

A Collaboration of Quadruple Helix, Scenario Planning and Flexible Budget in Culinary Business in Facing Uncertainty at Pandemic



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ABSTRACT: The number of food and beverage MSEs in East Java with a total of 746,732 occupies the second highest position in Indonesia. But unfortunately, during the pandemic, food and beverage MSMEs (both packaged food and beverage home industries as well as coffee shop businesses, depots and cafes) experienced an average decline of 63%. The condition of uncertainty due to the pandemic, which has forced the Government in each region to periodically issue PPKM policies, according to the level of conditions for the spread of Covid-19, has caused MSME actors to experience income uncertainty. Therefore, to help minimize business losses, it is important to implement scenario-based planning accompanied by setting a budget according to conditions (flexible budget). For example, if the area is at level 4 (100% work from home) then which scenario will be carried out and what is the estimated budget. Meanwhile, the implementation of the Quadruple Helix (government, academics, business people, and communities) will help increase MSME innovation to survive during the pandemic. This article explains the importance of Quadruple Helix collaboration, business scenario planning followed by the preparation of a flexible budget to deal with uncertainty during the pandemic

KEYWORDS: Business Scenario, Flexible Budget, MSMEs, Pandemic, Quadruple Helix.

I. INTRODUCTION

Based on data from the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkop and UKM), 1,875 cooperatives and 163,713 MSME actors were affected by the Covid-19 pandemic [1]. The number of food and beverage MSEs in East Java with a total of 746,732 occupies the second highest position in Indonesia. But unfortunately, during the pandemic, food and beverage MSMEs (both packaged food and beverage home industries as well as coffee shop businesses, depots and cafes) experienced an average decline of 63% [2]. The condition of uncertainty due to the pandemic, which has forced the Government in each region to periodically issue PPKM policies, according to the level of conditions for the spread of Covid-19, has caused MSME actors to experience income uncertainty. Therefore, to help minimize business losses, it is important to implement scenario-based planning accompanied by setting a budget according to conditions (flexible budget). For example, if the area is at level 4 (100% work from home) then which scenario will be carried out and what is the estimated budget. Based on the survey results of Windhyastiti et al, it is known that at level 4 of PPKM (100% work from home), most business actors (37%) experienced a decline of sales more than 50%, while at level 3 (50% work from home), most business actors (43%) experienced a decrease of sales as 25% to 50% [3]. Meanwhile, the implementation of the Quadruple Helix (government, academics, business people, and communities) will help increase MSME innovation to survive during the pandemic. This article explains the importance of Quadruple Helix collaboration, business scenario planning followed by the preparation of a flexible budget to deal with uncertainty during the pandemic

II. LITERATURE REVIEW

A. IMPLEMENTATION OF QUADRUPLE HELIX MODEL

Based on the context of research in the field, the Quadruple Helix model is certainly more relevant when compared to the Triple Helix model because there are more than three actors (government, industry, and universities). The community is the fourth actor who is often also referred to as the user. Delman and Madsen (2007) stated that the fourth helix actor leading to the

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Quadruple Helix structure is an independent, non-profit and member-based organization [4]. Even Yawson (2009) states that innovation arises because of the needs of users (user-driven innovation) so that users are then formalized as the fourth helix [5]. Triple Helix is an approach that shows that the emergence of innovation arises from the existence of reciprocal, balanced, and sustainable relationships between business people, academics and government and how they transform through these relationships [6]. Furthermore, this model developed into a Quadruple Helix with the addition of media as the 4th helix [7] [8] [6]. Meanwhile, Carayannis and Campbell (2012) define the fourth helix into two things, the first is culture and the media, and the second is the participation of civil society in producing innovation and knowledge. This Quadruple Helix model needs a more strategic community involvement. The role of the community is positioned as an important source of innovation. As a concept, the Quadruple Helix is actually a development of the Triple Helix by integrating civil society and integrating innovation and knowledge [9]

The results of Muzaqi and Hanum's research of a tourist village in Trenggalek Regency show that the Quadruple Helix synergy is the main capital in generating creativity and innovation [10]. Likewise, research of the MSME sector in Malang Regency also shows the Quadruple Helix Model, being a feature that allows the presence of more effective and optimal innovations between actors in the helix [11]

