by management.

The findings of this study corroborate those of Mulyo and Mutmainah (2013), Agus, Yunilma, and Damayanti (2014), Muyassaroh and Saputra (2015), and Rifadil and Munirrudin (2017), but contradict those of Kartika and Adityawarman (2012); Wafaretta, Rosidi, and Rahman (2016); and Alteza, Rosidi, and Rahman (2017).

## Financing Risk's Impact on Profit Distribution Management

The third hypothesis is that financing risk has a detrimental effect on profit distribution management. The results of the test in Table 4 indicate that the coefficient 3 has a positive value of 1.203, the statistic is 1.276, and the p-value is 0.209. (not significant). As a result, the third hypothesis of this study was refuted. These findings indicate that regardless of the size of the Financing Risk ratio, it has no effect on the level of profit sharing carried out by management. The findings of this study contradict those of Rifaldi and Munirrudin (2017), as well as Muyassaroh and Saputra (2015).

## The Impact of the Third Party Funds Proportion (PDPK) on Profit Distribution Management

According to the fourth hypothesis of this study, PDPK has a beneficial effect on Earnings Distribution Management. The test results in Table 4 indicate that the positive coefficient 5 is 0.613, the statistic is 1.915, and the p-value is 0.63. (significant at 5

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percent). Thus, the research hypotheses were successfully supported. The findings indicated that the greater the share of Third Party Funds, the greater the profit sharing. This is due to Islamic banks' reliance on Third Party Funds. The findings of this study corroborate those of Farook, Hasan, and Clinch (2012); Wafaretta, Rosidi, and Rohman (2016); and Alteza (2017), all of whom discovered empirical evidence that the Proportion of Third Party Funds had a beneficial effect on the Profit Distribution Management of Sharia Commercial Banks.

### **The Effect of Earnings Asset Allowance on Earnings Distribution Management**

The fifth hypothesis of this study is that Allowance for Earning Assets improves profit distribution management. The test results in Table 4 indicate that the coefficient 5 has a positive value of 0.044, the t-statistic is 0.720, and the p-value is 0.476. (not significant). As a result, the research hypothesis is invalid. This result implies that regardless of the PPAP ratio, it has no effect on the level of profit sharing exercised by management. The findings of this study corroborate Muyassaroh and Saputra (2015).

### **The Profit Distribution Management Effects of Asset Composition**

According to the seventh hypothesis of this study, Asset Composition has a beneficial effect on Earnings Distribution Management. The coefficient value of 7 is 0.004 in the negative direction, the t-statistic is -0.015, and the p-value is 0.988, as shown in Table 4. (not significant). As a result, the study's sixth hypothesis was not supported. These findings indicate that the size of the Asset Composition ratio has no bearing on the level of results shared by management.

The findings of this study corroborate Agus, Yunilma, and Damayanti (2012); Muyassaroh and Saputra (2015); Wafaretta, Rosidi, and Rohman (2016); but contradict Farook, Hasan, and Clinch (2012); Mulyo and Mutmainah (2013); Kartika and Adityawarman (2016). (2014).

### **Profit Distribution Management and the Effect of Earning Asset Management (EAM)**

According to the seventh hypothesis of this study, EAM has a beneficial effect on Earnings Distribution Management. The coefficient value 7 is 0.043 in the negative direction, the t-statistic is -0.181, and the p-value is 0.857, as shown in Table 4. (not significant). As a result, the seventh hypothesis of this study was rejected. These findings indicate that regardless of the size of the EAM ratio, it has no effect on the level of profit sharing carried out by management.

### **The Age of the Bank Has an Effect on Profit Distribution Management**

According to the eighth hypothesis of this study, BUS age has a detrimental effect on Earnings Distribution Management. The coefficient value 8 is 1.269 in the negative direction, the t-statistic is -1.769, and the p-value is 0.085, as shown in Table 4.4. (significant at 10 percent). As a result, the eighth hypothesis was successfully supported. This means that the older the Sharia Commercial Bank, the less profit sharing the management receives.

The findings of this study corroborate those of Farook, Hasan, and Clinch (2012); Mulyo and Mutmainah (2013), but contradict those of Wafaretta, Rosidi, and Rahman (2016). The findings of this study are consistent with the prospect theory. Bowman (1980) argues that if a bank's current operating income is low, it must take risks in order to earn a profit.

