

**ANALYSIS OF THE EFFECTS OF INFORMATION SYSTEMS AND
E-COMMERCE UTILIZATION ON THE PERFORMANCE OF SUKOHARJO
SMALL MEDIUM ENTERPRISES (SMEs)**

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Abstract

SMEs will find it easier to provide information to do a variety of things with a management information system. For example, planning business processes, controlling business processes, and continuously evaluating and improving a business's processes. E-Commerce can be used in business operations, giving MSMEs greater market access and the opportunity to attract new customers. Customers, on the other hand, will find it easier to obtain the information they require online. This study aims to determine whether information systems and e-commerce applications affect to SMEs performance. This type of research used in this research is quantitative approach. The sampling method used is purposive sampling techniques of 30 respondents. The analysis technique used are statistic descriptive and multiple linear regression analysis. The results showed that the information system and e-commerce application had a positive and significant effect on the performance of SMEs, both partially and simultaneously.

Keywords: Information Systems, Utilization of E-Commerce, Performance of Small and Medium Enterprises (SMEs).

Introduction

Micro, Small, and Medium Enterprises (SMEs) play a significant role in national economic growth, employment, and the formation or growth of Gross Domestic Product (GDP) when compared to large businesses (Tambunan, 2019). SME growth is currently a concern for many groups, including economists, business owners, governments, organizations, colleges, financial and non-financial institutions, and others. The existence of the SME sector is at the forefront of hastening the recovery of the local economy. The Indonesian economy is supported primarily by SMEs. SMEs make up around 99.9% (62.9 million units) of all business actors in Indonesia, according to data from the Ministry of Cooperatives and SMEs. Approximately 97% of the workforce in the country is accounted for by SMEs. Small and medium-sized enterprises (SMEs) now account for 61% of Indonesia's GDP, up from 57.8% five years ago.

Sukoharjo is a district in Central Java which is about 10 kilometers from Surakarta City which has an important role in national economic growth (Bappenas, 2015). The development of the number of MSMEs in Central Java Province is influenced by 35 districts, one of which is Sukoharjo Regency. In Sukoharjo, there are 1 million SME players working in a variety of areas as of 2019, according to data from the Sukoharjo

Regency Office of Cooperatives and SMEs. If management and business growth are done effectively, Sukoharjo Regency's potential is even larger given the number of SMEs already in existence. Ibadi (2022) states that UMKM in Sukoharjo Regency, which have aided in reviving the populace's economy, have the option of starting a business in the GPPPD or the Sukoharjo promotion building.

The Asian Development Bank (ADB, Asian Development Bank) performed a survey and discovered a number of issues that hindered the growth of SMEs. The main issues that SMEs deal with include the restricted availability of information and market access, challenges obtaining money, managing their finances, and promoting their finished items. However, it is well established that how information is presented will impact how the company prepares, makes choices, and controls every aspect of the organization. The performance of the company will be impacted by the organized display of information about it, either directly or indirectly.

Financial presentations that do not use an information system also have additional issues. This is ineffective and inefficient, and it will make it harder for the business to locate transaction data and determine how much money it makes and spends. Information systems are therefore necessary for SMEs to assist their growth. The method will reduce the drawbacks of manual recording, including the possibility of human error. However, for a variety of reasons, including constraints and a lack of resources, many SMEs continue to be hesitant to install information systems (Pasaribu, 2019).

Technologies development must be matched by the deployment of appropriate technology in corporate operations. Information systems and internet networks are now being used to carry out marketing strategies and new product launches. People actually utilize it unknowingly while trying to meet their wants, but they often don't realize that they can use the internet system to generate revenue for their company. Although it is recognized that the usage of e-commerce can have an impact on the development of business actors, ranging from productivity to the survival of SMEs, this knowledge is based on study conducted by Arisandi (2018).

