

Intervening Effect of Information Technology on Msmes Performance during Covid-19 Pandemic

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Abstract

During the COVID-19 pandemic, MSMEs or better known in English, Micro, Small and Medium Enterprises (MSMEs) are businesses run by individuals, households or business entities whose criteria are regulated by law. Since the start of the PSBB, all forms of government efforts have been made so that MSMEs can survive this pandemic crisis. This study aims to determine the influence of external and internal factors on the performance of MSMEs with information technology as an intervention variable during the covid-19 pandemic. The population in this study are MSMEs registered at the Creative House of State-Owned Enterprises (BUMN) under the auspices of the State Electricity Company (PLN) (hereinafter referred to as RKB PLN) in Lampung, Indonesia with a sample of 173 MSMEs. Sampling of data in this study using purposive sampling method. This research uses PLS Structural Equation Modeling (SEM) analysis. The results showed that external and internal factors as well as information technology had no significant effect on the performance of MSMEs, while external and internal factors had a positive and significant effect on information technology, and external factors had a positive and significant effect on internal factors.

Keywords: External Factors, Internal Factors, MSME Performance, Information Technology

Introduction

Since the emergence of the first Covid-19 case in the world, China reported on December 31, 2019. With the virus, conditions in the world have become uncertain, especially since the world economy has become unstable. Even in Indonesia also affected by this virus, resulting in economic instability. In various sectors of the economy, it is threatened to decline and become unstable due to this epidemic. Restrictions on community activities since the existence of this virus have resulted in business activities which in turn have an impact on the economy. Since then, various countermeasures have been carried out by the government to reduce the impact of the epidemic in all sectors. The finance minister stated that, "there are four sectors that are most depressed due to the Covid-19 outbreak, namely households, MSMEs, corporations, and the financial sector". It is estimated that economic growth will also contract.

The spread of COVID-19 also has an impact on MSME actors in Indonesia and hinders MSME development. Various policies are designed to protect and restore MSMEs in the midst of this

pandemic, first of all MSME actors are divided into categories of poor and vulnerable poor who are affected by Covid-19 as recipients of government social assistance. In addition, the government has also implemented various special policies for MSMEs to be able to overcome economic pressures as a result of this pandemic. In addition to empowerment, the government provides support for MSMEs in the form of development, financing, guarantees, and partnerships. Currently, in particular the MSME sector is handled directly by the government through the Ministry of Cooperatives and SMEs and several other relevant ministries. Although MSMEs have shown their existence in the national economy, MSMEs still face several obstacles and constraints, both external and internal, in terms of human resources, capital, design and technology, production and processing, marketing, and even the business climate. According to (Munizu, 2010) there are two types of factors that can affect the performance of SMEs, namely, external factors and internal factors. In addition, it is undeniable that technology has also become a necessity for humans to support more practical things and also technology is able to manage data and make it easier to input data information. Currently, there are many digital applications that make it easier for MSME actors to transact. But there are still MSME actors who are foreign to technological developments. To survive in conditions like this, MSMEs must be willing to enter the digital world. Other factors, such as the lack of ability to adapt to digital, to the reluctance of MSME actors to change their transaction style, are a big challenge. Therefore, both the government and application providers are expected to be willing to directly embrace them (Galih, 2020).

This research is based on agency theory, (Jensen & Meckling, 1976) explaining that a company is a set of contracts between various parties related to its business activities. according to (Fama & Jensen, 1983) in research (Septiyanti, 2020) expanding agency theory for the management of simple business ventures in the form of professional cooperation (partnership), financial cooperation (financial mutual), and non-profit entities. In research (Septiyanti, 2020) according to (Fama & Jensen, 1983) argues that the management of simple business cooperation should be carried out based on the separation between ownership and business management. This separation of ownership and management must be based on a cooperation contract, so as to maintain the continuity of the ongoing business cooperation, micro-scale entities generally still run simple business ventures. According to (Septiyanti, 2020) stated that agency partnerships in the form of partnerships will encourage effective monitoring and control from external parties, so that the management of micro-scale entities will be better, as well as the management of micro-scale entities based on this good governance. will lead to increased performance. Increasing good governance will also have a direct impact on decreasing levels of corruption. However, in suppressing the level of corruption in Southeast Asia, there are still some elements of good governance that have not been maximized (Mulyani et al., 2017).