### **How Bank Size Affects Profit Distribution Management**

According to the ninth hypothesis of this study, the size of the BUS has a beneficial effect on Earnings Distribution Management. The coefficient 10 is 0.251 in the negative direction, the t-statistic is -0.442, and the p-value is 0.670, as shown in Table 4. (not significant). As a result, the ninth hypothesis of this study was rejected. These findings indicate that the Sharia Commercial Bank's size has no bearing on the level of results shared by management.

### **The Inflation Rate's Effect on Profit Distribution Management**

According to the tenth hypothesis of this study, inflation has a negative effect on Earnings Distribution Management. The coefficient is 0.108 in the positive direction, the statistic is 0.176, and the p-value is 0.861, as shown in Table 4. (not significant). As a result, the research hypothesis is invalid. These findings indicate that regardless of the level of inflation in Indonesia, management profit sharing remains constant.

### **The Size of the Sharia Supervisory Board Has an Effect on Profit Distribution Management**

The study's eleventh hypothesis predicts that the size of the BUS sharia supervisory board has a beneficial effect on Earnings Distribution Management. The coefficient 11 is -0.108 in the negative direction, the t-statistic is -0.176, and the p-value is 0.861, according to the test results in Table 4. (not significant). As a result, the research hypothesis is invalid. These findings indicate that regardless of the size of the Sharia Supervisory Board, it has no effect on the level of profit sharing carried out by

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management. It demonstrates that the size of the Sharia Supervisory Board has not been used to determine the level of profit sharing for management.

## The Impact of a Sharia Supervisory Board of Competence on Profit Distribution Management

The study's twelve hypotheses predict that increasing the size of the BUS sharia supervisory board will improve Earnings Distribution Management. The coefficient 11 is 0.032 in the negative direction, the t-statistic is -0.020, and the p-value is 0.984, as shown in Table 4. (not significant). As a result, the research hypothesis is invalid. These findings indicate that regardless of the Sharia BUS supervisory board's competence, it has no effect on the level of profit sharing exercised by the management. It demonstrates that DPS competence was not used to determine management's profit-sharing ratio.

## The Outcome of the Robustness Test

As can be seen from the results of the hypothesis tests above, they did not successfully support all of the hypothesized variables. While testing the ROA variable as a control variable produced statistically significant positive results. This means that ROA is a factor that management considers when determining the level of profit sharing. Additional testing was conducted to determine whether ROA can act as a moderator of the effect of independent variables on Earnings Distribution Management. The findings indicate that ROA can help mitigate the effect of Third Party Fund Effectiveness, Third Party Fund Proportion, Allowance for Earnings Assets, Age (AGE), and Competency of DPS Supervisors on Profit Distribution Management.

## CONCLUSIONS

Based on the analysis results in chapter four above, we can conclude that the financial factors affect the capital adequacy of managing profit distribution, the proportion of third-party funds, and the age of the bank. Meanwhile, macroeconomic characteristics and Sharia Supervisory Board do not affect the profit distribution of Islamic commercial banks.

This study has limitations that may affect the results. 1) This study only examines Islamic Commercial Banks for the 2013-2017 period, so they are less able to represent Islamic banking in Indonesia. 2) This study uses annual data to measure research variables so that the sample obtained is not optimal.

Suggestions for further research are i) Testing all Islamic banking in Indonesia, including Sharia Commercial Banks, Sharia Business Units, and Sharia People's Financing Banks, so that the results will be more generalized. ii) Using quarterly data so that the results will be more comprehensive and more samples will be obtained

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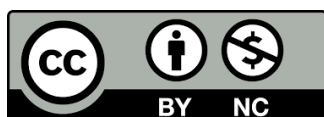
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## Analysis of Service Quality in the Restaurant Sector in the State of Tlaxcala Using The Servqual Model



