



## MSME technology adaptation strategy in the city of Salatiga during the covid-19 pandemic

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### Abstract

Strategy is the planning and execution of an activity within a certain time to achieve a goal effectively. The purpose of this research is to describe and identify the profile of MSMEs in Salatiga City that are affected by the Covid-19 pandemic. The type of research used in this research is quantitative research. The method used in this research is descriptive statistical analysis method and AHP (Analytical Hierarchy Process) method with a total of 40 respondents and 5 key respondents. The results show that the profile of MSMEs affected by the Covid-19 pandemic is that most business actors have more than 2 employees. The impact of the technology adaptation strategy on MSMEs in Salatiga City on the economic conditions of business actors is shown through income stability during the COVID-19 pandemic. The social condition of the community is also affected from work status to how to transact. Based on the results of the AHP analysis, the most prioritized policies for MSME actors are realizing community empowerment, especially MSME actors in Salatiga City through education, training, and economic activities. With the technology adaptation strategy for MSME actors, it can help in maintaining business during the Covid-19 pandemic.

**Keywords:** MSME, Technology, Salatiga, Covid-19

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### INTRODUCTION

Micro, Small, Medium Enterprises (MSMEs) according to the world view have a very important role to help grow and develop the economy in developed countries as well as

developing countries. In developing countries, MSMEs have a vital role in terms of poverty reduction and income distribution, employment opportunities and sources of income for the poor and rural economic development (Kadin,

2008). With the inhibition of business actors in the MSME sector in carrying out their business due to the Covid-19 pandemic, the national economy can decline, even causing increased poverty and unemployment.

Micro, Small and Medium Enterprises (MSMEs) as labor absorbers and drivers of the

domestic economy are facing a significant decline in profits due to declining productivity. It must be admitted that the Covid-19 pandemic has caused a decrease in people's purchasing power because to suppress the spread of the virus, the public has reduced social interactions outside the room.

**Table 1.** Salatiga City MSME Data 2018-2021

Year	Number of SMEs (Units)	Labor (Person)	Investation (Million IDR)
2018	1.969	15.565	1.493.030
2019	1.969	14.647	1.491.545
2020	1.767	13.750	1.420.671
2021	1.611	11.639	1.407.479

Source: dataku.salatiga.go.id, 2023

Thus, many consumers are keeping their distance and switching to digital purchases, which has an impact on many MSMEs who are still dependent on offline sales, experiencing a decrease in purchases and resulting in closing their businesses. Covid-19 pandemic has indirectly prompted new changes in carrying out business activities in Indonesia, where previously business people still prioritized sales by meeting face-to-face (offline) and then switching to digital (online) sales, which is also known as the phenomenon digital entrepreneurship (djkn.kemenkeu.go.id, 2020).

Social media and marketplaces (intermediaries) provide and make it easier for business people to expand marketing (Purnomo, 2019). Based on the table 1, it can be seen that before the Covid-19 pandemic in Indonesia the number of MSMEs and labor and investment increased significantly but with the Covid-19 pandemic the number of MSMEs, labor and investment decreased. It could be said that MSME actors were greatly affected by the Covid-

19 pandemic, which caused many workers to be laid off or temporarily laid off.

Appropriate and sustainable technology adaptation can increase or be able to maintain business during a pandemic like now. One thing that can be done by business actors to maintain their business is to use technology as a means of selling. Internet use in Indonesia has increased every year, until in January 2020 there were more than 175.4 million internet users.

Internet use in Indonesia is dominated by people who use mobile devices rather than people who use PCs, which is 124% of the entire population in Indonesia (Wijoyo et al, 2020). MSMEs must change the way they do business from offline to online by utilizing existing technology.

MSMEs have made changes in accordance with Denison (1995) in adaptation theory which in this theory prioritizes the ability of an organization to accept, interpret and translate changes and persist in its business even though there have been system changes. Information

technology can be used as data processing, namely the process stage, having data, compiling, storing, for data manipulation in many ways so that it can produce quality, relevant, accurate and timely information (Achmad, 2020).

During the Covid-19 pandemic, changes in the use of technology are needed as a means of introducing products to the wider community through digital media, for example through WhatsApp, Instagram, Facebook and other social media applications, because one of the efforts to survive the Covid-19 pandemic is to use social media as a means of selling.

