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E-COMMERCE USAGE AND INDONESIAN MSME'S PERFORMANCE

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A R T I C L E   I N F O

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Abstract. *This study aims to examine the e-commerce usage effect on the performance of MSMEs in Indonesia. The samples used were 157 MSME owners in Indonesia. This study uses the respondent which use e-commerce in their business. The respondent's data will process by using PLS-SEM. The results of this study indicate that the use of e-commerce can improve the financial performance of MSMEs, internal processes within MSMEs, consumer satisfaction from MSMEs, and business growth and learning within MSMEs. The use of e-commerce has been proven to be able to increase innovation in the MSME operational system, which is able to cut many internal business processes that are less effective and efficient, reduce delay times, increase the market share of MSMEs through online sales, and ultimately increase sales to MSMEs. The use of e-commerce is an important key for MSMEs to be more competitive and survive in the long term.*

Abstrak. Penelitian ini akan menganalisis pengaruh penggunaan *e-commerce* pada kinerja UMKM di Indonesia. Sampel yang digunakan sebanyak 157 pemilik UMKM di Indonesia. Penelitian ini menggunakan sampel pemilik UMKM yang menggunakan *e-commerce* dalam kegiatan bisnisnya. Data responden akan menggunakan PLS-SEM. Hasil penelitian ini menunjukkan bahwa penggunaan *e-commerce* mampu meningkatkan kinerja keuangan UMKM, proses internal di dalam UMKM, kepuasan konsumen dari UMKM, dan pertumbuhan dan pembelajaran bisnis di dalam UMKM. Penggunaan *e-commerce* terbukti mampu meningkatkan inovasi di dalam sistem operasional UMKM, dimana mampu memotong banyak proses internal bisnis yang kurang efektif dan efisien, mengurangi waktu *delay*, meningkatkan pangsa pasar dari UMKM melalui penjualan secara *online*, dan pada akhirnya meningkatkan penjualan pada UMKM. Penggunaan *e-commerce* menjadi kunci penting bagi UMKM untuk bisa lebih kompetitif dan bertahan dalam jangka panjang.

INTRODUCTION

The development of the internet has accelerated currently. This can be demonstrated by the information that the number of businesses that initially used e-commerce activities was 50.71% from 2017-2020. This has resulted in many owners of Micro, Small, and Medium Enterprises (MSMEs) applying the use of e-commerce in their business activities. E-commerce shows buying and selling activities through electronic media. MSME owners who used to only use television and telephones can now use the internet because of better internet access.

According to Alzahrani (2019), e-commerce can be shown in various business activities. For example, the exchange of services and goods, fast delivery with digital requests, money transfers, financial investment activities, electronic billing, direct marketing, service delivery, payments, and after-sales services. This business activity can be directly applied through direct marketing, e-government, job search, online banking, e-purchase, and online publishing.

According to data from BPS in 2021, the survey results show an increase in the use of e-commerce in Indonesia. In 2020 there were 25.25% of business owners doing e-commerce, then in 2021, there were 25.92% of business owners doing e-commerce namely 1,774,589 business owners. For most business owners, 75.15% come from the island of Java. This is because the island of Java is the center of the economy and the supporting facilities that are available are quite adequate, such as the internet. Most e-commerce users are women aged 35-44 who are the millennial generation.

E-commerce can also take various forms. The following are e-commerce categories, namely from business to business, business to consumer, consumer to consumer, and consumer to business. In Indonesia, e-commerce has been around for a long time, for example, the use of marketplaces such as Kaskus, Traveloka, internet banking and SMS banking, and so on. E-commerce really supports MSME owners in various types of sales products that are physical or digital. This activity can be through the website as the medium (Memarista, et al., 2022). In addition, customer service also uses online formal activities, FAQs, social media, chat, or email. According to data from BPS in 2021, the percentage of e-commerce businesses that are most in-demand is related to trade and repairs, namely 46.05%.

The development and renewal of information and the sophistication of communication technology make businesses more competitive. According to Parvin, et al (2022), e-commerce creates opportunities for the exchange of goods internationally and domestically. This can take the form of high business flexibility, entrepreneurial growth, business innovation, increased workforce, and skilled human resources (Caputo, 2019). In addition, business competitors can increase their capability to develop through e-commerce.

The use of the Internet in the business world is very important, especially to improve the performance of a business. According to Wattanawanrangkoon, et al (2022), financial performance will increase E-commerce usage in business. The need for internet use will relate to finding customers through interactive marketing activities. Thus, it can show that Internet business will be applied properly in an organization.

Conversely, based on previous research, according to Braojos, et al (2019), there are differences in research results, namely the use of e-commerce can also have a negative effect on business performance. For example, if the use of e-commerce is not careful, it will cause harm. E-commerce, which is a new technology, will exchange data from all stakeholders, which can be dangerous. In the

field of technology and internet infrastructure, deficiencies in information system security can boomerang for the advantages of e-commerce which are very expensive. In addition, there will be a lack of respect for copyright, a lack of consistency of national and international regulations, and a lack of support from the ability to speed the internet which can affect the growth of e-commerce.