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**ABSTRACT:** The restaurant industry in Mexico generates a great economic benefit, especially Mexican food that generates a great impact worldwide due to the fact that it was named by UNESCO in 2010 as a cultural heritage of humanity, it is a recognition and an obligation of conservation. It is important to consider maintaining a good quality of service and timely detect areas of opportunity. If you want to improve the Mexican food restaurant sector, you have to start, in the first place, by addressing all the problems that commonly arise in establishments on a daily basis. Therefore, this research aims to analyze the perception and expectations of customers and identify the factors that impact the quality of the service received, taking the servqual model as a reference and thus propose initiatives to improve the quality of service in food restaurants. mexicana from the central zone of the state of Tlaxcala. The research focuses on the analysis of the quality of 4 Mexican food restaurants in the state of Tlaxcala located in the municipalities of; Apizaco, Chiautempan and Tlaxcala Capital, of which 60 surveys were applied to find out their expectations and perceptions. The research focuses on the analysis of the quality of 4 Mexican food restaurants in the state of Tlaxcala located in the municipalities of; Apizaco, Chiautempan and Tlaxcala Capital, of which 60 surveys were applied to find out their expectations and perceptions. The results showed negative gaps, the most critical variables regarding the differences between what the client expects and what he really receives are; responsiveness and empathy, however the differences are not so significant since most of the clients interviewed are satisfied with the service received.

**KEYWORDS:** Expectations, perceptions, customer satisfaction, quality measurement, servqual model, restaurant sector.

### I. INTRODUCTION

The quality in the service of a restaurant is a fundamental part to achieve success in the performance of its operations. Corresponds to the degree of satisfaction experienced by a client in relation to the care received, the efficiency of the service received and the way in which the service was delivered. Regarding quality evaluation, SERVQUAL is the most common method to evaluate service quality and can be applied to different research areas, such as airlines, hospitality, travel, real estate, IT services, library, etc.

The restaurant industry is one of the main economic sectors in Mexico. According to data from the National Chamber of the Restaurant and Seasoned Food Industry (Canirac), the country's restaurant industry registered a growth of 2.8 percent during 2017. Mexican food is recognized throughout the world named by UNESCO in 2010 as cultural heritage of humanity is a recognition and an obligation of conservation and heritage that is undoubtedly part of a whole series of initiatives that have to be undertaken now that the Mexican cuisine is in high demand throughout the country and worldwide, which must be preserved and maintained, so strategies are required to increase and/or improve the quality of services. In 2020, restaurants in the state of Tlaxcala have suffered very low sales, reporting a 50% drop due to the pandemic caused by the SARS COV 2 virus, sales have been below expectations and the restaurant industry is one of the most affected according to Canirac (National Chamber of the Restaurant and Seasoned Food Industry). Given the situation, the client becomes more demanding every day in terms of the quality of services, which is why complaints against establishments increase every day according to the database of a home delivery application in the state of Tlaxcala 4 out of 10 customers complain about poor service in restaurants (Food Express 2021).

This research aims to analyze the perception and expectations of customers and identify the factors that impact the quality of the service received, using the servqual model as a reference and thus propose initiatives to improve the quality of service in Mexican food restaurants from the central zone of the state of Tlaxcala.

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## II. LITERATURE REVIEW.

### Quality

It represents a process of continuous improvement, in which all areas of the company seek to satisfy the needs of customers or anticipate them, actively participating in the development of products or in the provision of services (Álvarez, 2006).

### Service

It is a means to deliver value to clients, facilitating the results that clients want to achieve without assuming specific costs or risks (Bon, 2008). A service is said to be heterogeneous because, depending on different factors, they rarely coincide with each other and are usually designed and executed serving each client individually. That is, there are no mass production chains as in the manufacture of goods (Sánchez J., 2016).

### Quality in the service

Hoffman and Baeston (2011) define service quality considering it as an attitude formed through the long-term general evaluation of a company's performance, since they see customer satisfaction as a specific measure of short-term operations. of a company Viewed from an organizational perspective, service quality is the orientation followed by all the resources of a company to achieve customer satisfaction, including all employees and not just those who deal directly with the customer (Kotler & Keller, 2012), since all the activities carried out by an employee of the organization will have an impact in some way on the real or perceived level of quality by the consumer. However, Parasuraman, Zeithaml and Berry defined quality from the consumer's point of view in 1988 as "a general judgment or attitude related to superiority of service".