Business performance can be measured by a combination of external and internal factors (Purwaningsih & Kusuma Damar, 2015). To improve the performance of SMEs on external factor variables, namely by involving related parties, for example government agencies or related institutions that can facilitate by providing equipment or media assistance to process raw materials, production to marketing, so that SMEs can be more creative with product results. higher quality. In research according to (Purwaningsih & Kusuma Damar, 2015) the overall results of model testing indicate that external factors can contribute to the development of SMEs &

internal factors will improve the performance of SMEs with skilled human resources quality and a target-focused production process. So the researchers drew the hypothesis, namely:

H1: External Factors Have a Positive Effect on MSME Performance

Internal factors describe human resources, marketing, and production that provide an overview of the condition of a company. Utilization of the company to achieve the company's mission, goals, and objectives including positive internal factors. These factors include skills and knowledge, good public image, experienced sales force, loyal customers, and so on. On the other hand, negative internal factors should be avoided by the company. Meanwhile, according to (Fibriyani & Mufidah, 2018) internal factors which include aspects of HR, finance, production and operations as well as marketing aspects have a significant influence on the performance of MSMEs in Pasuruan City. Then the researcher draws the hypothesis that is

H2: Internal Factors Have a Positive Effect on MSME Performance

According to research (Rokhayati & Lestari, 2016) that internal factors and external factors greatly affect the performance of MSMEs. This is also in accordance with the results of research that external factors consisting of government policies, socio-economic and cultural, as well as the role of relevant agencies have a positive and significant effect on internal factors of small and micro businesses (Munizu, 2010). So the hypothesis proposed is as follows:

H3: External Factors Have a Positive Effect on Internal Factors

An example of a success determinant of the adoption of e-commerce is the government's involvement with system/technology development companies. SMEs with all their limitations need support, both from the government and development companies (Hernando, 2017). From the development of e-commerce, economic benefits will be obtained through a combination of creative ideas from business actors and the support from government policies (Hernando, 2017). In the results of research according to (Ahmad et al., 2014) 307 SMEs in Malaysia that the existence of a developer company and government policies have a significant positive influence on the application of e-commerce. Based on the results of previous studies, the researchers drew a hypothesis, namely:

H4: External Factors Have a Positive Influence on Information Technology

According to (Ahmad et al., 2014) stated that the management of company internal information supported by digital technology can increase the efficiency of business processes. As internet access opens to the general public, the use of digital technology in its business includes marketing activities and even buying and selling transactions. The advantages of buying and selling with the SME digital system are not limited to operational efficiency and flexibility, but also include marketing aspects. The application of internal control and the application of information technology can also affect the quality of financial reporting (Dizrisa et al., 2020). Products that were previously only known within the scope of the local market, are now reaching out to a wider market (Hernando, 2017). Based on the results of previous studies, the researchers drew a hypothesis, namely:

H5: Internal Factors Have a Positive Influence on Information Technology

Information technology in the economic field, especially in the realm of business, has a very important role as a means and a place for transactions for online business in the form of media in the form of the internet. In the process of global market competition, companies are required to use technology optimally to achieve competitive advantage. Business success in terms of global competition is strongly influenced by information technology media. In the realm of MSMEs, there have been quite a number of MSME actors joining the digital ecosystem, especially since the Covid-19 pandemic and the enactment of large-scale social restrictions (PSBB), digitalization is considered to have a positive impact on MSMEs. The Ministry of Cooperatives and SMEs is also collaborating with the Ministry of State-Owned Enterprises (BUMN) by launching the Digital Market (PaDi) program. Through this program, the procurement of SOE goods and services with a value below Rp. 14 billion is devoted to MSME products (Annur, 2020). The use of IT has a significant positive effect on the performance of Batik SMEs in Malang (Aufarrakhman & Baridwan, 2016). So the researchers drew the hypothesis, namely:

H6: Information Technology Has a Positive Effect on MSME Performance.

Methods

The population of this study is all MSMEs registered in the creation house of State-Owned Enterprises under the auspices of the State Electricity Company (here in after referred to as RKB PLN) in PLN Lampung, Indonesia. Researchers take samples with purposive sampling method. The criteria in this study are set as follows: MSMEs registered in the RKB (BUMN Creative House) at PLN Tanjung Karang, Bandar Lampung City in 2020, MSMEs in the food & beverage business category, MSMEs that have complete data required by research.

