

## Analysis of the Effect of Information Technology Development, Absorbability Capacity on MSMe Business Performance



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**ABSTRACT:** Information technology absorption capacity is a factor that can affect business performance. The development of information technology can positively impact businesses to improve business performance. Absorption capacity also affects improving business performance. The more absorption capacity you have, your business performance will improve. The development of technology and its absorption capacity will positively impact businesses to improve their business performance. This study aims to determine whether or not the influence of information technology and absorption capacity on business performance in Tegal Regency-Indonesia. The sampling technique in this study used the Proportional Cluster Random Sampling technique. In this study, the Slovin formula was used, and the samples obtained were 96 people. The analytical method used is multiple linear regression analysis. The study's results found a significant effect of information technology on business performance. Then there is a significant effect of absorption capacity on MSME business performance in Tegal Regency. Suggestions that can be given based on the results of this study are that MSMEs should pay more attention to the development of information technology and develop their absorption capacity so that MSMEs can further improve their business performance and achieve maximum results as expected.

**KEYWORDS:** Information Technology, Absorption Capacity, Business Performance

### INTRODUCTION

The development of information technology and the internet in this era of globalization is very high and increasingly widespread (Rapali & Soelaiman, 2019). The development of technology in Indonesia is growing rapidly. Along with the rapid advancement of telecommunications technology, computers, and its convergence (internet technology) around the world, it has affected all aspects of life (Kusumawardhany, 2018). Information technology socialization in Indonesia continues to run, and it can be said that most of our society already knows and uses this information technology. It can also be proven by the existence of technology connected online without any time and place limits. Both are widely applied in various businesses, especially for Micro, Small, and Medium Enterprises (MSMEs). MSMEs have many important roles in the economy, especially in economic growth on a national and regional scale. Almost 90% of the total business in the world is contributed by MSMEs (Lubis & Junaidi, 2016).

Internet marketing or electronic marketing is all efforts to buy and sell a product or service using electronic media or the internet. At the same time, the explicit purpose of internet marketing is to sell goods, services, or advertisements. Online marketing can be a very effective way to identify a target market or discover the wants and needs of a marketing segment (Nakata, 2008). Technological advances in this current era make marketing activities easier and broader in scope, one of which is for Micro, Small, and Medium Enterprises (MSMEs) traders. Not only do traders get the benefits, but consumers also find it easier to get the information needed about the products offered by traders and easier to order and buy. For small companies, utilizing information technology in running a business, often known as e-commerce, can provide flexibility in production, enabling faster delivery to customers. E-Commerce is the process of buying and selling services and goods electronically with computerized business transactions using the internet, networks, and other digital technologies. (Laudon & Laudon, 2005).

The development of information technology can make MSME traders maintain their wares through social media, for example, Facebook. Now on Facebook, there is a facility called the Facebook marketplace. Facebook marketplace is a place for buying and selling that is devoted to Facebook users because this marketplace is placed on the Facebook platform. Traders can also take advantage of the fan page facility on the Facebook page. *The Facebook fan page* is a particular page that presents information about a business or brand. This page can sell, share interesting content, and be a branding medium. You can also use social media, Instagram. *Instagram* can be defined as a mobile application based on iOS, Android, and Windows Phone where users

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can shoot, edit and post photos or videos to the main Instagram page. Nowadays, technology is growing, and technology is also growing. An example of recent technological developments is ordering through online applications like *Gojek* and *Grab*. In that application, there is a facility called *Go food*, which is a facility to order food through the application. In the *Gojek* application, there is a facility called a shop, which is a facility to buy products without consumers having to go to the store. There is also a facility called *Go-Send* (apps base), which is a facility to deliver goods. This makes it easy for both traders and consumers. Traders will find it easier to maintain their wares, and their market reach will be more comprehensive. Merchants do not bother to deliver consumer orders because *Gojek* or *Grab* has provided driver services. Consumers will also find it easier to buy the food or products they want without having to bother leaving the house.