### Importance of quality in service

The quality of customer service is one of the essential points that must be met within each of the companies; Regardless of the size, structure and nature of their operations, they must demonstrate their ability to perform in this area, as being the first image they give to customers helps maintain their preference, and if you get angry you can become a threat. However, on many occasions it can be used by organizations in an incorrect way, affecting both their development and their growth, so, mainly, the importance of such customer service must be defined, in order to properly structure the most optimal way to carry out. (Parra, 2013)

### Models to measure service quality

Quantifying the quality that the client perceives of a service is not easy; It is necessary to use an instrument that supports organizations to understand the meaning of value for the client and diagnose if the activities carried out are aligned with the fulfillment of their needs. Faced with this need, various techniques and methodologies arise to measure customer satisfaction (Sánchez & Sanchez, 2016). Such as the Grönroos service quality model, SERVQUAL Model, SERVPREF and the model of the three components, which measure different factors and/or dimensions and will be adapted according to the sector and objectives of each investigation.

For this research, the servqual model is chosen because previously analyzed research indicates that it is one of the most used models according to Vera & Trujillo (2017). In addition, compared to the other models, Servqual is one of the main sources of information since it promptly detects the dimensions in which quality is deficient, which makes it one of the most accurate models for service companies to know the level of customer satisfaction, locate areas of opportunity and propose and/or implement improvements to have satisfied customers. (Monroy & Urcadiz, 2018).

## III. METHODOLOGY

The data collection for the research is through a questionnaire based on the Servqual model proposed and designed by Zeithaml, Parasuraman and Berry (1988) whose purpose is to improve the quality of the service offered by an organization. Servqual consists of 5 dimensions and a total of 22 items. However, an adaptation was made to the model and the instrument to be applied added two extra variables that are Hygiene and Advertising, in addition to adding items in the security variable related to the hygiene measures that the restaurant has regarding Covid 19, this due to the change that has been suffered today in the face of the pandemic that is being experienced throughout the world and that have been important factors that the client considers when going out to eat in restaurants, in addition, the advertising variable is also considered due to technology changes that have taken place. increased in recent years, especially due to the change in digital marketing and the importance of new home delivery applications, which also represent great importance for the customer when purchasing a service and, of course, being evaluated . The model used is shown in Table I.



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Table I. Adapted Servqual Model

Variable	Item
Answer's capacity	1. Employees offer fast service
	2. Consider that employees are willing to help
	3. Employees are available to correctly answer any questions you may have.
	4. How do you consider the restaurant's home delivery service?
	5. How do you consider the reservation service of this restaurant?
	6. Employees have trustworthy behavior
	7. You feel confident with the service the restaurant offers.
	8. Employees have a friendly demeanor
	9. Employees have sufficient knowledge in service.
Security	10. The facilities are with adequate distribution of spaces.
	11. They take your temperature when entering the restaurant
	12. The restaurant has sanitizing gel
	13. The restaurant has soap in the bathrooms.
	14. Employees use mouth guard correctly
	15. The restaurant has modern-looking equipment
	16. The restaurant has visibly attractive facilities
Tangible items	17. General restaurant facilities are clean
	18. The restaurant's work materials are attractive (menu, advertising, social networks, etc.)
	19. You receive individualized attention
	20. You are satisfied with the restaurant's service hours
Empathy	21. Employees offer you personalized attention
	22. Employee care about meeting your needs
	23. The restaurant service cares about your interests and / or wishes
	24. The restaurant fulfills the promised service
	25. If you have a problem related to the restaurant service, show interest in helping to solve it
	26. Restaurant service is done right from the first time
Reliability	27. The restaurant concludes its service in the promised time
	28. The restaurant does not make mistakes in terms of service (taking orders, collecting tickets)
	29. The restaurant has all the foods described in its menu
	30. The restaurant offers a wide variety of dishes on its menu
	31. In general terms, how do you consider the quality of the restaurant?
Hygiene	32. The restaurant manages adequate hygiene in its food
	33. The restaurant offers fresh food
	34. It is important for the restaurant to advertise its social networking services
Publicity	35. It is important that the restaurant has home delivery service through the new mobile applications
	36. It is important that the restaurant is advertised through printed advertising (banners, brochures, etc.)

## IV. INSTRUMENT VALIDATION

The data collection instrument was validated through Cron Bach's alpha using SPSS version 21 software and the results are shown in Table II.