This study uses primary and secondary data types, primary data is data collected and obtained directly from MSMEs in the RKB (Creative House of State-Owned Enterprises) at PLN (Persero) Tanjung Karang, Bandar Lampung City, and secondary data, namely supporting data obtained by collecting sources. data, both from literature, magazines, books that have to do with this research. Data collection was carried out using a questionnaire technique, namely the method of collecting data using a list of questions distributed to respondents from a questionnaire distributed to respondents via google form with the link <https://forms.gle/NDvnW2ibwbkfnwxu7>. In this study, there are 3 variables, namely the independent variable, namely external and internal factors, the dependent variable, namely the performance of SMEs, and the intervening variable, namely information technology. In this study using a Likert scale to measure quantitative data in the form of positive and negative response data.

Results and Discussion

Population data obtained from the RKB (Creative House of State-Owned Enterprises) PLN (Persero) Tanjung Karang Bandar Lampung as many as 450 MSMEs. From the results of the data that has been recapitulated the number of respondents who filled out the questionnaire was 202 respondents, while those who met the criteria to be used as samples were 173 respondents. And the number of respondents who did not answer 248.

The following is a description of the research respondents that have been presented:

Table 1. Description of Research Respondents

Number of MSMEs registered/incorporated in the RKB PLN (Persero) Tanjung Karang Bandar Lampung in 2020	450
Total number of respondents who filled out the questionnaire	202
The number of respondents who were not selected because they did not meet the sample criteria	29
Number of respondents selected according to sample criteria (food & beverage)	173 (final total of respondents)

Source: Primary Data, 2021

The results of descriptive statistical tests for each variable are presented in the following table:

Table 2. Descriptive Statistical Analysis

Variable	N	Min	Max	Mean	Median	Std. Deviation
External Factors	173	2,222	5	4,0809	4,444	0,7298
Internal Factors	173	2,5	5	4,1204	4,5	0,7126
Information Technology	173	2	5	4,1632	4,5	0,7894
MSME Performance	173	2,5	5	4,3424	4,5	0,5324

Source: Primary Data, 2021

Outer Model Assessment Results

The outer model is the relationship between the latent variable and the manifest variable. There are three criteria, namely convergent validity, discriminant validity, and composite reliability (Ghazali, 2011). According to Hair et. al., (1998) for the loading factor matrix ≤ 0.3 is considered to have met the minimum level, ≤ 0.4 is considered better, and ≥ 0.5 is generally considered significant. The following is the result of calculating the outer model with SmartPLS 3 software.

Table 3. Results of Assessment of External Factors

Variables/Indicators	Correlation coefficient	Variable Measurement
Aspects of Government Policy		Likert scale 1-5
a. Coaching activities to add insight and business development	0,706	
b. Provision of information can help business development	0,797	
c. Be selective in providing incentive funds	0,798	
Socio-Economic Aspect		
a. People's income affects product sales	0,713	
b. Consumer needs & regional culture can increase the manufacture and sale of products	0,763	

c. The characteristics of the community will determine the success of the business	0,702	
Aspects of Related Institutions		
a. Credit from financial institutions is useful for business development	0,732	
b. Management training, product skills, marketing skills, can help business development	0,763	
c. The government regularly monitors	0,845	

Source: Data Processing With Smartpls 3, 2021

Table 4. Results of Assessment of Internal Factors

Variables/Indicators	Correlation coefficient	Variable Measurement
Human Resources Aspect		Likert scale 1-5
a. Selection of employee acceptance	0,817	
b. The owner always tells the job description	0,855	
c. Employee work experience is very important	0,815	
Financial aspect		
a. Own capital is very important in running a business	0,828	
b. Business profits to increase capital	0,861	
c. Profitability analysis	0,759	
Technical And Operational Aspects		
a. Maximum use of raw materials	0,816	
b. Availability of machines to speed up the production process	0,816	
c. Rejuvenation of tools to maintain productivity	0,783	
Marketing Aspect		
a. Product variants can expand market segments	0,825	
b. Product quality is a top priority	0,888	
c. The selling price and product quality must be competitive	0,940	

Source: Data Processing With Smartpls 3, 2021

Table 5. Results of Assessment of Information Technology

Variables/Indicators	Correlation coefficient	Variable Measurement
a. Improving service quality in general	0,898	Likert scale 1-5
b. Company external and internal information	0,841	
c,Utilizing social networks in business development	0,949	
d. Assist and facilitate in buying and selling transactions	0,702	

Source: Data Processing With Smartpls 3, 2021

Table 6. Assessment Results on MSME Performance

Variables/Indicators	Correlation coefficient	Variable Measurement
a. Products sold are always increasing	0,717	Likert scale 1-5
b. The company's profit has increased	0,711	
c. Capital in developing a business has increased	0,757	
e. Product quality is always maintained	0,737	

Source: Data Processing With Smartpls 3, 2021

The value of the outer model above has met the criteria of convergent validity because it has a loading factor value of > 0.6 for this study.