B. SCENARIO PLANNING

Scenario planning is a structured practice to imagine and anticipate what future events and conditions might occur, what the consequences of them will be, and how to respond and learn from them to practice preparedness and response. This is a useful technique in corporate strategic planning and marketing strategy, especially in seeing potential future needs, markets, and products [12] [13]. A scenario planning is an alternative to running a plan. Scenario planning is also a picture of the future. According to Schwartz scenario planning is a tool or step to convey a perception of the picture of various possibilities (circumstances) that can occur in the future. A scenario planning is an alternative to running a plan. Scenario planning is also a picture of the future. According to Schwartz, scenario planning is a tool or step to convey a perception of a picture of various possibilities (conditions) that can occur in the future. The method used in planning this scenario is the TAIDA method. The TAIDA method in scenario planning according to Lindgren and Baldhood is the Method for Scenario Planning, this method is the steps for compiling a scenario planning. TAIDA stands for Tracking, Analyzing, Imaging, Deciding, and Acting [14]. The planning process usually begins with an analysis of the company's environment using PESTEL analysis and then selecting critical indicators that represent opportunities and threats for the company through a SWOT analysis. Meanwhile, to estimate the impact in the future, the company uses several techniques, such as the Delphi technique. In general, three scenarios are usually created (pessimistic, basic and optimistic) after which key actions can be identified to develop the company's ability to deliver these goals, according to the most likely scenario. Rispawati and Utami's research tries to make 4 alternative scenarios for the culinary business in West Nusa Tenggara and business people can choose one alternative according to the external conditions that are happening [15].

C. FLEXIBLE BUDGET

A flexible budget is a budget that allows a company to calculate estimated costs at a level of activity [16]. Flexible budgets aim to provide the more frequent feedback managers need to implement controls and execute plans effectively. In the preparation of this flexible budget, it is necessary to have a budget based on a range of several levels of activity. To calculate different levels of output, it is necessary to know the pattern of cost behavior of each item in the budget. The number of estimated costs increases as the level of production increases because the total variable costs increase with the increase in output [16]. Regarding the application of Flexible Budget, Shabira's research results show that with the application of Flexible Budget, the deviations that occur are not as large as static budget deviations because they are adjusted to the results of the resulting production volume and can be traced to the causes of deviations that occur in production activities [17].

III. METHOD

The population in this study were members of the Samudra Jaya group of SMEs. The Samudra Jaya MSME group was established in 2020. This MSME group accommodates small business actors engaged in fish processing such as catfish nuggets, catfish amplang, catfish bone sticks, shrimp dumplings, catfish rambak, tuna tofu, shredded tuna, and others. The number of registered members is 45 business actors. The respondent sample was taken from active members with a total of 30 business actors. The research was conducted with quantitative descriptive analysis

According on Table 1, the majority of business actors have been in business for 4 to 6 years (30%) and only 2 business actors have been in business for more than 10 years. Meanwhile, when viewed from the average turnover of income per month on

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Table 2, most of the business actors (50%) have an average income of IDR 2,500,000 to IDR 5,000,000 per month and only 2 business actors have income above IDR 10,000,000.

Table 1. Business Age

Business Age	Total	%
< 2 years	2	7%
2 - 4 years	8	27%
4 - 6 years	9	30%
6 - 8 years	6	20%
8 - 10 years	3	10%
> 10 years	2	7%
Total	30	100%

Table 2. Average of Income per Month

Average of Income per Month (IDR)	Total	%
< 2,500,000	11	37%
2.,500,000 - 5,000,000	15	50%
5,000,000 - 7,500,000	1	3%
7,500.,000 - 10.000.000	1	3%
> 10,000,000	2	7%
Total	30	100%

III. DISCUSSION

The results of the survey (Table 3), show that the majority of business actors (57%) stated that it is important to carry out business plans and budgets according to the conditions of PPKM. The survey results of Windhyastiti, it is known that at level 4 of PPKM (100% work from home), most business actors (37%) experienced a decline of sales more than 50%, while at level 3 (50% work from home), most business actors (43%) experienced a decrease of sales as 25% to 50% [3]

Table 3. Analysis results of the need of business plans and budgets based on PPKM conditions