Based on the explanation above, researchers are interested in knowing the impact of E-commerce usage on the performance of MSMEs. This is with the aim that, regardless of the deficiencies that exist in the use of e-commerce, with this research it is hoped that business owners still must adjust their use of it. This is because the role of MSMEs in the economy will still pay attention to technological sophistication so that they become more innovative. The creative economy of MSME owners will have extraordinary growth with e-commerce technology. Through e-commerce, small-scale MSME companies will be able to enter with greater opportunities compared to large companies in the world of creative business (Parvin, et al, 2022).

The use of e-commerce will cooperate with the use of electronic data interchange. MSME owners can use it if there are financial benefits expected from e-commerce, organizational readiness in using technology such as internal management processes, and pressure from outside the organization such as consumers to use technology in their businesses (Alzahrani, 2019). Based on the explanation above and previous research, this study will identify the impact of E-commerce usage on the performance of MSMEs. Furthermore, the performance of these MSMEs can be identified by financial performance, internal processes, customer satisfaction, and business growth and learning.

Technology readiness uses a combination of information technology infrastructure and human resources that use information technology. These resources will help introduce e-commerce to MSME owners and assist business operational activities (Caputo, et al, 2019). The use of e-commerce technology in organizations will improve human skills. Developments in information and communication technology provide solutions to national and international conditions regarding the production, distribution, marketing, and delivery of products and services electronically (Memarista & Gestanti, 2018). Through e-commerce, transaction costs can be minimized (Ikuabe, et al, 2020).

Before the existence of e-commerce, many business owners had deficiencies in managing their businesses. The business process is very long, causing many consumers to wait in terms of manufacture to delivery. Costs become more expensive without e-commerce because the process of making a product involves many parties and has a long waiting time. Businesses that have not or do not use e-commerce will have many shortcomings, both financial and non-financial.

There are various types of e-commerce activities or online transactions. The first is business-to-business, for example, an office wants to buy machine tools from a manufacturer. Second, business to consumer, for example, companies selling products and or services to consumers. Third, consumer to consumer, namely consumers selling used goods to other consumers. Fourth, consumer to business, namely someone selling products and or services to companies. For example, selling a logo for a food business. Fifth, business to public administration, namely between companies and government agencies. For example, website services for online administration. Sixth, consumer to public administration, namely transactions between individuals and government agencies in the form of services.

The use of e-commerce is also supported by the government. Government support plays an important role in the effectiveness of business policies. Organizational improvements in innovation are a priority in the use of e-commerce. In addition, in the digitalization era, technological innovation will improve the performance of a business and the welfare of its owners. Based on the explanation

above, the government supports a lot of training, development of business technology programs, and lots of incentives so that MSME businesses in Indonesia experience growth and increase in performance with the use of e-commerce.

MSME Performance

The performance of MSMEs is gaining increasing traction from the public. This is because the performance of a business is very important as an indicator of the success of a business. According to Han and Hong (2019), business performance can be divided into two, namely financial performance and non-financial performance. Financial performance can be shown by increased sales, increased profits, and investment growth. Meanwhile, non-financial performance can be measured through customer satisfaction, business growth and learning through innovation activities, employee satisfaction, internal processes such as daily operational activities, product value, and reduced production time (Aziz et al, 2017; Shi, et al ., 2019). The many benefits of E-commerce usage really support improving the performance of MSMEs and improving the welfare of citizens.

Financial Performance

The financial performance of a business will show the capacity to manage inputs to produce a profit (Tran, et al., 2022). This can be demonstrated through business financial reports. Evaluation of financial performance can use financial information within the company. In general, you can use trend analysis of sales growth, costs, and profits. Furthermore, companies can also analyze the financial performance of a business from financial ratios (Çelik & Arslanli, 2022). The use of financial ratios still has drawbacks because not all MSME owners keep records properly. In general, an MSME owner tends to keep transaction records simple with less detailed financial reports, but MSME owners can still understand the existence of benefits and financial management with their respective financial literacy skills. For example, an increase in profits, a decrease in costs, and an increase in inventory turnover activity will show good financial performance.

Internal Process

Internal processes will show the company's operational performance, namely in daily activities (Shi, et al, 2019). In the internal process, there are organizational processes related to the turnaround time in production, inventory, and product reliability. Related to the theory of Total Quality Management, internal business processes related to operations will help in the reliability of product quality. With good operational performance, consumers will get quality products. In addition, every business tries to have fast business processes, so consumers do not have to wait long. Then it is hoped that operational costs will be cheaper and business processes will be easier (Khalid, et al, 2018)

Consumer Satisfaction

Consumers indicate someone who has the decision to spend resources such as time, money, and energy for consumption activities related to the goods purchased (Yang, et al, 2022). Consumers have different buying behavior. This is due to differences in cultural, social, personal factors, and psychological characteristics. Before making a choice to buy a product, a customer must go through several steps, including need awareness, information seeking, weighing other options, choosing to buy, and subsequent actions. In this stage, for example, there are cost savings and time savings causing consumers to feel greater satisfaction.