Discriminat Validity

Table 7. Fornell-Larcker Criterion

	External Factors	Internal Factors	MSME Performance	Information Technology
External Factors	0,759			
Internal Factors	0,804	0,835		
MSME Performance	-0,117	-0,106	0,730	
Information Technology	0,833	0,756	-0,023	0,852

Source: Data Processing With Smartpls 3, 2021

The Fornell-Larcker criterion value is ideal if the AVE root for each construct is greater than the relationship between other constructs, but as long as the value is > 0.7, it can be said that discriminant validity is valid. In the table above, the relationship between information technology variables is much higher than the relationship between information technology variables. Likewise with the internal factor variables, the closeness of the relationship is higher with the external factor variables compared to the close relationship with the internal factor variables themselves. As for the performance of MSMEs, the value is appropriate because the closeness of the relationship between MSME performance variables is higher.

Composite Reliability

Table 8. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
External Factors	0,907	0,909	0,924	0,576
Internal Factors	0,960	0,963	0,965	0,697
MSME Performance	0,715	0,717	0,820	0,533

Information Technology	0,872	0,902	0,913	0,726
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Source: Data Processing With Smartpls 3, 2021

Based on the table above, it can be concluded that all constructs have met the reliable criteria, this is indicated by the Cronbach alpha value > 0.70 and composite reliability 0.70 as recommended criteria. According to the composite reliability test, the value tends to be larger than Cronbach's alpha, it can be seen from the table that the composite reliability value for all variables is greater than the Cronbach's alpha value.

Inner Model Assessment Results

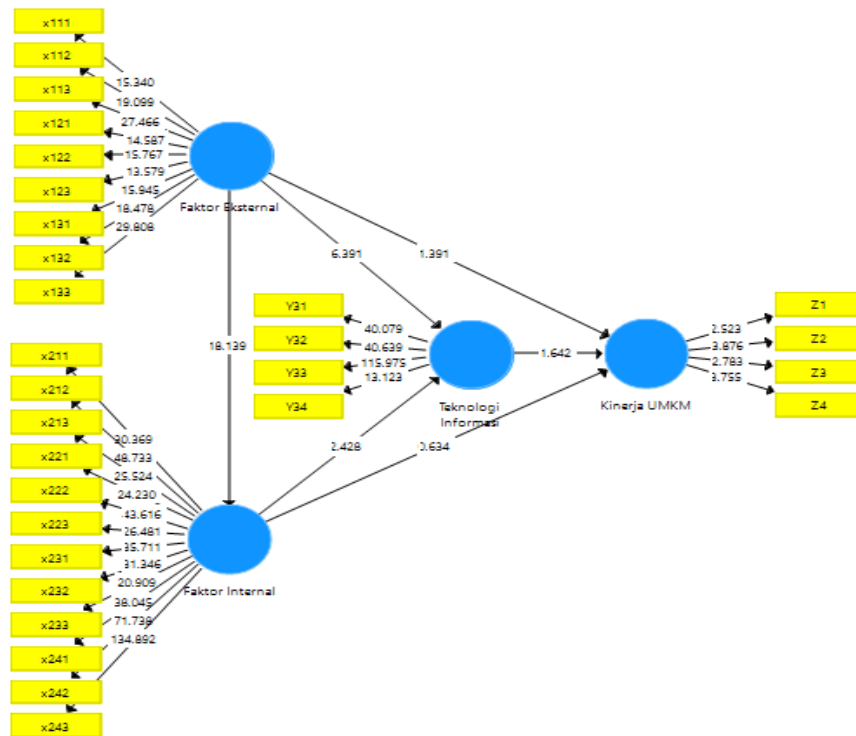


Figure 1. Test Results

Source: Data Processing With Smartpls 3, 2021

In the picture above, it can be concluded that the largest path coefficient value is the influence of external factors on internal factors, namely 18.139 and the smallest path coefficient value is the influence of internal factors on MSME performance of 0.634 and overall the variables in this model have a positive path coefficient. Therefore, the greater the value of the path coefficient on one independent variable to the dependent, the stronger the influence between the two.

