Technology is a Solution for MSMEs Sustainability

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Abstract in English

The Corona virus, which began to emerge at the end of 2019 in China, has so far spread widely throughout the world including Indonesia, where this greatly affects various aspects of human life. Many MSME businesses must close because of the current economic situation. Therefore, MSME owners during the COVID-19 pandemic must start rethinking their business strategy. Because only with innovation, micro, small and medium business owners will be able to survive and continue to be sustainable. One of the innovations is to use technology, namely cloud kitchens that are attached to the use of online applications. During the COVID-19 epidemic, this study looks at the possibility of MSME business owners to adopt Cloud-based technology platforms as their new business model. The data for this study were obtained from 100 MSME owners engaged in the food and beverage sector using quantitative techniques. Data processing using SPSS 22.0 program and path analysis. The research findings reveal that there is a relationship between perceived ease of use and perceived benefits that affect the intention to use/adopt cloud kitchens as their new business model. This study contributes to the intention to adopt small businesses towards technology, namely cloud kitchens for MSME owners. Practical implications for other stakeholders are also presented in this study.

INTRODUCTION

The Corona virus, which began to emerge at the end of 2019 in China, has so far spread widely throughout the world including Indonesia, where this greatly affects various aspects of human life. The economy and people's welfare in almost all countries experienced a significant decline (Wu et al., 2020). The impact of the pandemic in Indonesia resulted in job losses, factory closures, unproductive agriculture, and a decline in the tourism industry. Large companies and have been affected, even some companies were forced to close completely (Susanna, 2020).

With the surge in the number of people infected with the corona virus, the government imposed a massive restriction policy. As a result, the Indonesian economy became unstable because mobility outside the home had to be limited (Hermawan et al., 2022). This affects all business fields, especially MSMEs (Micro, Small and Medium Enterprises) this policy causes loss of income, raw materials are difficult to obtain, decreased orders from consumers, and not a few are out of business and difficulty maintaining profitability (Saturwa et al., 2021). In addition, MSMEs are also experiencing a shortage of manpower due to the policy of the Enforcement of Restrictions on Community Activities (Tairas, 2020).

So far, MSMEs are micro, small and medium enterprises that play an important role in economic growth and absorb a high level of labor (Suyanto & Kurniawan, 2019). According to data from the Ministry of Cooperatives, Small and Medium Enterprises, and Medium Enterprises, currently there are 64.2 million MSMEs and 40% of that number is engaged in the food and beverage sector (Shimomura, 2020). The total contribution of MSMEs to gross domestic product (GDP) is 61.07% or around Rp. 8,573.89 trillion (BaliPost, 2021), and can absorb 80% of the workforce (C.N.B.S., 2021). Overall, MSMEs have basic problems such as lack of capital, very minimal skills of employees, and lack of knowledge about technology (Maksum et al., 2020). During the COVID-19 pandemic, the Indonesian government gives helped to support MSME operations to survive (Tambunan, 2020).

To be able to survive during this pandemic, MSME must find a way to continue their operations (Handoko, 2020) and have a competitive advantage to survive in running their business (Asri & Herwanto, 2021). One of the things that can make MSME survive during the current pandemic is by innovating, so they can continue to operate and increase their selling power by not abandoning the Health protocol (Setioko et al., 2021). Several MSME engaged in the food and beverage sector innovate by starting to change their sales strategy. With assistance from the government (Tambunan, 2020), this food and beverage MSME has changed the way of selling by creating a cloud kitchen. By implementing cloud kitchens, MSME can expand the market and get maximum profit (Sukarno, 2020). This trend emerged and developed widely and was widely applied by food and beverage outlets during this pandemic (Wankhede et al., 2021).

In a previous study conducted by (Hindarwati et al., 2021) it was stated that MSME business owner must innovate in delivering products to consumers using online. Because when consumers make their choice, of course they will choose the one that suits their needs and desires and which can make them feel satisfied so they will decide to continue buying the product (Milo, 2021).