Digital marketing serves as the introduction of a product to the wider community and finding the right market using social media and is carried out online by utilizing technology as a means to a wider business platform. One form of obedience from the public or business actors to government policy rules that require them to stay at home without having to make direct social contact is to conduct business activities through social media during the Covid-19 pandemic.

Information technology is growing and developing very rapidly. Almost all social and economic aspects of human life cannot be separated from information. The role of information technology in the interaction of individuals or groups is unavoidable. In the school, office and even at home, we cannot be separated from information technology.

So that the role of information becomes very important in human social and economic life. The role of information technology is also felt to be very important by business actors, both large and small scale business actors. The information technology micro plan for business actors is very important in an increasingly

advanced and globalized world. Information is needed by the business world, both in the company's internal environment and the external environment.

Information technology that is used properly can make MSME actors able to survive and continue to run their business before or after the pandemic occurs. It was recorded that 92% of MSME actors who were able to survive asserted that information technology was the main driving factor for keeping their business running even without direct social contact. Based on data from the Ministry of Information and Technology (2020), only 9.4 million MSMEs or around 16% of business actors use online platforms to run their business during the Covid-19 pandemic.

## RESEARCH METHODS

This type of research is quantitative research, namely describing and providing information based on numbers obtained from observations made in the field. Quantitative research in this study was conducted to identify the impact of the Covid-19 pandemic in Indonesia, especially the City of Salatiga. Secondary data obtained is through the official website, Dataku Salatiga, from which some data were taken, including data on the number of MSME actors from 2018-2021.

The analytical method used in this study is the Analytical Hierarchy Process (AHP) to find out which policies should be prioritized by the government to maintain business during the COVID-19 pandemic. These policies are selected through a questionnaire that has been given by the researcher and filled out by people who are experts in the field.

A validity test is a test used to show the extent to which the measuring instrument used

in a measure is what is being measured. Ghozali (2009) states that the validity test is used to measure the validity or validity of a questionnaire. A question is considered valid if  $r$  arithmetic is greater than  $r$  table where the  $r$  table is 0.312 with the number of  $n$  (respondents), in this study as many as 40 people.

**Table 2.** Reliability Test

Indicator	Cronbach's Alpha	Description
Economic Aspect	0,672	Reliable
Social Aspect	0,690	Reliable

Source : Data Processed, 2023

The reliability test can be carried out simultaneously on all the questions in the research questionnaire (Wiratna and Sujarweni, 2014). The basis for making the decision that the tested data passes the reliability test or not is when the Cronbach's Alpha value is greater than 0.60 then the questionnaire is declared reliable or consistent.

Descriptive statistical analysis is used to provide an overview of the distribution and behavior of the research sample data by looking at the minimum value, maximum value, average (mean), and standard deviation of each independent variable and dependent variable.

Analytical Hierarchy Process (AHP) is often used as a problem solving method compared to other methods for the following reasons: A hierarchical structure, as a consequence of the selected criteria, to the deepest sub-criteria.

in this study there are three criteria with three sub-criteria each. the first criterion is "Marketing strategy for SMEs using technology

adaptation", the second criterion is "Business promotion strategy for MSME actors during the Covid-19 pandemic using technology adaptation", the last criterion is "Improvement of the economy, especially the welfare of MSME actors during the Covid-19 pandemic". Each policy criterion has advantages and disadvantages, which are the basis for prioritizing policies that are really needed.

## RESULTS AND DISCUSSION

Based on the results of AHP calculations using expert choice software in table 3, an inconsistency ratio of 0.02 is obtained, which means that the keyperson's answers (key respondents) are consistent. The following is the output of the AHP calculation from the criteria for the technology adaptation strategy in the form of a bar chart.

The criteria that have been determined based on priority will be described further in the alternatives for each priority criterion. Preparation of criteria based on priorities is one way to optimize the function of each criterion so that it can work well in future technology adaptation strategies.

Based on the results of the table 3 calculations obtained an inconsistency ratio of 0.02, which means that the answers given by the respondents are consistent. Based on the calculation of the AHP results for criterion (A), the marketing strategy for MSME actors using technology adaptation, "Creating an effective marketing strategy on social media" is the priority with a weight of 0.358.