Respondent statement	The Need			
	Business Plans		Budgets	
	Number	%	Number	%
Strongly agree	5	17%	5	17%
Agree	17	57%	17	57%
Quite agree	6	20%	6	20%
Disagree	2	7%	2	7%
Strongly disagree	0	0%	0	0%
Total	30	100%	30	100%

If the survey results above are associated with the survey results of Windhyastiti et al, it is becoming important to implement scenario-based planning accompanied by setting a budget, according to conditions (Flexible Budget) to minimize losses. For example, if the area is at level 3 (work from home 50%) then which scenario will be carried out and what is the estimated budget. Meanwhile, the implementation of the Quadruple Helix (government, academics, business people, and communities) will help increase MSME innovation to survive during the pandemic

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Table 4. Analysis result of the role of academics, government and community

Respondent statement	The Role					
	Academics		Government		Community	
	Existing	Need	Existing	Need	Existing	Need
Completely agreed	7%	50%	23%	47%	42%	53%
Very agreed	50%	33%	47%	47%	45%	40%
Moderately agreed	37%	17%	30%	6%	10%	7%
Slightly agreed	3%	0%	0%	0%	3%	0%
Not at all agreed	3%	0%	0%	0%	0%	0%

According on the survey results of Windhyastiti et al on Table 4 [18], regarding the role of academics in assisting business actors, it found that most of the respondents completely agreed and very agreed (83%) that they require the role of academics. Although with a smaller percentage (57%), most of the respondents also stated that they completely agreed and very agreed that so far academics has shown their role. The role of academics is shown through business assistance such as helping to make financial reports and digital marketing. Only 6% of respondents stated that academics have not shown their role. The survey results show the role of academics needed, among others, in facilitation in terms of obtaining business permits/legalities such as halal certificates and copyrights as well as helping business with student internship programs (market mapping and product marketing) and provide ideas related to innovation

According on the results of the survey on Table 4, regarding the role of the government in assisting business actors, it is known that most of the respondents completely agreed and very agreed (94%) that they need the role of the government. Although with a smaller percentage (70%), most of the respondents also stated that they completely agreed and very agreed that so far the government has shown its role. The role of the government in this regard has been shown in assisting business legality/licensing, halal certification, marketing assistance (involving exhibition events/bazaar), capital assistance and various trainings. Meanwhile, the role of the government that is still needed is in terms of expanding the marketing network and business capital and, as well as increasing public awareness of using MSME products.

Regarding the role of the community in assisting business actors, the result survey of Table 4 shows that most of the respondents completely agreed and very agreed (93%) that they require the role of the community. Most of the respondents also stated that so far the community has shown its role (87%). The role of the community so far that has been done is to share knowledge and carry out joint marketing such as promoting each other's products and sharing exhibition stands/bazaar. Furthermore, for the role of the community what is required to exchange information about MSME programs, help each other in marketing and as a means of communication to provide solutions In addition, during a pandemic, the community becomes a means to strengthen each other Furthermore, the Quadruple Helix collaboration model, business scenario planning followed by the preparation of the Flexible Budget can be seen in Figure 4.