This research was conducted to determine the level of acceptance of food and beverage MSME business owners to use/adopt Cloud Kitchen as a business solution to survive during this pandemic era. To achieve the objectives of this study, the Technology Acceptance Model (TAM) was used, using the basic variables, namely Perceived Usefulness and Perceived Ease of Use to see whether these two variables had a significant influence on the interest of MSME owners to use Cloud Kitchen (Behavioral Intention).

LITERATURE REVIEW
Cloud Kitchen

Cloud kitchen, which is often referred to as satellite kitchen or ghost kitchen, is a restaurant with a concept that only offers delivery service and does not provide on-site dining facilities (Chavan, 2020; Choudhary, 2019). The advantage of cloud kitchen it does not need to have a physical area to serve food and does not require restaurant waiters because it only serves delivery facilities, and the capital required is not as large as an ordinary restaurant (Juliana et al., 2020). Outlet only produces food according to requests received online and the food is then sent to customers in the form of a delivery service (Beniwa & Mathur, 2021; Wankhede et al., 2021).

This is a continuous innovation, with minimal capital, can offer something different, with relatively less risk (Juliana et al., 2020). The cloud Kitchen, which prioritizes delivery service, reduces customer contact (social distancing), can work with many brands and with different concepts, has low costs, and offers fast and clean delivery, and this has become a trend. which is growing globally (Süzer et al., 2021). For orders only through a website or

mobile application that can be used to order food/beverages (Moyeenudin et al., 2020). In previous research, it was stated that with the increasing need for cleanliness and safety factors which became the main priority, many MSMEs changed their sales strategy by adopting cloud kitchen (Sherkar et al., 2021). The concept of cloud kitchen is cost-effective, simple operation, and delivery service where this supports the regulatory restrictions from the government to overcome the current pandemic (Chouhan et al., 2021). Cloud kitchen branding can be more efficient by utilizing online food delivery applications, especially the online own cloud kitchen (Moyeenudin et al., 2020). Cloud kitchens have the advantage of providing facilities such as better packaging and delivery without physical contact (social distancing), with restrictions from the government the average family spends time together in and orders food via online (Choudhary, 2019).

By running a cloud kitchen, there are several benefits that can help MSME operations, such as reducing fixed costs, saving operational costs, not having to pay rent, saving time, and being able to expand (Sulistyowati, 2020). Around 44% of MSMEs have joined the online channel e-commerce, but there are still many who have not, especially for micro-enterprises and small companies. Based on previous research, there are two reasons why small companies are hesitant to join the online, the first is technological barriers and the second is the perception that the benefits of online marketing are not worth the problems (Shimomura, 2020).

Technology adoption

Technology adoption is a concept that describes how new technologies are adopted, integrated, and used in society (Newman, 2016). Recognizing and accepting individual demands is the first step in every organization, and this understanding will aid in future development by allowing the elements that drive user acceptance or rejection of technology to be observed. (Taherdoost, 2018). Individuals' decisions in adopting, accepting, or rejecting new technologies are considered in technology adoption. (Oyetade et al., 2020).

The Technology acceptance model is one of the most well-known technology adoption models (Plewa et al., 2012). The Technology Acceptance Model (TAM) is a tool for assessing how well new technologies are accepted by customers. (Allen, 2020). TAM has two main variables, namely Perceived Usefulness or perceived usefulness and Perceived Ease of Use or ease of use which has a considerable impact on user attitudes. Behavioral Intention to use (BI) which can be determined as dislike and liking for the system (Lin et al., 2011).

Previous research discussed consumer willingness to adopt online food delivery by considering food choice, convenience, trustworthiness, and the effect of perceived risk associated with the 2019 coronavirus disease pandemic as contextual factors (Troise et al., 2020). Several studies have adopted technology readiness theory to study consumer personality traits (i.e., innovation, optimism, discomfort, and insecurity) and their relationship to consumer intentions and actual behavior to use Online Food Delivery Ordering Services (Ali et al., 2021). Research conducted by (Budiarto et al., 2021) states that the use of technology affects the sustainability of MSME businesses.