The next priority is "Maintaining an effective and long-term technology-based marketing strategy" with a weight of 0.333. The third or final priority is "Introducing marketing strategies through social media" with a weight of

0.309. Based on table 4 calculation, the inconsistency ratio value is 0.05, which means that the answers given by the respondents are consistent.

**Table 3.** Criterion (A) Marketing strategy for SMEs using technology adaptation

Policy	Criteria	Weight
A <sub>1</sub>	Introducing marketing strategies through social media	0,309
A <sub>2</sub>	Creating an effective marketing strategy on social media	0,358
A <sub>3</sub>	Maintaining an effective and long-term technology-based marketing strategy	0,333
Inconsistency Ratio = 0,02		

Source : Data Processed, 2023

Based on AHP's calculations on criterion (B), "Business Promotion Strategy for MSMEs During the Covid-19 Pandemic Using Technology Adaptation", the most priority alternative is "Promotion as a means of introducing products in detail to consumers" with a weight of 0.409. The next priority is "Good and right promotion through social media" with a weight of 0.328. Furthermore, the last priority is "Promotion to attract consumers through social media" with a weight of 0.263.

**Table 4.** Criterion (B) Business Promotion Strategy for MSME Actors During the Covid-19 Pandemic Using Technology Adaptation

Policy	Criteria	Weight
B <sub>1</sub>	Good and correct promotion through social media	0,328
B <sub>2</sub>	Promotion to attract consumers through social media	0,263
B <sub>3</sub>	Promotion as a means of introducing products in detail to consumers	0,409
Inconsistency Ratio = 0,05		

Source : Data Processed, 2023

Based on table 5, the inconsistency ratio value is 0.01, which means that the data obtained from the respondents are consistent. Based on the AHP calculation on the criterion (C) "Economic Improvement, Especially the Welfare of MSME Actors During the Covid-19 Pandemic", the highest priority alternative is "Realizing community empowerment, especially MSME actors in Salatiga City through education, training and economic activities" with a weight of 0.556. The next priority criterion is "Realizing the development of business investment in

MSMEs" with a weight of 0.258. The last priority is "Increase in sales profit" with a weight of 0.186.

Based on the table 6 calculation, the inconsistency ratio value is 0.05. This means that the data obtained from the respondents' answers can be said to be consistent. In the AHP calculation, the data can be said to be consistent when the inconsistency ratio value is less than 0.1. Based on table 6, the alternative with the highest weight is C<sub>1</sub> or the alternative "Realizing community empowerment, especially SMEs in

Salatiga City through education, training and economic activities" with a weight of 0.129.

This means that this alternative is the most priority alternative in the technology adaptation strategy. Meanwhile, the alternative with the

lowest weight is alternative C<sub>3</sub> or alternative "Increase in sales profit" with a weight of 0.084.

Effective technology adaptation strategy to maintain business and increase sales during the covid-19 pandemic.

**Table 5.** Criterion (C) Improving the Economy, Especially the Welfare of MSMEs During the Covid-19 Pandemic

Policy	Criteria	Weight
C <sub>1</sub>	Realizing community empowerment, especially SMEs in Salatiga City through education, training, and economic activities	0,556
C <sub>2</sub>	Realizing the development of business investment in MSMEs	0,258
C <sub>3</sub>	Sales profit increase	0,186
Inconsistency Ratio = 0,01		

Source : Data Processed, 2023

In addition, with the development of technology, MSME actors can expand their business even though they do not make direct contact with consumers. At the beginning of the

pandemic, MSME actors had difficulty adjusting their business to the circumstances. However, when MSME actors carry out the right strategy, the business can survive, even develop.

**Table 6.** All Alternative Technology Adaptation Strategies

Policy	Criteria	Weight
C <sub>1</sub>	Realizing community empowerment, especially SMEs in Salatiga City through education, training, and economic activities	0,129
B <sub>3</sub>	Promotion as a means of introducing products in detail to consumers	0,128
A <sub>2</sub>	Creating an effective marketing strategy on social media	0,123
A <sub>3</sub>	Maintaining an effective and long-term technology-based marketing strategy	0,121
B <sub>1</sub>	Good and correct promotion through social media	0,117
A <sub>1</sub>	Introducing marketing strategies through social media	0,103
B <sub>2</sub>	Promotion to attract consumers through social media	0,097
C <sub>2</sub>	Realizing the development of business investment in MSMEs	0,097
C <sub>3</sub>	Sales profit increase	0,084
Inconsistency Ratio = 0,05		

Source : Data Processed, 2023

From the results of the questionnaire on whether the technology adaptation strategy was

effectively used during the Covid-19 pandemic, as many as 20 people (50%) answered quite

agree and 20 people (50%) agreed. This shows that the technology adaptation strategy is effectively used during the Covid-19 pandemic.