The advancement of the internet in Sukoharjo Regency, according to Akbar (Latest Makassar.id, 2019), is not equivalent to the technological prowess of SMEs. Only 3.7% of the country's population in Central Java uses the internet, which adds up to 6.3 million users. A survey of 400 SMEs in the Sukoharjo Regency revealed that 36% were unsure of how to promote via digital media. 37% of people merely know how to use a computer, 18% can manage social media, and only 9% are proficient in e-commerce.

It is anticipated that using information technologies and conducting business online will improve a company's performance. If SME entities in Sukoharjo Regency are able to use information systems in the process of recording income and expenses and take advantage of available technical facilities, they have a great deal of potential to develop by improving their performance. Therefore, this study aims to determine whether information systems and e-commerce applications affect to SMEs performance.

Research Method

The research method used is quantitative research, which means that a concept or idea is measured using a technique that generates numbers (Wahyuni, 2011:3). In this case, the researcher conducted research on the population and sample of SMEs to collect data using research instruments, which were then analyzed to test the hypotheses that had been established. The location in this research is Sukoharjo Regency, Central Java. Sukoharjo is a district area located in Central Java Province, Indonesia. The population used in this study were all SMEs in Sukoharjo Regency, totaling 7,966 SMEs. The sampling technique used in this study was non-random sampling, the type used was purposive sampling or sample selection with certain considerations (judgment sampling). Thus, the number of samples in this study were 30 (thirty) respondents. Multiple linear regression analysis is used to test both the independent and dependent variables. In this case, the researcher employs multiple linear regression to determine whether the two variables influence each other at the same time.

Result and Discussion

The following are the results of statistical analysis for hypothesis testing and discussion of statistical analysis testing.

Data Analysis

Classic Assumption Test

Before testing the multiple linear regression analysis on the research hypothesis, the classical assumptions on the data to be processed must first be tested. It can be described as follows based on the findings of testing all classical deviations from the research data:

a. Normality Test

The normality test is a test conducted to see whether in the regression model the dependent variable and independent variable have a normal distribution or not. Data is said to be normally distributed if the data spreads around the diagonal line and follows the direction of the diagonal line or the histogram graph. The results of the normality test can be seen in Figure 1:

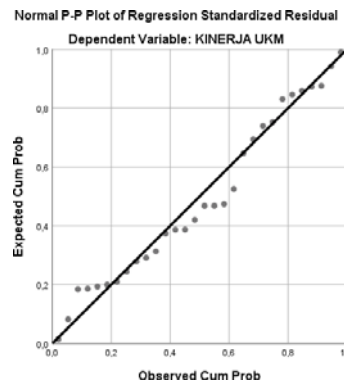


Figure 1.

Graph of Normality Test Results

Source: Data processed by SPSS ver. 25, 2023

Based on Figure 1 above, it can be seen that the data or points spread around the diagonal line and follow the direction of the diagonal line. This shows that all data in the study used as a sample were normally distributed.

b. Multicollinearity Test

The multicollinearity test determines whether or not there is a relationship between the independent variables in a regression model. The tolerance value and Variance Inflation Factor can be used to detect multicollinearity (VIF). The following are the findings of this study's investigation of the multicollinearity test:

Table 1.
Result of Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Sistem Informasi	0,899	1,112
Pemanfaatan <i>E-Commerce</i>	0,899	1,112

Source: Data Analysis 2023

The multicollinearity test findings show that the variance inflation factor (VIF) of all variables in this study is less than 10, implying that there is no multicollinearity across independent variables in the regression model.

b. Heteroscedasticity Test

The heteroscedasticity test determines whether there is variance inequality in the regression model. The following are the results of the Heteroscedasticity statistical test achieved in this study:

Table 2.
Result of Heteroscedasticity Test

Variabel	Sig.
(Constant)	0,672
Sistem Informasi	0,210
Pemanfaatan <i>E-Commerce</i>	0,086

Source: Data Analysis 2023

Based on table 2, it is known that each variable in the research regression model has a sig value > 0.05 . This means that the variables used in the regression model for this study do not indicate symptoms of heteroscedasticity.