So, it can be concluded that based on previous research, the Technology Acceptance Model (TAM), was used to study the acceptance of online food ordering applications, attitudes towards online food ordering applications were motivated mainly by the usefulness and ease of ordering processes and varied according to information technology innovation and trust in e-commerce.

Based on the discussion of the literature above, this study offers the following hypothesis:

H1: Perceived Usefulness has a significant effect on Behavioral Intention to use

H2: Perceived Ease of Use has a significant effect on Behavioral Intention to use

H3: Perceived Usefulness and Perceived Ease of Use together have an effect on Behavioral intention to use

METHOD

The research data used consisted of primary data and secondary data. Primary data was collected using an online questionnaire that was distributed to MSME owners. All research constructs were adapted from previous research and modified for use in the Cloud technology domain. Each item was evaluated using a five-point Likert scale ranging from "strongly disagree" to "strongly agree". The measurements used to assess perceived usefulness, perceived ease of use, and behavioral intention to use were derived from research conducted by (Davis et al., 1989). Before the survey begins, a brief description of the Cloud Kitchen is provided to ensure that all participants understand the technology well. Questionnaire data processing using SPSS statistical program.

The research was conducted using probability sampling with simple random sampling technique. Micro and small entrepreneurs in the food service industry are the research sample. In addition, to complete the results of the analysis data that has been processed using SPSS, path analysis is also carried out to see if there are differences in the results of the analysis. In conducting this path analysis, the item loadings, the average variance extracted (AVE), and the composite reliability (CR) analyzed first. If the value of the loading factor for each variable exceeds 0.5. it can be concluded that the indicator is declared valid. The sample used is 100 respondents, where it is stated that in general the minimum number of samples required for good findings in correlational research is 30 (Hendryadi, 2010).

RESULTS AND DISCUSSION

Overview of Research Objects

Analysis of respondent data is needed to find out the background of respondents which is used as input to clarify research data. This study was dominated by women as many as 63 respondents (63%), while the remaining 37 respondents (37%) were male. In the last Education category, the D-IV / undergraduate category was dominant in this study, namely 60 respondents (60%), while SMA/SMK and Diploma-III were 24 respondents (24%) and 10 respondents (10%), respectively. as well as in Postgraduate as many as 6 respondents only. The age range is dominated by respondents with a range of 20 - 24 years, as many as 53 respondents (53%).

In this study, it was also asked what online applications were used by MSME owners. Questions are given in the form of (multiple choices-answer). The image below shows the selection of applications used.

Figure 1 Online application used
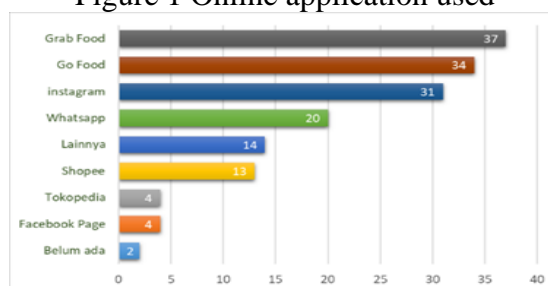
In the online applications used by MSMEs, the Tokopedia and Facebook applications are still less attractive to respondents in this study, while applications such as grab food and go food or Instagram more than 30% of the total respondents use these three applications in helping their MSME businesses.

Result

Before testing the hypothesis using multiple linear regression, there are several classical assumption tests that must be met so that the conclusions from the regression are not biased. The assumption test consists of 3 tests, namely the Normality Test, Multicollinearity Test, and Heteroscedasticity Test.

Normality test is used to determine whether the data is normally distributed or not. Testing for normality in this study used the Kolmogorov-Smirnov test. The results of this test show the p-value for the residual variable or the error value p-value of 0.200. Due to the value of sig. for all variables valued > 0.05, it can be concluded that the variables are normally distributed. To ensure that the regression model used is normally distributed, the authors test for normality using the normal PP of regression standardized residual. The test results show that the points are spread out following a diagonal line, so it can be concluded that the data is normally distributed.