Consumer satisfaction shows the evaluation of a consumer regarding the products and services purchased (Yang, et al, 2022). This will be compared with consumer expectations when purchasing the product or service. Consumer satisfaction can be a non-financial performance in the form of a separate reputation and credibility for a business. Every business that has high consumer satisfaction will lead to the spread and expansion of the business (Khalid, et al., 2018). The consumer will become a potential customer. In general, consumers will look for quality products or services at affordable prices, so every MSME will try in such a way as to achieve consumer satisfaction as a form of good business performance.

Business Growth and Learning

Many retail, advertising, and travel businesses have experienced increased performance from E-commerce usage. Innovation systems can be presented when a business uses e-commerce. Business growth and improvement that is getting better and continuously learning. According to Hussainn, Akbar, Shahzad, Poulova, and Akbar (2022), a business can have business growth and learn in the form of technology growth, product innovation, customer orientation, and many new strategic ideas. It becomes a complex innovation system because it combines technological and social structures, policies, and human resources in a business (Zygiaris, 2021).

Relations Between Concepts
The Effect of E-Commerce Usage on MSME Financial Performance

E-commerce usage will improve the company's financial performance (Braojos et al, 2019, Caputo et al, 2019). During the digitalization era, technological innovation is an option that must be followed. The use of technology in the form of e-commerce has spread throughout the world, making operational activities more effective and competitive. The use of e-commerce contributes to improving the financial performance of MSME owners (Mokoginta, et al., 2022). According to Jo et al (2019), e-commerce increases sales intensively online. This is supported by lower prices per product through the online system than in physical stores. Cross-border e-commerce can reduce trading costs compared to offline trading. Increased sales can show good financial performance results in a period (Han and Hong, 2019). Thus, it shows that the use of e-commerce will lead to increased financial performance.

H1: E-commerce usage significantly affects the financial performance of SMEs

The Effect of E-commerce Usage on the Internal Process of MSMEs

The use of e-commerce causes improvements in business processes (Wardoyo, et al 2018). The technology applied in the e-commerce business cuts many internal business processes that are less efficient and less effective. Internal business processes will be related to business operational performance so that e-commerce makes all processes in business easier. In addition, the system used uses a machine that can make all processes more thorough and accurate. In addition, delay time in product system processing can be minimized, so that internal processes become timely. In addition, in Total Quality Management Theory, improvements in operations by using e-commerce can generate great benefits such as faster business time processes, lower operational costs, and even product quality is getting better. Thus, the use of e-commerce affects internal processes.

H2: E-commerce usage significantly affects the internal processes of SMEs

The Effect of E-commerce Usage on MSME Consumer Satisfaction
One of the benefits obtained by MSME owners in E-commerce usage is consumer satisfaction. The company will always pay attention to the interests of consumers to increase their satisfaction. This is because consumer satisfaction will bring in a lot of sales for business owners (Khalid, 2018). Consumer satisfaction is based on their experience related to the organization or what is called a moment of truth. Convenience and quality in products will cause consumers to feel well served with technology in e-commerce. Technology in e-commerce provides something good so that consumers become satisfied with business services and products, even consumers can recommend to others and buy products repeatedly. Thus, the use of e-commerce affects consumer satisfaction.
H3: E-commerce usage significantly affects consumer satisfaction in SMEs

The Effect of E-commerce Usage on the Growth and Learning of MSME Businesses
The results of Xiao's research, et al (2018) show that the use of e-commerce will affect growth and learning in a business. The innovation system is present in a business because E-commerce usage can improve many things such as growth and learning in business. Business owners can take advantage of the development of knowledge from technology so that the business is carried out becomes better in technology knowledge. According to Zygriaris (2021), owners will learn with a better orientation towards consumers and there are business strategies that might be present in MSME products. This is due to the large amount of information available in the use of e-commerce. Thus, the use of e-commerce will have an impact on business growth and learning.
H4: E-commerce usage significantly affect the growth and learning of MSME business

RESEARCH METHODS

The research method used in this research proposal is a quantitative approach. This is done by digging up information from respondents who provide questionnaire data in the form of primary data. Researchers can obtain data which will then be processed. Data obtained from researchers will be processed by the Structural Equation Model with the Partial Least Square approach so that the analysis technique of this research uses the help of smart PLS software. The testing phase was carried out with validity and reliability test (Latan, 2018). The latent variable is said to be valid if the factor loading of the latent variable syndicator is worth more than 0.70. The latent variable is called valid if the AVE (average variance extracted) value of each construct variable is above 0.50 (AVE> 0.50) (Solimun & Fernandes, 2017). The reliability test is said to be reliable if the composite reliability value of each latent variable must be above 0.70 (CR> 0.70) (Latan, 2018).