It is undeniable that technological development is one of the most influential aspects in the development of the world situation (Sidiq & Astutik, 2017). However, Indonesia is one of the countries still underdeveloped in its participation in technological progress, considering that Indonesia is still a developing country. Indonesia has enormous potential, but technology development in Indonesia can be said to be slow. The government pays less attention to technology development. Finally, more technology from abroad is entering Indonesia. Currently, many technologies from abroad are king in the Indonesian market. To become a developed country, Indonesia needs to pay attention for technological development. We know a lot of developed countries because of the technology they developed. For example, Japan has mastered automotive technology, the United States has mastered information technology, and China has mastered electronic technology. The development of technology, exceptionally high technology, should be a top priority after primary education. Even by mastering technology, other fields can also feel a positive impact. Technological development is the backbone of economic development, becoming a significant force in global competition and a means of achieving national prosperity. Suppose Indonesia wants to modernize agriculture, logistics, industry, to defense. In that case, it must modernize science and technology and turn them into productive forces. China uses this principle to master technology in various fields in a relatively short time.

This explanation proves that the absorption capacity of Indonesian citizens regarding knowledge of technological advances is still not evenly distributed, even though the absorption capacity of technological advances is very important to determine the business performance of MSMEs. However, in this case, the absorption capacity that determines the development of business performance is not only in the scope of information technology but also has an extensive range, such as knowledge in developing business performance, for example, increasing turnover, the ability to innovate, and being better prepared to face competitors. Absorption capacity is the capacity to absorb external knowledge, mainly from the virtual environment, and combine it with internal knowledge (Cohen & Levinthal, 1990). In business administration, absorptive capacity has been defined as "the ability of a company to recognize the value of new information, assimilate it, and apply it to commercial purposes" (Anonymous, 2020). The benefits of absorptive capacity for business performance are encouraging business growth and achieving maximum business profits (Andrawina et al., 2008).

There are various types of businesses in the trade sector, including MSMEs (Micro, Small and Medium Enterprises). The definition of MSMEs has been clearly explained in Law no. 20/2008. The law states that MSMEs are small companies owned and managed by a person or owned by a small group of people with a certain amount of wealth and income. According to data from the Ministry of Cooperatives and MSMEs, about 98.7% of businesses in Indonesia are micro-enterprises. Unsurprisingly, MSMEs contribute to Indonesia's Gross Domestic Product (GDP) by up to 36.82%. From year to year, the MSME sector in Indonesia continues to develop. Ten years ago, namely in 2009, the number of MSMEs was 52,764,750 units with a share of 99.99%. Entering 2014-2016, this number increased to more than 57.9 million units. Then, in 2017, MSMEs in Indonesia is estimated to have reached more than 59 million units. It is not surprising that MSMEs are one of the most significant parts of the backbone of the Indonesian and ASEAN economies. Approximately 88.8-99.9% of business forms in ASEAN are MSMEs, with 51.7-97.2% (Anonymous, 2019).

The 2016 SE results recorded that the total number of Central Java business actors in 2017 was 4,139,590 units, while the number of MSMEs was around 4 million or more than 99 percent of the total business actors in Central Java (Jehamun, 2020). The perpetrators of Micro, Small, and Medium Enterprises (MSMEs) in Central Java Province are encouraged to utilize technology, especially the internet network, in marketing their products to be more effective and have a wider reach. "Currently, only about 3.5 percent of MSMEs in Central Java are using the internet in marketing their products," said Head of the Central Java Cooperatives and SMEs Service Ema Rachmawati in Semarang, quoted from Antara, Wednesday, April 8, 2020. Therefore, the Central Java Provincial Government continues to encourage This digital economy growth is still very minimal in order to increase (Antara, 2020). Based on BPS data, the number of MSME entrepreneurs in the Tegal Regency reached 140,042 in 2019. They work in 17 business fields, such as handicrafts, metals, and other industries. Meanwhile, there are 26 thousand of processed handicrafts (Yandip, 2020).