Table II. Reliability Statistics

Cronbach's alpha	No. of elements
0.917	36

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The reliability result of Cronbach's alpha corresponds to 0.917, which according to Table III can be interpreted with excellent reliability.

**Table III: assessment of item reliability according to cronbach's alpha coefficient**

Interval to which the Cron Bach alpha coefficient belongs	Evaluation of the reliability of the items analyzed
[0 ; 0,5]	Unacceptable
[0,5 ; 0,6]	Poor
[0,6 ; 0,7]	Weak
[0,7 ; 0,8]	Acceptable
[0,8 ; 0,9]	Okay
[0,9 ; 1]	Excellent

### V. RESULTS

The data collection instrument was applied to 60 people, each one was given the same instrument twice, once before entering the restaurant (expectation) and another after receiving the service (perception) with a total of 120 surveys in 4 different Mexican food restaurants in the state of Tlaxcala. Of which 38.3% of the respondents were men while 61.7% were women, aged between 14 and 59 years of age from the municipalities of Tlaxcala Centro, Chiautempan and Apizaco. The Mexican food restaurants under study are shown in Table IV.

**Table IV. Restaurants Under Study**

Name of the restaurant	Address	Size	No. of expectations surveys	No. of surveys perceptions
<b>Restaurante Mandinga</b>	Porfirio Díaz 10-Planta Alta, Centro, 90000 Tlaxcala de Xicohténcatl, Tlax	Small	15	15
<b>Honorina el gran sabor de Tlaxcala</b>	Blvd. Mariano Sánchez 57, Centro, 90000 Tlaxcala de Xicohténcatl, Tlax.	Small	15	15
<b>Taquería "La gran avenida"</b>	Gabino A. Palma 103, Ocotlán, 90030 Tlaxcala de Xicohténcatl, Tlax.	Small	15	15
<b>Restaurante Tres Cuartos</b>	Calle Zaragoza 302 Centro 90300, Apizaco, Tlaxcala.	Small	15	15

The data matrix for each item was elaborated. Subsequently, the items were grouped for each variable to be measured. Once the grouping of items by variables is obtained, the data exploration sequence of both expectations and perceptions is carried out by calculating averages according to (Hernandez, Fernandez, & Baptista, 2006). Subsequently, the median and range of expectations and perceptions shown in Tables IV and V are obtained.

**Table IV. Statistical Expectations**

		Anwser Capacity	Security	Tangible Items	Empathy	Reliability	Hygiene	Publicity
N	Valid	60	60	60	60	60	60	60
	Lost	0	0	0	0	0	0	0
Median		5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000
Rank		.40	.00	.00	.00	.00	.00	.00

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Table V. Statistical Perceptions

		Answer Capacity	Security	Tangible Items	Empathy	Reliability	Hygiene	Publicity
N	Valid	60	60	60	60	60	60	60
	Lost	21	21	21	21	21	21	0
Median			4.6667	4.5000	4.6000	4.5000	5.0000	5.0000
Rank			2.00	2.75	2.80	2.75	2.00	2.00

Once the analysis of the information of each one of the variables of the surveys carried out on 60 clients in 4 Mexican food restaurants in the state of Tlaxcala, considering home delivery and reservations, the following results are obtained regarding the analysis of gaps showing global averages by variable, and are observed in Fig. 1 and Table VI.

Table VI. Gap Analysis

Variable	Averages		
	Expectations	Perception	GAP (P-E)
Answer's capacity	4.98666667	3.02	-1.96666667
Security	5	4.55233333	-0.44766667
Tangible items	5	4.43333333	-0.56666667
Empathy	5	4.37666667	-0.62333333
Reliability	5	4.41383333	-0.58616667
Hygiene	5	4.66666667	-0.33333333
Publicity	5	4.58316667	-0.41683333