Hypothesis Test

Hypothesis is a temporary answer to the formulated problem. Therefore, this provisional answer must be tested empirically. Hypothesis testing in this study was carried out using multiple regression techniques (Multiple Linear Regression).

a. Multiple Linear Regression Analysis

The hypothesis is tested in this study using multiple regression (Multiple Linear Regression), which will be empirically tested to find a functional relationship between

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two or more independent variables and the dependent variable, or to predict the dependent variable using two or more independent variables. The following table shows the results of the multiple linear test in this study:

Table 3.
Results of Multiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig
		B	Std. Error	Beta		
1	(Constant)	3,550	3,491		1,017	
	Sistem Informasi	0,364	0,102	0,318	3,584	0,001
	Pemanfaatan E-Commerce	0,740	0,088	0,746	8,399	0,000

Source: Data Analysis 2023

Based on the results of the coefficients above, it can be developed using the multiple linear regression equation model as follows:

$$Y = 3,550 + 0,364X_1 + 0,740X_2 + e$$

Model Interpretation:

- The meaning of the coefficient $b_1 = 3.550$, shows constant price (value), where if the value of the information system variable and e-commerce implementation is 0, then the SME performance variable is 3.550.
- The meaning of the coefficient $X_1 (b_1) = 0.364$, indicating that the variable X_1 (information system) has a positive effect on the performance of SMEs. This means that if the information system is increased by 1 point, the performance of SMEs will increase by 0.364.
- The meaning of the coefficient $X_2 (b_2) = 0.740$, indicating that the variable X_2 (utilization of e-commerce) has a positive effect on the performance of SMEs. This means that if the use of e-commerce is increased by 1 point, the performance of SMEs will increase by 0.740.

b. Coefficient of determination (R^2) Analysis

Based on the test results, it can be seen that the relationship between the independent variables and the dependent variable in this study is very strong because the correlation coefficient (R) is 0.899. The R Square value is 0.809. This means that information system variables and e-commerce utilization can explain the performance of SMEs by 80.9%. The remaining 19.1% is explained by other variables not examined in this study.

c. Simultaneous Significance Analysis (Statistical Test F)

Based on the results of the analysis, it is known that the calculated F value is 57.021 and a significant value is 0.000. The calculated F value is greater than the table F value ($57.021 > 3.34$), and the significant F value is less than 0.05 ($0.000 < 0.05$). Thus, it can be concluded that the third hypothesis (H_3) which states that Information Systems and E-commerce Utilization have a simultaneous and significant effect on SME Performance is declared Accepted.

d. Individual Parameter Significance Test (Test Statistical t)

Based on table 3, the results of partial hypothesis testing (t) can be interpreted as follows:

1. Based on the results of data processing, it shows that the information system has a positive effect on SME performance with a t count of 3.584 and a t table of 2.051, so $3.584 > 2.051$ and a sig t value of less than 0.05 ($0.001 < 0.05$). Thus, the first hypothesis (H1) which states that Information Systems partially has a positive and significant effect on SME Performance is declared Accepted.
2. Based on the results of data processing, it shows that the use of e-commerce has a positive effect on SME performance with a t count of 8.399 and a t table of 2.051, so $8.399 > 2.051$ and a sig t value of less than 0.05 ($0.000 < 0.05$). Thus, the second hypothesis (H2) which states that the use of e-commerce partially has a positive and significant effect on SME performance is declared accepted.

Discussion

The Effect of Information Systems on Company Performance (UKM)

The test results in this study indicate that the information system has a positive and significant effect on the performance of SMEs. It has a positive effect because it can be seen in Table 4.12. In the table, the coefficient value of $X1(b1) = 0.364$ is obtained, which means that the accounting information system has a positive effect on the performance of SMEs. Furthermore, a significant effect can be seen in Table 4.14. In this table, the calculated t value is greater than the t table value ($3.584 > 2.051$) and the significant t value is less than 0.05 ($0.001 < 0.05$), indicating that the accounting information system has a significant influence on company performance. The results of the study concluded that the hypothesis that reads "Information Systems has a positive and significant effect on the performance of SMEs in Sukoharjo Regency" is accepted. Pasaribu (2019) and Sari (2012) in their research revealed that the use of information systems, especially sub-software (software) in accounting records, has a significant positive effect on the performance of SMEs. The use of information systems can minimize human errors such as miscalculations, loss or damage to recording documents, and duplication in recording so that the financial data presented is more reliable and accurate.