The structural model explains the relationship between latent variables which is carried out by the Goodness of Fit Model Test. The overall fit test of the models used in this study is intended to ensure a research model fits (fit) with the data used in a study. The goodness of fit model test through PLS uses the value of R2 (R-square) or is referred to as the coefficient of determination. The hypothesis test is said to be significant if the t-count value is above 1.96 (t-count> 1.96). The significance level used in the structural model feasibility test is 5% for significant level and the confidence level is 95% (Latan, 2018).

In this study, the population used is MSME owners in Indonesia. Purposive sampling was used to choose the sample for this investigation. It is a non-probability sampling method that chooses items in accordance with the researcher's predetermined restrictions. Owners of MSME businesses in Surabaya who have employed e-commerce in their operations serve as the study's sample criterion. We estimated the sample minimum number is 100 persons as respondents. The respondent's data is taken from the original source, namely the respondent filling out the questionnaire by distributing questionnaires via softcopy on several social media.

There are two types of variables used in this study. The dependent variable (Y) is indicated by the e-commerce usage variable. Meanwhile, the independent variables (X) in this study are financial performance; internal processes; customer satisfaction; business growth, and learning. The following is an explanation of the operational definition of each variable which will be measured with a 5-Likert scale MSME performance is the result of an assessment of the functions within an organization within a certain period.

For the independent variables, the first is Financial Performance (KKU) which shows the result of identifying financial conditions in a certain period which shows the financial ability of the business (Hussain, et al, 2022). The indicators are there is an increase in sales, a reduction in costs, an increase in profits, and an increase in the amount of inventory that is being used. Second, Internal Process (PI) shows operational performance for the day-to-day of *e*-commerce usage on the internal processes of MSME businesses (Aziz et al, 2017). The indicators are e-commerce can be used to make business process times faster, business operational costs cheaper, can be used to make business processes easier, makes product quality better, and products safer to reach consumers. Third, Consumer Satisfaction (KK) indicates the evaluation of a consumer's assessment of the product or service that has been purchased compared to consumer expectations (Khalid, 2018). The indicators are customers will be more satisfied with their business because they use e-commerce, customers are happier with the business because they use e-commerce, the customers provide recommendations to others, and the customers make repeat purchases because they use e-commerce. Fourth, is Business Growth and Learning (PPB). It means that the process of developing benefits from the use of e-commerce towards a business through existing resources (Zygiaris, 2021; Hussain, Akbar, Shahzad, Poulova, Akbar, 2022). The indicators are technological growth in MSME businesses, improved orientation learning to consumers, also there are new strategic ideas that arise because of the dynamics of E-commerce usage.

The dependent variable is the Use of E-commerce (PE). It shows the activities of selling and buying products, services, and or information with a set of dynamic technologies through electronic media with the internet. The questions will talk about e-commerce usage by MSME business owners as measured by a 5-Likert scale (Khalid, et al, 2018). The indicators such as e-commerce are available and used for business activities, namely buying, and selling, the use of e-commerce can respond to business needs and demands, e-commerce has been used can provide relevant information, e-commerce has appearance features that have been organized to support business, the respondent is satisfied with the existing e-commerce in my business, and the respondent will use e-commerce in my business.
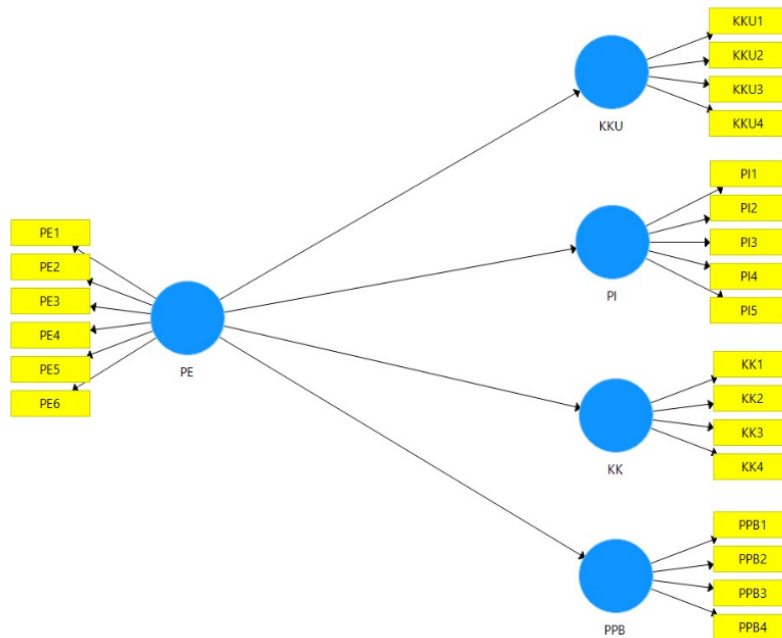
Figure 1. Research Path Diagram

RESULTS AND DISCUSSION

The sample of this study analyzes the Indonesian MSME owners to fill out the online questionnaire. There are 157 respondents that were collected from the questionnaire. Most of our characteristics sample is 61% of respondents live in Surabaya, 70% of the respondents were male, 62% of the respondents were less than 25 years old, 52% of respondents have the latest education as senior high school, and 69% of the respondents were single.