There are so many Micro, Small, and Medium Enterprises (MSMEs) in the Tegal Regency that most have taken advantage of online trading. However, it is not evenly distributed throughout Tegal Regency. Based on observations of MSME traders on Garuda street Desa Kemantran, there are a total of around 126 MSMEs; 52 traders already use the online trading system, 34 traders

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use mobile phones to receive orders, 28 traders use the *Gojek* or *Grab* application, while the rest are still using the offline trading system. From the brief observations, the results showed that the development of information technology and the absorption capacity of MSME traders on Garuda street Desa Kemantran was quite maximal. Based on this situation, researchers are interested in research in the area because there are quite a lot of MSMEs in the area and have the potential to advance information technology and increase absorption capacity in Tegal Regency, especially on Garuda Street, Kemantran Village, Kramat District.

### METHOD

This type of research is quantitative descriptive research. This study describes the effect of information technology development and absorption capacity on MSME business performance in Garuda street, Kemantran Village, Kramat District, Tegal Regency. The variables in this study are categorized into two, namely, the independent variable and the dependent variable. This study's independent variables are information technology development and absorption capacity. At the same time, the dependent variable in this study is business performance.

This study's population was MSME traders in Garuda street, Kemantran Village, Kramat District, Tegal Regency, and as many as 126 MSME traders. At the same time, the number of samples was determined by the Proportional Cluster Random Sampling method. This method is a combination of proportional sampling and cluster sampling techniques. To determine the size of the sample taken from the research population, the formula proposed by Slovin (Poernomo, 2018) with a 95% confidence level with a value of  $e = 5\%$  is as follows:

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

Where:

$n$  = Number of samples

$N$  = Total Population.

$e$  = The error rate in selecting sample members is tolerated by 5%

Based on this formula, the calculation of the research sample is as follows:

$$\begin{aligned} n &= \frac{N}{1 + Ne^2} \\ n &= \frac{126}{1 + 126 (0,05)^2} \\ n &= \frac{126}{1 + 126 \cdot 0,0025} \\ n &= \frac{126}{1 + 0,315} \\ n &= \frac{126}{1,315} \\ n &= 95,82 = 96 \end{aligned}$$

From the results of these calculations, the number of samples taken is 96 MSME traders in Garuda street, Kemantran Village, Kramat District, Tegal Regency.

The method of analysis that researchers use is the method of multiple regression analysis. *Multiple regression analysis* measures the dependent variable's effect on the dependent variable if the effect involves two or more independent variables ( $X_1, X_2, X_3, X_4$ ) and one dependent variable ( $Y$ ). This method is assisted by using the SPSS version 25 program.

The data used in this research is quantitative. Quantitative data is data in numbers or quantitative data that is scored (scoring). The data source in this study was submitted directly to STIE Semarang students class of 2018 through the Google Form media to get valid and reliable answers to the questionnaire. The answers to the questions in the questionnaire/questionnaire are arranged based on the Likert scale. Each statement of each item has an alternative answer in the form of a score of 1-5 as follows.

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**Table 1. Score Each Alternative Answer**

Answer	Interval Description
Strongly agree	5
Agree	4
Just Agree	3
Disagree	2
Strongly Disagree	1

This multiple linear regression test is used to test the effect of independent variables such as Online Learning, Educational Technology on the dependent variable, namely Learning Interest. The multiple regression equation models in this study are:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e \quad (1)$$

Information :

Y : Business Performance

X1 : Information technology development

X2 : Absorption capacity

$\alpha$  : Constanta

1-2 : Coefficient of independent variables

e : Error

According to Ghozali (2016), the F test is carried out to show whether all variables influence the dependent variable. The test criteria are: (1) If Sig. < (0.05), then reject Ho. This means that the regression model is significant. All independent variables simultaneously affect the dependent variable and can be used to predict the dependent variable. (2) If Sig. (0.05), then do not reject Ho. That is, the regression model is not significant. All independent variables simultaneously do not affect the dependent variable and cannot be used to predict the dependent variable.