The Effect of E-Commerce Utilization on Company Performance (UKM)

The test results in this study indicate that the use of e-commerce has a positive and significant effect on the performance of SMEs. Positive influence can be seen in Table 4.12. The table shows the coefficient value $X2(b2) = 0.740$, indicating that the use of e-commerce has a positive relationship to the performance of SMEs. Furthermore, a significant effect can be seen in Table 4.14. In this table, the calculated t value is greater than the t table value ($8.399 > 2.051$) and the significant t value is less than 0.05 ($0.000 < 0.05$), which means that the use of e-commerce has a significant influence on the performance of SMEs. The results of the study concluded that the hypothesis which reads "Use of E-Commerce has a positive and significant effect on the performance of SMEs in Sukoharjo Regency" is accepted.

This is supported by the exposure of one respondent, who uses e-commerce in the marketing process. Respondents are business owners of sewing houses that sell gamis, khimar, and daily clothes. At the beginning of starting their business, the respondents did not use e-commerce and only did sober marketing and waited for buyers to come to the store. However, since 2018 they have started marketing their products on Facebook and Instagram.

The Influence of Information Systems and E-Commerce Utilization on Company Performance (UKM)

The test results in this study indicate that information systems and e-commerce utilization have a simultaneous and significant effect on the performance of SMEs. Significant influence can be seen in Table 3. In this table, the value of $F_{count} = 57.021$ is greater than $F_{table} (3.34)$, indicating that information systems and e-commerce utilization have a simultaneous influence on the performance of SMEs. Furthermore, a significant effect can also be seen in Table 4.13. In this table, a significant F value is less than 0.05 ($0.000 < 0.05$), which means that information systems and e-commerce utilization have a significant influence on the performance of SMEs. The results of the study concluded that the hypothesis which reads "Information Systems and E-Commerce Utilization have a simultaneous and significant effect on the performance of SMEs in Sukoharjo Regency" is accepted.

Based on several respondents who have used e-commerce such as Shopee and Tokopedia, in addition to facilitating transaction processes ranging from marketing, receiving orders, paying, to shipping goods, it also helps in recording income (sales results) in SMEs. Because every order that appears from a customer, the system will automatically print an invoice which can make it easier for SMEs in the process of recording their sales results. This will facilitate the process of presenting information within the company so that it will ultimately improve company performance. This also proves that the use of e-commerce and the use of information systems together will affect company performance in SMEs.

Conclusion

Referring to the results of the previous analysis and discussion, it can be concluded as follows.

- a. Information systems have a positive and significant effect on the performance of small and medium enterprises (SMEs) in Sukoharjo Regency. This means, if the use of the information system is getting better, it will improve company performance in SMEs in Sukoharjo Regency. These findings also support the theory of The D&M Information System Success Model (1992) that in order to achieve individual or business quality, a good use of information systems is needed. With the use of a good information system, it will make the company's performance more accurate and faster.
- b. The use of e-commerce has a positive and significant impact on the performance of Sukoharjo Regency's small and medium enterprises (SMEs). This means that if a company uses e-commerce, its performance will improve. This is because when a business uses e-commerce, it gains convenience and flexibility in its transaction activities. As a result, the existence of SMEs that use e-commerce can add value to the performance of their businesses.
- c. Information systems and e-commerce utilization have a simultaneous and significant effect on the performance of small and medium enterprises (SMEs) in Sukoharjo Regency. This means that if SMEs use information systems and e-commerce together, they will be able to improve their company's performance. Because the use of e-commerce will also make it easier for SMEs in the recording process which will support the application of information systems within the SMEs themselves.

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