Table 1. Respondent's Profile

Respondent's Profile	Explanation	Frequency	Percentage (%)
Domicile	Surabaya	96	61
	Outside Surabaya	61	39
Gender	Man	110	70
	Woman	47	30
Age	Less than 25 Years Old	98	62
	25-40 Years Old	41	26
	More than 40 Years Old	18	11
Last education	Less than Senior High School	9	6
	Senior High School	81	52
	Diploma	12	8
	Bachelor Degree)	54	34
	Masters (S2)	1	1
Marital Status	Single	109	69
	Married	45	29

Respondent's Profile	Explanation	Frequency	Percentage (%)
	Divorce	1	1
	Spouse died	2	1

Furthermore, regarding MSME businesses run by respondents, as many as 37 (18%) of respondents had business-to-business e-commerce, 135 (65%) of respondents had business-to-consumer e-commerce, and 25 (12%) of respondents had e-commerce. commerce consumer to consumer, 7 (3%) respondents have a type of e-commerce consumer to business, and 5 (2%) respondents have a type of e-commerce business to public administration. Based on the age of MSMEs, 136 (87%) of most respondents had run MSMEs for 1-10 years. Then in terms of the income of most respondents, based on all the cash that was still from the MSME business they owned, as many as 122 (78%) of the respondents had an income of 0-Rp. 50 million. Of all the respondents, 71 (40%) of the respondents had a personal source of income from the business Finally, in terms of assets owned by respondents, as many as 96 (61%) of respondents have a maximum asset of Rp. 50 million.

Table 2. MSME's Profile

MSME's Profile	Explanation	Frequency	Percentage (%)
Types of E-Commerce	Business to Business	37	18
	Business to Consumer	135	65
	Consumer to consumer	25	12
	Consumer to business	7	3
	Business to Public Administration	5	2
	Business to Public Administration	5	2
Having an MSME Business	Less than 1-10 years	136	87
	11-20 years	15	10
	More than 20 years	6	4
Income from MSMEs Business (IDR in Million)	Less than 50	122	78
	More than 50 – 250	24	15
	More than 250 – 500	7	4
	More than 500	4	3
Source of Income	Personal from the MSMEs Business	71	40
	Nuclear Family	57	32
	Husband or Wife	9	5
	Other Parties	41	23
Total Assets (IDR)	Maximum 50 million	96	61
	More Than 50 – 500 million	40	25
	More Than 500 million –10 billion	19	12
	More Than 10 billion	2	1

In measuring an accurate model, valid and reliable data is needed, which is shown by discriminant validity and internal consistency reliability analysis. The following figure shows the results of the validity and reliability tests in this study.
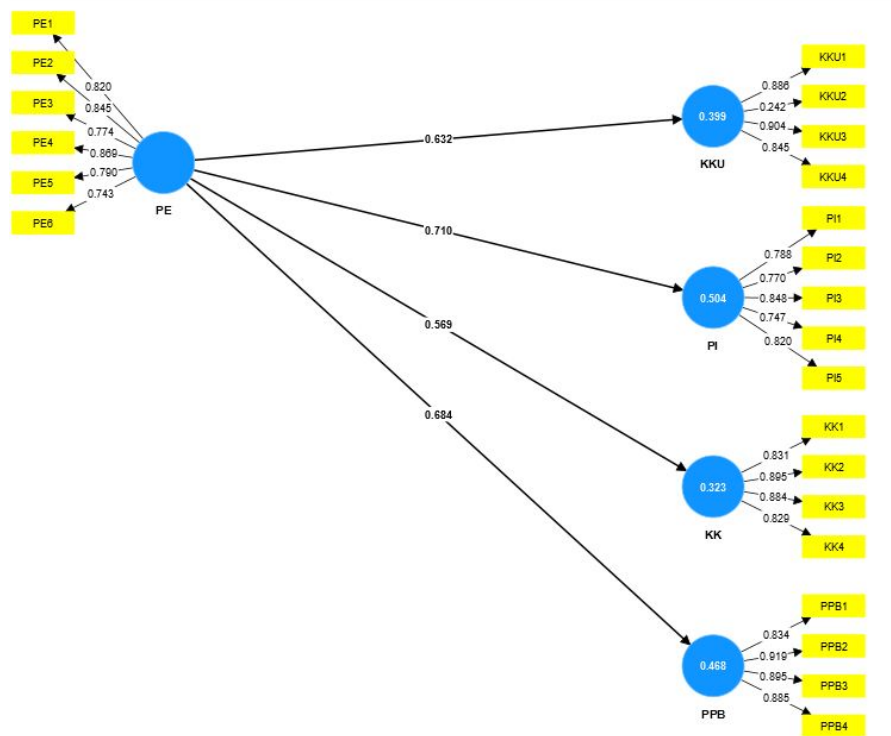
Figure 2. Validity and Reliability Testing

Table 3 shows the results of reliability testing. All variables exceed the standard, so it can be declared reliable. Not only that, data is declared valid if the AVE value ≥ 0.50. It can be proven from Table 4 that all variables have an AVE value > 0.50 so it can be stated that the data in this study are valid.