Analysis of Coefficient Determination Or R-Square (R2)

Variant analysis of the determination test or r-square is to find out how much the endogenous (dependent) variable is influenced by other variables. According to Chin (1998) if the r-square result is more than 0.67 in the structural model, it indicates that the effect of exogenous variables

on endogenous variables is included in the good category. if the result is 0.33 – 0.67 then the category is moderate, and if 0.19 – 0.33 then it is in the weak category.

Table 9. Results of R-Square Value

	R-Square	Adjusted R Square
Internal factors	0,646	0,644
MSME Performance	0,035	0,018
Information Technology	0,715	0,712

Source: Data Processing With Smartpls 3, 2021

Hypothesis Test

Table 10. Path Coefficients Results

	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	T Statistik (O/STDEV)	P Values
External Factors -> Internal Factors	0,804	0,805	0,044	18,139	0,000
External Factors -> MSME Performance	-0,262	-0,306	0,188	1,391	0,165
External Factors -> Information Technology	0,637	0,628	0,100	6,391	0,000
Internal Factors -> MSME Performance	-0,099	-0,100	0,156	0,634	0,526
Internal Factors -> Information Technology	0,244	0,252	0,101	2,428	0,016
Information Technology -> MSME Performance	0,269	0,312	0,164	1,642	0,101

Source: Data Processing With Smartpls 3, 2021

The results of the test of external factor variables on internal factors obtained a P-Value value of $0.000 < 0.05$. It can be concluded that the external factor variable has a significant positive effect on internal factors, and the magnitude of the effect is 0.804. Similar to the results of research (Rokhayati & Lestari, 2016) showing the results that internal factors and external factors are all very influential on the performance of MSMEs.

The results of the test of external factor variables on the performance of MSMEs obtained a P-Value value of $0.165 > 0.05$. It can be concluded that the external factor variables have no positive and significant effect on the performance of MSMEs, and the magnitude of the effect is -0.262. This result is different from research from (Munizu, 2010) with the results of external factors consisting of government policies, socio-economic and cultural, as well as aspects of the role of

relevant agencies have a significant and positive effect on the performance of small and micro businesses.

The results of the test of the external factor variable on information technology obtained a P-Value value of $0.000 < 0.05$, it can be concluded that the external factor variable has a positive and significant effect on information technology, and the magnitude of the effect is 0.637. These results are consistent with research (Ahmad et al., 2014) involving 307 SMEs in Malaysia that the existence of development companies and government policies have a positive and significant influence on the use of e-commerce.

The results of the test of internal factor variables on the performance of MSMEs obtained a P-Value value of $0.526 > 0.05$, so it can be concluded that the internal factor variables have no positive and significant effect on the performance of MSMEs, and the magnitude of the effect is -0.099. The results of this study are different from research (Fibriyani & Mufidah, 2018) internal factors which include aspects of human resources, finance, production and operations as well as marketing aspects have a significant influence on the performance of micro, small and medium enterprises in Pasuruan City.

The results of testing the internal factor variables on information technology obtained a P-Value value of $0.016 < 0.05$, it can be concluded that the internal factor variables have a positive and significant effect on information technology, and the magnitude of the influence is 0.244. The results of this study are in accordance with research (Ahmad et al., 2014) which concluded that the management of company internal information supported by digital technology can increase the efficiency of business processes. Along with the opening of internet access to the general public, the use of digital technology in business includes marketing activities and even buying and selling transactions.

The results of the test of information technology variables on the performance of MSMEs obtained a P-Value value of $0.101 > 0.05$, this indicates that the information technology variable has no positive and significant effect on the performance of MSMEs, and the magnitude of the effect is 0.269. This study is not in line with research conducted (Sidiq & Astutik, 2017) the results of hypothesis testing indicate that information technology capabilities have a positive effect on customer orientation and business performance. The use of IT has a significant positive effect on the performance of Batik SMEs in Malang (Aufarrakhman & Baridwan, 2016).