According to Ghozali (2016), the t-test shows how far the influence of one independent variable individually explains the variation of the dependent variable. The test used a significance level of 0.05 ( $\alpha=5\%$ ). Acceptance or rejection of the hypothesis is done with the following criteria: (1) If the value is significant > 0.05, then the hypothesis is rejected (regression coefficient is not significant). This means that the independent variable does not have a significant effect on the dependent variable; (2) If the significant value is <0.05, then the hypothesis is accepted (significant regression coefficient). This means that the independent variable significantly influences the dependent variable.

The coefficient of determination (R<sup>2</sup>) is a tool to measure how far the model's ability to explain the variation of the dependent variable is. The value of the coefficient of determination is between zero and one. A small value of R<sup>2</sup> means that the ability of the independent variables to explain the variation of the dependent variable is minimal. Furthermore, vice versa, if the value is close to 1, the independent variables provide almost all the information needed to predict the dependent variables. The criteria for the analysis of the coefficient of determination are: (1) If Kd is close to zero (0), it means that the influence of the independent variable on the dependent variable is low; (2) If Kd is close to one (1), it means that the influence of the independent variable on the dependent variable is strong.

## RESULT AND DISCUSSION

Respondents in this study were taken from MSMEs on Garuda street, Kemantran Village, Kramat District, Tegal Regency. The following is a table of the distribution of answers from the questionnaires that have been filled out by respondents. The questionnaire consists of 15 questions that have been processed and grouped into each variable as follows:

**Table 2. Description of Respondents' Answers to Information Technology**

Score	Score Category	frequency					Total Answer	Percentage(%)
		1	2	3	4	5		
1	Strongly agree	2	1	4	4	13	24	5
2	Agree	10	12	11	2	11	46	10
3	Just Agree	23	20	21	24	25	113	24
4	Disagree	53	47	49	45	34	228	48
5	Strongly Disagree	8	16	11	21	13	69	14
Total		96	96	96	96	96	480	100

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Based on the table above, it can be seen that there are 69 respondents who answered strongly agree (14%), agree there are 228 (48%), neutral there are 113 (24%), disagree there are 46 (10%), and strongly disagree there are 24 (5%).

**Table 3. Description of Respondents' Answers on Absorption Capacity**

Score	Score Category	frequency					Total Answer	Percentage (%)
		1	2	3	4	5		
1	Strongly agree	0	0	0	4	4	8	2
2	Agree	11	5	5	12	10	43	9
3	Just Agree	39	24	23	35	32	153	32
4	Disagree	38	49	52	36	35	210	44
5	Strongly Disagree	8	18	16	9	15	66	14
Total		96	96	96	96	96	480	100

Based on the table above, it can be seen that there are 66 respondents who answered strongly agree (14%), agree there are 210 (44%), neutral there are 153 (32%), disagree there are 43 (9%), and strongly disagree there are 8 (2%).

**Table 4. Description of Respondents' Answers on Business Performance**

Score	Score Category	frequency					Total Answer	Percentage (%)
		1	2	3	4	5		
1	Strongly agree	0	4	2	16	20	42	9
2	Agree	2	16	16	35	22	91	19
3	Just Agree	20	43	47	24	26	160	33
4	Disagree	56	26	25	15	22	144	30
5	Strongly Disagree	18	7	6	6	6	43	9
Total		96	96	96	96	96	480	100

Based on the table above, it can be seen that there are 43 respondents who answered strongly agree (9%), agree there are 144 (30%), neutral there are 160 (33%), disagree there are 91 (19%), and strongly disagree there are 42 (9%).

**Table 5. F Test Results (Model Test)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	746.209	2	373.104	54.448	.000 <sup>b</sup>
	Residual	637.281	93	6.852		
	Total	1383.490	95			

From table 5, it can be seen that the value of Fcount is 54.448 and Ftable (k=2, n=96 - k=2), Ftable = (2, 96-2) is 3.09, then 54,448 > 3.09. and a significance value of 0.000 < 0.05. Based on the decision making in the F test, it can be concluded that the model used is Fit.