Table 3. Construct Reliability and Validity Test Results

Construct	Items	Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
E-Commerce Usage	PE1	0.820	0.918	0.653
	PE2	0.845		
	PE3	0.774		
	PE4	0.869		
	PE5	0.790		
	PE6	0.743		
Financial Performance	KKU1	0.886	0.836	0.594
	KKU2	0.242		
	KKU3	0.904		
	KKU4	0.845		
Internal Process	PI1	0.788	0.896	0.632

Construct	Items	Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
	PI2	0.770		
	PI3	0.848		
	PI4	0.747		
	PI5	0.820		
Consumer Satisfaction	KK1	0.831	0.919	0.740
	KK2	0.895		
	KK3	0.884		
	KK4	0.829		
Business Growth and Learning	PPB1	0.834	0.934	0.781
	PPB2	0.919		
	PPB3	0.895		
	PPB4	0.885		

Furthermore, based on Table 4 shows the results of discriminant validity using the Fornell-Larcker criteria, where the condition set is that the AVE root in the construct is higher than the construct's correlation with other variables. The results show that all latent variables have AVE roots > construct correlation with other variables so it can be stated that the discriminant validity requirements in this model have been fulfilled.

Table 4. Discriminant Validity Matrix

	KK	KKU	PE	PI	PPB
KK	0.860				
KKU	0.551	0.770			
PE	0.569	0.632	0.808		
PI	0.529	0.723	0.710	0.795	
PPB	0.827	0.610	0.684	0.640	0.884

Testing the structural model in this study uses several stages, starting with analyzing the R-value *square* (R^2), f-square (F^2), and Q-square predictive relevance (Q^2). Based on Table 5, the R-squared value for the variables of financial performance, internal processes, and business growth and learning is classified as moderate because the R-squared value is between 0.33-0.67, while for the consumer satisfaction variable, it is included in the low category because the R-value is squared below 0.33.

Table 5. Hypothesis Testing Results

Hypothesis	Connection	Ori. Sam	Std. Dev.	T-Stat	P-Val	Decision	R^2	F^2	Q^2
H1	PE → KKU	0.632	0.073	8,650	0.000	Accepted	0.399	0.665	0.224
H2	PE →PI	0.710	0.049	14,437	0.000	Accepted	0.504	1.016	0.308

Hypothesis	Connection	Ori. Sam	Std. Dev.	T-Stat	P-Val	Decision	R²	F²	Q²
H3	PE →KK	0.569	0.077	7,359	0.000	Accepted	0.323	0.478	0.231
H4	PE → PPB	0.684	0.054	12,704	0.000	Accepted	0.468	0.878	0.356

Next, the value of f-*squared* has a standard of 0.35 for a strong effect, 0.15 for a moderate effect, and 0.02 for a weak effect. As seen in Table 5, all variables have an f-squared value above 0.35 so it can be concluded that all variables have an influence strong on structural models. Furthermore, based on Q-square predictive relevance (Q^2), where if seen in Table 5, all variables have a value of $Q^2 > 0$. This shows that the structural model has predictive relevance.
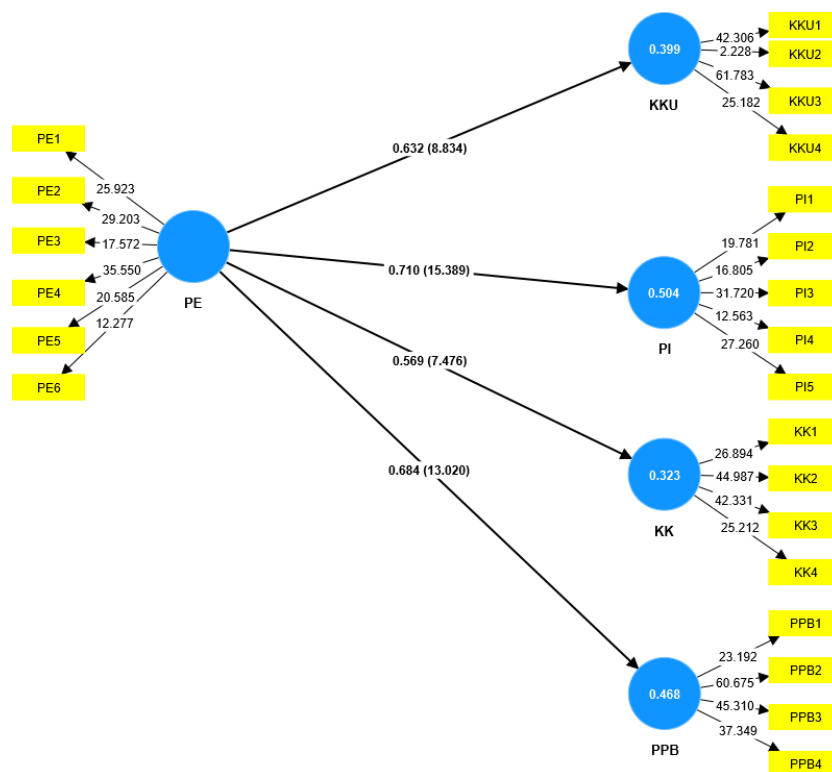