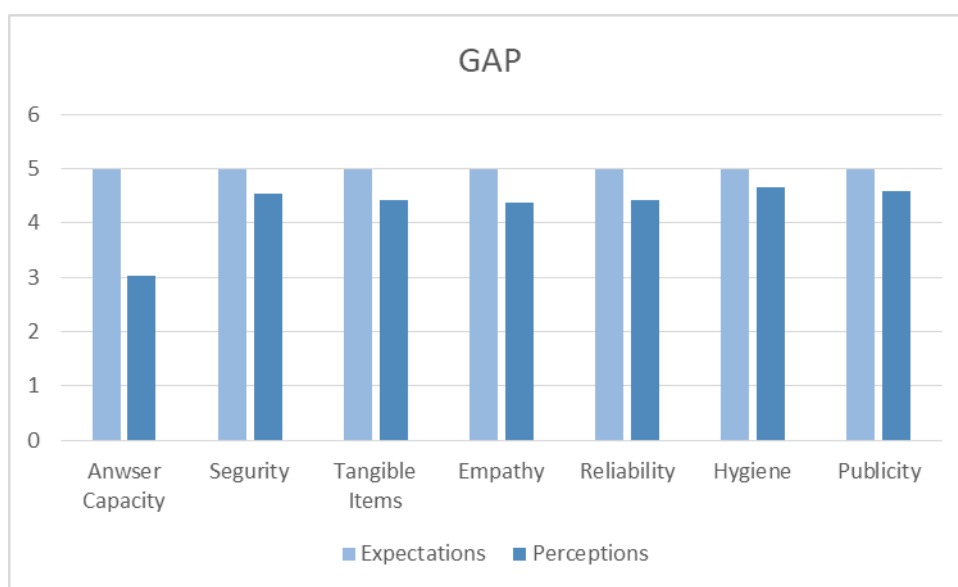


Fig. 1. GAP Analysis.

It is observed that the 7 variables have negative results, that is to say that the expectations of the clients are not being met 100%, but with a very insignificant difference. The most critical variables are responsiveness with a global difference of -1.966 and empathy with a difference of -0.6233.

### Hypothesis test using a sampling distribution of proportions

A hypothesis test is performed using the distribution of proportions to find out how the variables with the most significant gaps, which are responsiveness and empathy, impact.

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Answer's capacity.

In the study, 76% of clients answered "Yes" to agree with the service received. Use these results to test the hypothesis that most customers, despite differences, are satisfied with the service received on this variable.

$H_0$ = Customers are not satisfied with the quality of the service received in the responsiveness variable

$H_1$ :  $p$  Customers are satisfied with the quality of the service received in the responsiveness variable.

Then the null hypothesis is obtained symbolically represented as follows:

$$H_0: p = 0.5$$

$$H_1: p > 0.5 \text{ (original statement)}$$

Formula 1 is used to obtain the z test statistic.

$$z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}} \quad (1)$$

Substituting data we have:

$$n = 60$$

$$p = .50$$

$$q = (1-0.5) = 0.5$$

$$\hat{p} = 0.76$$

$$\alpha = 0.05$$

$$z = \frac{0.76 - 0.5}{\sqrt{\frac{0.5 * 0.5}{60}}} = 4.02$$

Since this hypothesis test is in the right tail with a test statistic  $z=4.02$ , the P-value is the area to the right of  $z=4.02$ . In Table A-2 we see that the cumulative area to the left of  $z = 4.02$  is 0.9999, so the area to the right of that test statistic is  $1 - 0.9999 = 0.0001$ . We obtain the value  $P = 0.0001$ . Because the P-value of 0.0001 is less than or equal to the significance level. 0.05, we reject the null hypothesis.

Conclusion: Since we reject  $H_0: p = 0.5$ , we support the alternative hypothesis that  $p > 0.5$ . It is concluded that there is sufficient sample evidence to support the statement that customers of Mexican food restaurants in the state of Tlaxcala are satisfied with the quality of the service received in the responsiveness variable.

Confidence intervals

Confidence intervals are estimated at a 90% level (corresponding to a significance level of 0.05). Therefore, the margin of error is calculated using the following formula:

$$E = Z_{\frac{\alpha}{2}} \sqrt{\frac{\hat{p}\hat{q}}{n}} = 1.645 \quad (2)$$

Substituting data we have:

Data

$$Z_{\alpha/2} = 1.645$$

$$\hat{p} = 0.76$$

$$\hat{q} = 0.24$$

$$N = 60$$

$$E = \sqrt{\frac{(0.76)(0.24)}{60}} = 0.055136$$

Once the margin of error is obtained, the confidence interval is constructed only by substituting the values

$$\hat{p} - E < p < \hat{p} + E$$

$$0.76 - 0.055136 < p < 0.76 + 0.055136$$

$$0.704 < p < 0.815$$

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We finally have 90% confidence that the interval from 0.704 to 0.815 really contains the true value of the population proportion  $p$ . This means that if we select many different samples of size 60 and construct the corresponding confidence intervals, 90% of them would actually include the value of the population proportion.