Multicollinearity test aims to test whether the regression model found a correlation between the independent variables (independent). A good regression model should not have a correlation between the independent variables. The following are the results of the multicollinearity test, while the output of the calculation of the Variance Influence Factor (VIF) is assisted by using SPSS.

Table 1. Multicollinearity Test Results

Coefficients^a

Model		Collinearity Statistics	
		Tolerance	VIF
1	Perceived Ease of Use (X1)	.696	1.436
	Perceived Usefulness (X2)	.696	1.436

a. Dependent Variable: Behavioral Intention (Y)

Table 1 above shows the results of calculations which show that the data model in this study is free from multicollinearity symptoms and the assumptions of the conditions are met, because both variables have a VIF value less than 10.

Heteroscedasticity test is used to determine whether the data has the same variance. The data heteroscedasticity test was carried out using a scatterplot. The test results show the dots spread randomly, not forming a pattern. As well as the points spread both above and below zero on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model, so the regression model is feasible to be used for subsequent analysis.

Partial Hypothesis Testing (t Test) Partial Hypothesis Testing

Partial Hypothesis Test (t Test) is used to determine the magnitude of the effect of Perceived Ease of Use, and Perceived Usefulness on Behavioral Intention to use. The results of the partial test calculations are as follows:

Table 2. Partial Test Calculation Results (t-test)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.580	2.027		2.260	.026
	Perceived Ease of Use (X1)	.250	.090	.259	2.783	.006
	Perceived Usefulness (X2)	.396	.079	.465	5.007	.000

a. Dependent Variable: Behavioral Intention (Y)

From the above calculation, the t-value for the Perceived Ease of Use (X1) is 2.783 and the t-table is 1.984. Due to the value of, then H1 is accepted, meaning that the Perceived Ease of Use (X1) has a significant effect on Behavioral intention to use (Y). A positive sign indicates that the better Perceived Ease of Use, the better $t^{count} > t^{table}$ the Behavioral intention to use.

From the calculation above, the t^{count} value for Perceived Usefulness (X2) is 5,007 and t^{table} is 1,984. Due to the value of $t^{count} > t^{table}$, then H2 is accepted, meaning that Perceived Usefulness (X2) has a significant effect on Behavioral intention to use (Y). A positive sign indicates that the better Perceived Usefulness, the better the Behavioral intention to use.

Simultaneous Hypothesis Testing (F Test)

The results of simultaneous hypothesis testing are as follows:

Table 3. Results of Simultaneous Hypothesis Testing (Test F)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	283.162	2	141.581	34.586	.000^b
	Residual	397.078	97	4.094		
	Total	680.240	99			

a. Dependent Variable: Behavioral Intention (Y)
b. Predictors: (Constant), Perceived Usefulness (X2), Perceived Ease of Use (X1)

Based on the results above, it is known that the F^{count} value is 34,586 with a p-value (sig) of 0.000. With = 0.05 and degrees of freedom v1 = 2 and v2 = 97 (nk-1), then F^{table} 3.090 is obtained. Due to the value of $F^{count} > F^{table}$ (34,586>3,090) then H3 is accepted, meaning that the Perceived Ease of Use and Perceived Usefulness simultaneously affect Behavioral intention to use (Y).

Coefficient of Determination Analysis

From the results of the calculation of the correlation coefficient below, the value of the coefficient of determination is as follows:

Table 4. Calculation of the Coefficient of Determination

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645^a	.416	.404	2.02326

a. Predictors: (Constant), Perceived Usefulness (X2), Perceived Ease of Use (X1)
b. Dependent Variable: Behavioral Intention (Y)

In the table of calculation results above, it shows the meaning that Perceived Ease of Use (X1) and Perceived Usefulness (X2) have a simultaneous influence (together) of 41.6% on Behavioral intention to use (Y). While the remaining 58.4% is influenced by other factors that are ignored in this study.