**Table 6. The Result of the Coefficient of Determination**

Model	R	R Square	ted R Square	Error of theEstimate
1	.734 <sup>a</sup>	.539	.529	2.61772

**Source:** Primary data, processed using SPSS 25 2020

Based on the output above, it is known that the R Square value is 0.539, this means that the Information Technology and Absorption Capacity variables affect the Business Performance variable by 53.9%. While the rest (100% - 53.9% = 46.1%) is influenced by other variables outside this regression equation or variables that are not examined that affect Business Performance.

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**Table 7. Multiple Linear Analysis Results**

Model	Unstandardized Coefficients		Standardized Coefficients Beta		t	Sig.
	B	Std. Error				
1	(Constant)	.800	1.462		.547	.586
	Teknologi Informasi (X1)	.315	.087	.345	3.618	.000
	Kapasitas Serap (X2)	.510	.107	.456	4.776	.000

**Source:** Primary data, processed using SPSS 25 2020

The study results show that information technology variables significantly affect the business performance of MSMEs in Garuda street, Kramat District, Tegal Regency. This is indicated by a significance value of  $0.000 < \alpha = 0.05$ . As for the t-statistic value of  $3.618 > T_{table} 1.985$ , the first hypothesis proposed by information technology on MSMEs in Garuda street, Kramat District, Tegal Regency has a significant influence on business performance. These results follow previous research conducted by Infithor (2019), which concluded that the perception of MSMEs in the use of information technology on MSME business performance has positive and significant results. This means that the utilization of information technology can improve the business performance of MSMEs, so if the use of information technology can be developed even better, business performance will be better.

The study's results showed that the absorption capacity variable significantly affected the business performance of MSMEs in Garuda street, Kramat District, Tegal Regency. This means that the applied absorption capacity can positively impact business performance, so if the absorption capacity can be further increased, the business performance will increase even more. This is indicated by a significance value of  $0.000 < \alpha = 0.05$ . Meanwhile, the t-statistic value is  $4.776 > T_{table} 1.985$ . So the second hypothesis proposed that the absorption capacity of MSMEs in Garuda street, Kramat District, Tegal Regency significantly influences business performance variables. These results are consistent with previous research by Fahmi (2019), which concluded that absorptive capacity positively affected SME business performance.

## CONCLUSION

Based on the results of research and discussions on the influence of information technology development and absorption capacity on MSME business performance in Garuda street, Kramat District, Tegal Regency. So it can be concluded that Information Technology Variables significantly affect MSME Business Performance in Garuda street, Kramat District, Tegal Regency. Likewise, the Absorption Capacity Variable significantly affects MSME Business Performance on Garuda Street, Kramat District, Tegal Regency.

As a follow-up to the research results, MSMEs on Garuda Street, Kramat District, Tegal Regency, in utilizing information technology developments, are pretty good. However, it is expected further to increase the use of information technology developments for business so that MSMEs can further improve their business performance and achieve better results. Even better.

## REFERENCES

- 1) Anonim. (2020). Absorptive capacity. Retrieved September 20, 2020, from wikipedia: [https://en.m.wikipedia.org/wiki/Absorptive\\_capacity](https://en.m.wikipedia.org/wiki/Absorptive_capacity)
- 2) Antara. (2020, April 8). UMKM Jateng Manfaatkan Internet dalam Pemasaran Produk. Retrieved Oktober 26, 2020 from medcom: <https://www.medcom.id/ekonomi/ekonomi-digital/9K50rR3k-umkm-jateng-manfaatkan-internet-dalam-pemasaran-produk>
- 3) Arikunto, S. (1990). Dasar-Dasar Evaluasi Pendidikan. Jakarta: Bumi Aksara.
- 4) Laudon, J. P., & Laudon, K. C. (2021). *Sistem informasi manajemen*. Salemba Empat.
- 5) Cohen, W., & Levinthal, D. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation, *Administrative Science Quarterly*.
- 6) Ghozali, I. (2005). *Aplikasi Analisis Multivariate dengan SPSS*. Semarang: Badan Penerbit UNDIP.
- 7) Ghozali, I. (2016). *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 23 (Edisi 8) (8 ed.)*. Semarang: Badan Penerbit Universitas Diponegoro.
- 8) Fahni, F. M. (2019). Pengaruh Desentralisasi, Keterlibatan Karyawan, Dan Absorptive Capacity Terhadap Inovasi Dan Kinerja UKM Di Yogyakarta. *Jurnal: Universitas Islam Indonesia, Prodi Manajemen Fakultas Ekonomi*
- 9) Infithor, M. F. (2019). Analisis Adaptasi Pemanfaatan Teknologi Informasi Terhadap Kinerja Umkm Di Kota Malang. *Fakultas Ekonomi dan Bisnis, Universitas Brawijaya*.