Figure 3. Structural Model

The results of hypothesis testing can be seen in Table 5. The hypothesis can be accepted if the significance value is less than 0.05. All hypotheses have positive significance results. So, hypothesis 1, the relationship between e-commerce usage and financial performance has β = 0.632; T = 8.650; and p-value = 0.000. The second hypothesis which states the relationship between e-commerce usage and internal processes shows β = 0.710; T = 14.437; and p-value = 0.000. The third hypothesis which states the relationship between e-commerce usage and consumer satisfaction shows β = 0.569; T = 7.359; p = 0.000. The fourth hypothesis which states the relationship between the use of e-commerce with business growth and learning shows a significant positive relationship (β = 0.684; T = 12.704; p = 0.000).

The purpose of this research is to analyze the usage relationship of e-commerce with the financial performance of MSMEs, internal processes within MSMEs, consumer satisfaction from MSMEs, and business growth and learning within MSMEs. Based on the results of hypothesis testing that has been described previously, all hypotheses developed show a significant effect. The first hypothesis which states that there is an effect of the use of e-commerce on the financial performance of MSMEs shows significant positive results, so it is in line with research from Braojos et al (2019) and Caputo et al (2019). The use of e-commerce as a result of technological innovation in MSMEs contributes to MSME operational activities to become more effective and competitive, improving the financial performance of MSME owners.

Other findings also show similar results, where e-commerce usage also has a significant positive impact on internal processes within SMEs. This is in line with research from Wardono et al (2018), where e-commerce can cut many internal business processes that are less effective and efficient so that it can simplify all processes within MSMEs. Processes that can be improved through e-commerce, such as minimizing delays in processing product systems, processes that are more thorough and accurate, operational costs cheaper, and product quality are better, make e-commerce make a big contribution to MSMEs.

In addition, consumer satisfaction also increases with ite-commerce, in line with research from Khalid (2018). Technology in e-commerce provides something good so that consumers become satisfied with business services and products, even consumers can recommend to others and buy products repeatedly. Thus, the use of e-commerce affects consumer satisfaction.

The last finding shows that there is-commercial to increase in business growth and learning within SMEs. This supports research from Xiao et al (2018). The use of e-commerce encourages MSME owners to continue to innovate, especially in running a business online. With continuous developments, especially in terms of technical knowledge from MSME owners, MSME owners will continue to provide more orientation to consumers and develop business strategies through the products offered. This is one of the main keys in facing business competition because by continuing to produce innovations, MSMEs can penetrate new market shares and survive in the long term.

CONCLUSIONS AND RECOMMENDATIONS

This study tested the use of e-commerce on the performance of MSMEs in Indonesia. Based on the results of the analysis and discussion, it can be concluded that the use of e-commerce can improve the financial performance of MSMEs, internal processes within MSMEs, consumer satisfaction from MSMEs, and business growth and learning within MSMEs. The existence of development and renewal of information and sophistication of communication technology makes business more competitive so in order to answer these challenges, e-commerce is needed, which has been proven to be able to improve the performance of MSMEs. The use of e-commerce has been proven to be able to increase innovation in the MSME operational system, which can cut many internal business processes that are less effective and efficient, reduce delay time, increase the market share of

MSMEs through online sales, and ultimately increase sales to MSMEs. The use of e-commerce is an important key for MSMEs to be more competitive and survive in the long term.

This study has several limitations, including the number of samples that are not too large because they were distributed during the pandemic and are only limited to MSMEs in Indonesia so that for further research it can expand research samples abroad. This is because *e-commerce* has also been used by MSMEs in many countries so the impact can be re-examined when linked to the performance of MSMEs. In addition, the R-squared value of the research variables tends to be in the low and moderate categories, so further research can add other variables that can affect the performance of MSMEs, not only from the use of e-commerce.

REFERENCES

Alzahrani, J. (2019). The impact of e-commerce adoption on business strategy in Saudi Arabian small and medium enterprises (SMEs), *Review of Economics and Political Science*, 4(1), 73-88. https://doi.org/10.1108/REPS-10-2018-013

Aziz, Khurram, Hasnain, S. S. U., Awais, M., Shahzadi, I., & Afzal, M. M. (2017). The Impact of Entrepreneurial Orientation on SME Performance in Pakistan: A Qualitative Analysis. *International Journal of Engineering and Information Systems (IJEAIS)*, 1, 107–12.

Braojos, Jessica, Benitez, J., & Llorens, J. (2019). How Do Social Commerce-It Capabilities Influence Firm Performance? Theory and Empirical Evidence. *Information & Management*, 56, 155–71.