Table 11. Specific Indirect Effects

	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	T Statistik (O/STDEV)	P-Values
External Factors -> Information Technology -> MSME Performance	0,171	0,197	0,112	1,532	0,126
External Factors -> Internal Factors -> Information Technology -> MSME Performance	0,053	0,064	0,046	1,138	0,256

External Factors -> Internal Factors -> MSME Performance	-0,079	-0,080	0,127	0,626	0,532
Internal Factors -> Information Technology -> MSME Performance	0,066	0,078	0,055	1,200	0,231
External Factors -> Internal Factors -> Information Technology	0,196	0,204	0,086	2,291	0,022

Source: Data Processing With Smartpls 3, 2021

Based on table 11 it is explained that:

External factor variables indirectly can not affect the performance of SMEs. Table 11 states that with a p-value of $0.126 > 0.05$, it means that external factor variables cannot influence the performance of MSMEs through information technology. Variable external and internal factors indirectly can not affect the performance variables of SMEs. Table 11 states that with a p-value of $0.256 > 0.05$, it means that the external and internal factor variables cannot influence the MSME performance variable through information technology. External factor variables indirectly can not affect the performance of SMEs. Table 11 states that with a p-value of $0.532 > 0.05$, it indicates that the external factor variable cannot affect the MSME performance variable through internal factors. Internal factor variables can not directly affect the performance of SMEs. Table 11 states that with a p-value of $0.231 > 0.05$, it shows that the internal factor variables cannot influence the performance of MSMEs through information technology. External factor variables can indirectly affect information technology variables. Table 11 states that with a p-value of $0.022 < 0.05$, the conclusion is that external factor variables can affect information technology variables through internal factor variables.

Implication

Theoretical Implications

Based on the results of the study indicate that external factors and internal factors as well as information technology have no significant effect on the performance of MSMEs, this indicates that all policies that have been made have not been able to make MSME actors RKB PLN (Persero) Tanjung Karang Bandar Lampung achieve performance the maximum. Even internal factors originating from within the company itself have not been able to affect the performance of MSMEs, this indicates that the HR, financial, technical and operational aspects and even marketing aspects have not been able to improve performance or there are other factors that cause no effect on a performance. Information technology has no effect on the performance of MSMEs. Even though information technology in the economic field, especially in the business realm, has a very important role as a means and a place for transactions for online business with media such as the internet, in reality the MSME actors in the PLN RKB (Persero) Tanjung Karang Bandar Lampung are still able to survive even in their daily lives. not many also use online transactions, most of them still cannot use information technology effectively. In the future, it is hoped that MSME actors can effectively use information technology.

External factors and internal factors have a significant positive effect on information technology, this indicates that information technology has an important role in the continuity of the buying and selling transaction process in the MSME business, this can be seen by the supporting factors that are within the company's internal, but not all MSME actors are able to using existing information technology, the age factor is one of the obstacles where age is no longer productive causing them to find it difficult to understand the development of information technology. It is also inseparable from the influence of external factors, namely the support provided by the government with all the policies that have been made and the role of related institutions. This is in accordance with agency theory, which according to (Septiyanti, 2020) states that agency partnerships in the form of partnerships will encourage effective monitoring and control from external parties, so that the management of micro-scale entities will be better.

External factors have a positive and significant effect on internal factors, this means that there is a harmonious relationship between aspects of government, social and economic policies, as well as the role of related institutions on factors related to the company's internal. This indicates that MSME actors who are in the RKB PLN (Persero) Tanjung Karang Bandar Lampung with supporting factors from outside the company are able to improve all aspects that are internal to the company, such as helping MSME actors during the pandemic with government policies that provide assistance in the PEN program. (national economic recovery).

Practical Implications

The results of this study are also expected to be input for MSME actors with the existence of external and internal factors that support a performance according to (Munizu, 2010), which is expected to improve the performance of MSMEs in RKB PLN (Persero) Tanjung Karang Bandar Lampung, and Along with the development of existing information technology, it is also expected to be able to improve the performance of the MSME RKB PLN (Persero) Tanjung Karang Bandar Lampung.

Conclusion

The results of the overall hypothesis indicate that information technology has an important role in the continuity of the buying and selling transaction process in the MSME business, this can be seen by the supporting factors that are within the company's internals such as improving the quality of human resources with the tendency to use gadgets in the product sales process, the process of selling products and services. The input of financial reports is made easier so that business profits are easily analyzed accurately, the use of sophisticated and adequate production tools is able to increase variety in the processing of various types of products and even easy marketing in all types of existing marketplaces. It is also inseparable from external factors, namely the support provided by the government with all the policies that have been made and the role of related institutions. However, external factors and internal factors are not able to affect a performance in this study. For further researchers, they can develop this research with other objects, for example MSMEs in other areas or other segments. For MSME actors, they can improve performance by paying more attention to other aspects that may have a more positive influence. The research sample is only limited to MSMEs in the food and beverage sector, although there are still many other MSME segments that can be used as research samples. The area under study only covers one district/city in one province which is possible if it is carried out

on a wider area in one province or it can be selected district/city or province where there are more MSME markets in their territory.

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