The results obtained from respondents' answers said that technological adaptation had a positive effect on income because technology could increase sales during the Covid-19 pandemic. Before using technology as a marketing tool, business actors tend to experience difficulties when facing the Covid-19 pandemic, but after using technology as a marketing tool, business actors can maintain their business and increase sales of products offered to consumers online.

The technology adaptation strategy for MSME actors in Salatiga City also has an impact on social aspects where the technology adaptation strategy has a social impact on the community through changing unemployment status due to being laid off from their place of work to becoming MSME actors.

Many people have been laid off due to the COVID-19 pandemic and have opened their own businesses or SMEs who already have businesses and add businesses by opening online stores where buying and selling transactions are carried out only through cellphones without meeting each other.

The technology adaptation strategy reduces unemployment and improves the community's ability to communicate, build relationships and see business opportunities and take into account the risks. With broad insight, business actors can expand their business without having to own a shop.

Research (Mumtahana et al, 2017) explains that as much as 15% of MSME income increases due to the use of information technology. Ningtyas et al, (2015) also said that the performance of MSMEs has a positive influence

by utilizing e-commerce. Likewise, research by Setyorini et al, (2019) and Helmalia (2018) also said that e-commerce has a significant influence on revenue.

The results of the answers that have been given by respondents are that the technology adaptation strategy has a positive effect on the social aspects of society where the presence of technology during the Covid-19 pandemic can change the status of people who were previously unemployed due to being laid off to become business actors because they have their own business and do online marketing, using social media as a means of selling and offering products to consumers without having to own a shop.

Based on the results of the AHP calculation using Expert Choice VII software, a priority order of policies has been compared with each other by considering the relationship with the main objectives which has 3 priority. First priority is the highest value weight is the policy (A) "Marketing strategy for SMEs using technology adaptation". This policy has 3 sub policies, namely introducing marketing strategies through social media, creating an effective marketing strategy on social media, and maintaining an effective and long-term technology-based marketing strategy.

Second Priority is the policy with the second highest score is the policy (B) "Business Promotion Strategy for MSMEs During the Covid-19 Pandemic Using Technology Adaptation". This policy has 3 sub policies, namely promotion is good and right through social media, promotion to attract consumers through social media, and promotion as a means of introducing products in detail to consumers.

Third Priority is the policy with the lowest value weight is the policy (C) "Economic

Improvement, Especially the Welfare of MSME Actors During the Covid-19 Pandemic Period". This policy has 3 sub policies, namely realizing community empowerment especially SMEs in Salatiga City through education, training, and economic activities, realizing the development of business investment in MSMEs, and increase in sales profit.

## CONCLUSION

Micro, Small and Medium Enterprises (MSMEs) Before the Covid-19 pandemic had maximum income from the sale of goods offered and MSME actors could still run their business by opening shops and meeting directly with consumers, but after the Covid-19 pandemic occurred changes from the economic and social aspects felt by MSME actors.

The impact felt by MSME actors on the economic aspect was a decrease in sales, reduced consumers and not maximum income earned, while in the social aspect, MSME actors experienced changes, which previously sold their products directly and were forced to close their outlets and switch to using online sales using social media.

MSME actors use a diversive strategy in which there are 3 aspects, namely, Retrenchment is the preparation of everything from the beginning to recalculate capital and assets to return the original profit, Divestiture is selling part of the company or division; Liquidation, all company assets that are worth selling (David, 2012).

Based on calculations using the AHP (Analytical Hierarchy Process) method, the most priority policy strategy or that must be prioritized by MSME actors in Salatiga City during the Covid-19 pandemic is strategy A, namely "Marketing strategy for MSME actors

using technology adaptation" by having 3 sub policies, namely introducing marketing strategies through social media, creating effective marketing strategies on social media and maintaining effective and long-term technology-based marketing strategies.

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