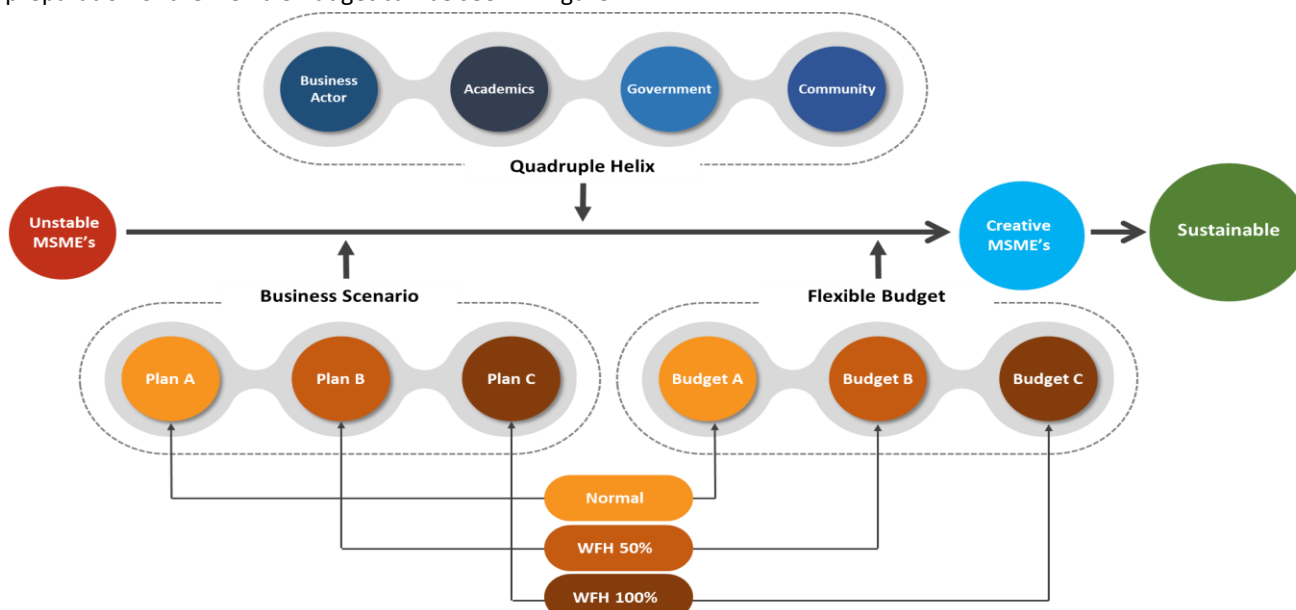


Figure 1. A Collaboration Model of Quadruple Helix, Scenario Planning and Flexible Budget

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The implementation of the Quadruple Helix collaboration, business scenario planning followed by the preparation of a Flexible Budget can be seen in Table 5. For example if the area is in normal condition it will do Scenario and Budget A, if the area is at level 3 (work from home 50%) then the scenario will be run is Scenario and Budget B, and if the area is at level 4 (work from home) then the scenario is Scenario and Budget C.

Table 5. Scenario planning under normal conditions, WHF 50% and WFH 100%

Kondisi	Scenario	Budget	Quadruple Helix
Normal	Scenario A Production: <i>full capacity</i> Selling: <i>offline</i> and <i>online</i> Promotion: <i>offline</i> dan <i>online</i>	Budget Normal (full capacity)	Government: expanding the marketing network and business capital. Increasing public awareness of using MSME products.
WFH 50%	Scenario B Production: 75% from normal capacity Selling: 50% <i>offline</i> dan <i>online</i> Promotion: <i>online</i> Using shifts/part-time worker	Budget 75% from normal condition	Academics: facilitation business permits/legalities such (halal certificates and copyrights), student internship programs (market mapping and product marketing), provide ideas related to innovation
WFH 100%	Scenario C Production: 50% from normal capacity Promotion: <i>online</i> Using shifts/part-time worker	Budget 50% from normal condition	Community: joint marketing program, joint storage (cold storage), joint purchasing raw material

In the community aspect, business actors can work together both in the marketing for example through the community web. It can also cooperate in the form of joint storage of inventory (e.g. if frozen product that is stored in the refrigerator will save electricity costs) or joint purchasing of raw materials (to get a cheaper price if you buy in larger quantities). This is in line with the results of Mulyaningsih's research addressing the fourth helix as a community with the main role of encouraging the innovation process to increase demand for goods and services [19]. In addition, the community can also be a forum for bridging cooperation or approaches with the government. As with the elements in the Quadruple Helix, it will be more optimal if collaboration is carried out between government, academics, and communities. The government's involvement in providing assistance has proven to be indispensable to increase the competitiveness of MSMEs [11] [20]. In this case, the government will play a role in collaboration between the various parties [20]

IV. CONCLUSION

It is important to implement scenario-based planning accompanied by setting a budget, according to conditions (flexible budget) to help minimize business losses during the pandemic. For example, if the area is at level 3 (work from home 50%) then which scenario will be carried out and what is the estimated budget. The

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Implementation of the Quadruple Helix (government, academics, business people, and communities) will help increase MSME innovation to survive during the pandemic. Quadruple Helix collaboration, business scenario planning followed by the preparation of a flexible budget will be more efficient if it can be done together as in a group of MSMEs to optimize the role of the community in Quadruple Helix

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