### Empathy

In the study, 90% of the clients answered "Yes" to agree with the service received. Use the results to test the hypothesis that, despite the differences, most customers are satisfied with the service received on this variable.

$H_0 =$  Customers are not satisfied with the quality of the service received in the empathy variable

$H_1:p$  Customers are satisfied with the quality of the service received in the empathy variable

Then the null hypothesis is obtained symbolically represented as follows:

$H_0:p = 0.5$

$H_1:p > 0.5$  (Original statement)

Formula 1 is used to obtain the z test statistic.

$$z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}} \quad (1)$$

Data:

N= 60

p= .50

q= (1-0.5) = 0.5

$\hat{p} = 0.90$

$\alpha = 0.05$

Substituting the data we have:

$$z = \frac{0.90 - 0.5}{\sqrt{\frac{0.5 * 0.5}{60}}} = 6.19$$

Because this hypothesis test is in the right tail with a test statistic  $z=6.19$ , the P-value is the area to the right of  $z=6.19$ . In Table A-2 we see that the cumulative area to the left of  $z= 6.19$  is 0.9999, so the area to the right of that test statistic is  $1 - 0.9999= 0.0001$ .

We obtain the value  $P= 0.0001$ . Because the P value of 0.0001 is less than or equal to the level of significance. 0.05, we reject the null hypothesis.

Conclusion: Since we reject  $H_0:p = 0.5$ , we support the alternative hypothesis that  $p>0.5$ . It is concluded that there is sufficient sample evidence to support the statement that customers of Mexican food restaurants in the state of Tlaxcala are satisfied with the quality of the service received in the empathy variable.

Confidence intervals

Confidence intervals are estimated at a 90% level (corresponding to a significance level of 0.05). Therefore, the margin of error is calculated using the following formula

$$E = Z_{\frac{\alpha}{2}} \frac{\sqrt{\hat{p}\hat{q}}}{n} = 1.645 \quad (2)$$

Data:

$Z_{\alpha/2} = 1.645$

$\hat{p} = 0.90$

$\hat{q} = 0.10$

N= 60

Substituting data we have:

$$E = \sqrt{\frac{(0.90)(0.10)}{60}} = 0.03872$$

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Once the margin of error is obtained, the confidence interval is constructed only by substituting the values:

$$\hat{p} - E < p < \hat{p} + E$$

$$0.90 - 0.03872 < p < 0.90 + 0.03872$$

$$0.861 < p < 0.938$$

Finally we are 90% confident that the interval from 0.861 to 0.938 really contains the true value of the population proportion  $p$ . This means that if we select many different samples of size 60 and construct the corresponding confidence intervals, 90% of them would actually include the value of the population proportion.

### VI. PROPOSED IMPROVEMENTS.

After an exhaustive analysis for the investigation, two variables were detected; response capacity and empathy with more significant negative gaps than the others, which although they do not represent a 100% poor quality service, it is important to attend to improve and reduce negative values. As well as areas of opportunity were detected in the Advertising variable in which customers highlight the importance of the inclusion of new technologies. Table VII shows some improvement proposals that are adapted to the 4 types of Mexican food restaurants in the state of Tlaxcala.