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- 10) Jehamun, P. (2020, Juli 5). Potensi UMKM Jawa Tengah. Retrieved Oktober 26, 2020, from bernasnews: <https://bernasnews.com/potensi-umkm-jawa-tengah/>
- 11) Kusumawardhany, P. A. (2018). Pengaruh kapasitas absorptif dan situs jejaring sosial terhadap kinerja inovasi usaha mikro kecil dan menengah (UMKM) di Indonesia. *Jurnal Manajemen Teori dan Terapan*, 11(1), 71-88.
- 12) Lubis, T. A., & Junaidi, J. (2016). Pemanfaatan teknologi informasi pada usaha mikro kecil dan menengah di Kota Jambi. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, 3(3), 163-174.
- 13) Andrawina, L., Govindaraju, R., Samadhi, T. A., & Sudirman, I. (2008). Hubungan Antara Knowledge Sharing Capability, Absorptive Capacity dan Mekanisme Formal: Studi Kasus Industri Teknologi Informasi Dan Komunikasi Di Indonesia. *Jurnal Teknik Industri*, 10(2), 158-170.
- 14) Nakata, C., Zhu, Z., & Kraimer, M. (2008). The Complex Contribution of Information Technology Capability to Business Performance. *Journal of Managerial Issues*, 20(4), 485-506.
- 15) Poernomo, D., Wahono, P., & Puspitaningtyas, Z. (2018). Daya Serap Pengetahuan Dan Akselerasinya Pada Kinerja Usaha. *Journal For Business and Entrepreneur*, 2(1).
- 16) Purnamasari, S., & Wijaya, A. (2020). Pengaruh Orientasi Pasar, Orientasi Kewirausahaan Dan Kemampuan Pemasaran, Terhadap Kinerja Bisnis Umkm Clothing Line. *Jurnal Business Management Journal*, 16(1), 53-64.
- 17) Rapali, J. A., & Soelaiman, L. (2019). Pengaruh Teknologi, Organisasi, Dan Lingkungan Eksternal Terhadap Kinerja Bisnis Umkm Di Jakarta Melalui Adopsi Media Sosial Sebagai Variabel Mediasi. *Jurnal Manajerial dan Kewirausahaan*, 1(4), 890-899.
- 18) Sidiq, A., & Astutik, E. P. (2017). Analisis Kapabilitas Teknologi Informasi Terhadap Kinerja Bisnis Ukm Dengan Orientasi Pelanggan Sebagai Variabel Intervening. *Media Ekonomi Dan Manajemen*, 32(1).
- 19) Yandip. (2020, Juni 25). Berdayakan UMKM, Pemkab Tegal Imbau ASN Beli Produk Lokal. Retrieved from [jatengprov: https://jatengprov.go.id/beritadaerah/berdayakan-umkm-pemkab-tegal-imbau-asn-beli-produk-lokal/#:~:text=Produk%20yang%20dibeli%20tidak%20dibatasi,kerajinan%2C%20logam%20dan%20industri%20lainna](https://jatengprov.go.id/beritadaerah/berdayakan-umkm-pemkab-tegal-imbau-asn-beli-produk-lokal/#:~:text=Produk%20yang%20dibeli%20tidak%20dibatasi,kerajinan%2C%20logam%20dan%20industri%20lainna)



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