To complete the results of the data analysis described above, path analysis is also carried out to see if there are differences in the results of the analysis. In conducting this path analysis, the item loadings, the average variance extracted (AVE), and the composite reliability (CR) are analyzed first. If the value of the loading factor for each variable exceeds 0.5. it can be concluded that these indicators are valid. More details can be seen in Table 5 below.

Table 5. Loading Factors, AVE dan CR

Variables	Items	Loadings	AVE	CR
Perceived usefulness	PU1	0.867	0.784	0.864
	PU2	0.786		
	PU3	0.880		
	PU4	0.846		
	PU5	0.798		
	PU6	0.843		
Perceived ease of use	PEOU1	0.746	0.749	0.823
	PEOU2	0.819		
	PEOU3	0.769		
	PEOU4	0.821		
	PEOU5	0.832		
	PEOU6	0.756		
Intention to use	INT1	0.824	0.838	0.819
	INT2	0.839		
	INT3	0.841		
	INT4	0.852		
	INT5	0.867		

Furthermore, as shown in Table 6 below, this study found a significant relationship between Perceived Usefulness (PU) and Intention to use (INT) (p = 0.369, t = 4.271 < 0.05). The results of the analysis also show that there is a significant relationship between Perceived ease of use (PEOU) and Intention to use (INT) (p = 0.259, t = 5.428 < 0.05). Meanwhile, PU and PEOU simultaneously have a significant effect on Intention to use (INT) (0.395, t = 4.746 p < 0.05). Therefore, the results of this path analysis confirm the calculations from the previous analysis above using simple regression, which both found a significant relationship between the variables.

Table 6. Path Analysis

	Relationship	Std. Beta	Std. error	t value	p value	Decision
H1	Perceived usefulness → intention to use	0.369	0.072	4.271	0.000	Supported
H2	Perceived ease of used → intention to use	0.259	0.061	5.428	0.000	Supported
H3	Perceived usefulness x perceived ease of use → intention to use	0.395	0.069	4.746	0.000	Supported

Discussion:

The main purpose of this article is to look at the intentions of small business owners to use the Cloud Kitchen during the Covid-19 pandemic. This research is in line with previous studies conducted by (Ali et al., 2021; Budiarto et al., 2021; Lin et al., 2011; Troise et al., 2020). The ease of use and perceived usefulness of the technology have a huge impact on the

interest in using the Cloud Kitchen by Micro, Small and Medium Enterprises owners. These findings may suggest that small business owners are fully aware of the Cloud Kitchen, which is a good thing. Business owners have been looking for measures to safeguard their existence since the COVID-19 epidemic began. They found that Cloud Kitchen was a viable business choice.

CONCLUSIONS AND SUGGESTIONS

This finding can be explained by the fact that most small business owners today use online food delivery platforms such as GoFood and GrabFood, where this concept is very similar to the Cloud Kitchen. According to the study, the intention of small business owners to use the Cloud Kitchen developed because of the perceived high usage and perceived simplicity of use. As a result of this study, it is likely that small business owners are fully aware of the enormous potential or benefits of using the internet.

As a highlight of this research, the use of technology, especially digital technology in the MSME community, can be used as a way not only to survive in times of crisis but also for business sustainability in the future (business sustainability). Plus, if small business owners can adopt technology, then the possibility of their business being able to survive the harsh competition is wide open.

Implications and future research

This study has several implications. The first implication is that this research has contributed to the literature on technology adoption in small companies, such as MSMEs. Second, to survive during and after the COVID-19 epidemic, micro and small business owners must begin to familiarize themselves with various technology-based applications. Due to the increasing competition among food service providers, these business owners are forced to develop stronger business strategies in order not only to survive, but also to maintain the sustainability of their business in the future. In terms of research limitations, the research was limited to micro and small businesses in the food and beverage sector and with a small number of samples. Future research could use a wider sample and beyond the food and beverage field**.**

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