**Table VII. Proposed Improvements**

Variable	Items	Indicator	Objectives	Strategies
<b>Capacidad de respuesta</b>	1. Employees offer prompt service	76% If they are satisfied with the service received	O1. Reduce the percentage of non-conformities by presenting faster service and better employee disposition.	O1-E1. Have an adequate number of employees according to the demand of each restaurant to reduce waiting times. O1-E2. Employee training on all the services included in the restaurant to effectively resolve any questions related to; menu, dishes, recommendations, etc. O1-E3 Knowledge to diners about home delivery service and reservations through printed and digital advertising.
	2. Consider that employees are willing to help	24% are not satisfied		
	3. Employees are available to correctly answer any questions you may have.			
	4. How do you consider the restaurant's delivery service?			
	5. How do you consider the reservation service of this restaurant?			
<b>Empatía</b>	1. You receive personalized attention	90% If they are satisfied with the service received.	O.2. Comply with the rules established by the restaurant administration. O3. Improve the attention of all restaurant staff.	O.2-E5. Comply with the established schedules in the restaurant. If there is any unforeseen event, notify customers in advance. O.3-E6. The entire restaurant team can participate in training regarding personalized customer service. (A.R.B.A.T)
	2. Are you satisfied with the restaurant's service hours?	10% are not satisfied with the service received.		
	3. Employees offer you personalized attention			
	4. Employees care about your needs			
	5. The restaurant service cares about your interests and/or desires			

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<b>Publicidad</b>	<p>1. Es importante que el restaurante anuncie sus servicios en redes sociales</p> <p>2. Es importante que el restaurante cuente con servicio a domicilio mediante las nuevas aplicaciones móviles</p> <p>3. Es importante que el restaurante se anuncie a través de publicidad impresa (lonas, folletos, etc)</p>	<p>100% están de acuerdo con la importancia de esta variable en el restaurante</p>	<p>O.4 Inclusión del restaurante en estrategias de marketing digital</p> <p>O.5 Incorporación del restaurante en nuevas tecnologías.</p>	<p>O.4-E4. Each restaurant can count on a community manager for presence in the main social networks (Facebook and Instagram)</p> <p>O.4-E5 Incorporation to e-commerce platforms for home delivery (Food Express, Didi, Pronto). These platforms offer the lowest commission in the market, in addition to cost savings in the logistics of the home delivery service.</p> <p>O4-E6 Consider a graphic designer for professional brochure type design.</p>
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The improvement strategies are by way of proposal, each restaurant administration must decide whether to adopt them or not, in the same way a personal approach can be considered to learn more about the results as well as advice regarding the previous experience of the author of this investigation.

### VII. CONCLUSIONS

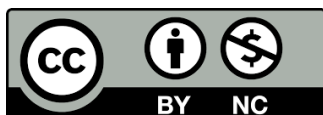
It can be concluded that according to the data analyzed, customers in general agree with the service offered by Mexican food restaurants in the state of Tlaxcala, however there are negative gaps although in the negative global averages the differences are not so significant. . It would be convenient to solve the problems and improve the service without a doubt. The hygiene and advertising variables are the least critical, the gap is insignificant. The most critical variables in the four restaurants analyzed are responsiveness and empathy, with a difference of -1.9666 and -0.6233, respectively. Based on these results, both variables (responsiveness and empathy) were subjected to a more exhaustive statistical analysis to determine their level of impact on the service through a t-student test for two paired samples and a distribution test of proportions. in which the hypotheses were affirmed that although it is true that there are important gaps, it does not symbolize that the majority of clients are dissatisfied or dissatisfied with the service received. The improvement proposals for the four proposed restaurants include general strategies to improve the quality of customer service, have enough staff, train employees to know the customer and offer personalized attention, as well as specific strategies to consider the inclusion of restaurants in new technologies such as home delivery applications and social networks, since the instrument indicates that customers consider it of the utmost importance. It is concluded that the factors that negatively impact the perception and expectations of customers in Mexican food restaurants are; responsiveness and empathy, while the variables that positively impact perception and expectations are: safety, tangible elements, reliability, hygiene and advertising. The level of satisfaction perceived by customers of Mexican food restaurants in the central area of the state of Tlaxcala is positive, since although there are negative differences, they are not significantly high. Even derived from the analysis of the gaps, the client does not receive the service that he expects at 100%, but at 90%. It is considered that the level of quality of the restaurants is also moderately positive due to the little difference that is obtained between what is expected and what is received in terms of service, however the differences and gaps are not very significant, so the quality is It cannot be considered 100% bad, but areas of opportunity for improvement were detected that would be important for restaurant owners to address.

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DOI : 10.47191/jefms

Impact Factor: 6.274

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Publisher:

Journal of Economics, Finance And Management Studies

Editor & Chief

International Category Code (ICC): ICC-0502

International Journal Address (IJA):

IJA.ZONE/26447065

IJA.ZONE/264470650504