Caputo, F., Cillo, V., Candelo, E., & Liu, Y. (2019). Innovating through digital revolution: The role of soft skills and Big Data in increasing firm performance, *Management Decisions*, 57(8), 2032-2051.https://doi.org/10.1108/MD-07-2018-0833

Çelik, E., & Arslanli, KY (2022). The idiosyncratic characteristics of Turkish REITs: evidence from financial ratios, *Journal of European Real Estate Research*, 15(2), 192-207. https://doi.org/10.1108/JERER-01-2021-0004

Fatihah, D. C., & Saidah, I. S. (2021). Model Promosi Marketplace Berbasis Artificial Inteligence (AI) di Indonesia. *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi).*, *8*(3). https://doi.org/10.35794/jmbi.v8i3.35908

Han, Y., & Hong S. (2019). The Impact of Accountability on Organizational Performance in the US Federal Government: The Moderating Role of Autonomy. *Review of Public Personnel Administration.* 39(1):3-23. doi:10.1177/0734371X16682816

Hussain, A., Akbar, M., Shahzad, A., Poulova, P., & Akbar, A., Hassan, R. (2022). E-Commerce and SME Performance: The Moderating Influence of Entrepreneurial Competencies. *Administrative Sciences*, 12(13),1-16

Ikuabe, M., Oke, A. E., & Aigbavboa, C. (2020). Impact of contractors' opportunism on construction project transaction costs: Construction professionals' perception, *Journal of Financial Management of Property and Construction*, 25(1), 125-141. https://doi.org/10.1108/JFMPC-04-2019-0040

Jo, YJ, Matsumura, M., & Weinstein, DE (2019). The Impact of E-Commerce on Urban Prices and Welfare, working paper [No. 26506], *National Bureau of Economic Research*, Nov.

Khalid, A., Lee, O., Choi, M., & Ahn, J. (2018). The effect of customer satisfaction with e-commerce systems. *Journal of Theoretical and Applied Information Technology,* (96):2, 481-491.

Latan, H. (2018). *PLS Path Modeling in Hospitality and Tourism Research: The Golden Age and Days of Future Past*, Ali, F., Rasoolimanesh, SM and Cobanoglu, C. (Ed.) Applying Partial

Least Squares in Tourism and Hospitality Research, Emerald Publishing Limited, Bingley, 53-83. https://doi.org/10.1108/978-1-78756-699-620181004

Memarista, G., & Gestanti, L. (2018). Sunk Cost dilemma behavior: The contribution marketing expenses towards financial performance. *Jurnal Keuangan dan Perbankan*, 22(4), 625-642.

Memarista, G., Setyawan, A. A., Mokoginta, D. D., Kristina, N., & Kristyanto, V. S. (2022). Education and Assistance for Strengthening Micro Business Institution at GKI EMAUS Surabaya. *Jurnal Abdimas*, 26(1), 54-58.

Mokoginta, D. D., Memarista, G., Setyawan, A. A., Kristyanto, V. S., & Kristina, N. (2022). Community Service: Education and Service Learning for Micro Business's Parachurch. *Sewagati*, 6(6), 783-787.

Parvin, M., Asimiran, S. B., & Ayub, A. F. B. M. (2022). Impact of introducing e-commerce on small and medium enterprises – a case on logistics providers, *Society and Business Review*, (17)3, 469-484.https://d_oi.org/10.1108/SBR-10-2020-0131

Priliandani, S. M., & Tjahjaningsih, E. (2022). Pengaruh Kepercayaan Merek Dan Pengalaman Pelanggan Terhadap Kepuasan Dalam Meningkatkan Loyalitas (Studi Pada Konsumen Mie Lemonilo Di Semarang). *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi).*, *9*(2). https://doi.org/10.35794/jmbi.v9i2.43049

Shi, Y., Zhu, X., Zhang, S., & Lin, Y. (2019). The role of operational stickiness in impacting new venture survival, *Journal of Manufacturing Technology Management*, 30(5), pp. 876-896. https://doi.org/10.1108/JMTM-07-2018-0206

Solimun, & Fernandes, A. A. R. (2017). Investigation of instrument validity: Investigate the consistency between criterion and unidimensional in instrument validity (case study in management research), *International Journal of Law and Management*, 59(6), 1203-1210. https://doi.org/10.1108/IJLMA-09-2016-0076

Tran, Y. T., Nguyen, N. P., & Hoang, T. C. (2022). How do innovation and financial reporting influence public sector performance in a transition market? *Journal of Accounting in Emerging Economies*, 12(4), 645-662. https://doi.org/10.1108/JAEE-06-2021-0180

Wardoyo, D. T. W., Iriani, S. S., & Kautsar, A. (2018). Adoption of E-Commerce, Entrepreneurship Orientation Mediated by Business Strategy on the Performance Food Industries. *Technology*, 9, 896–902.

Wattanawarangkoon, T., Sinthupundaja, J., Suppakitjarak, N., & Chiadamrong, N. (2022). Examining internal capability determinants on firms' financial performance before and after going public: a case of listed firms in Thailand, *Journal of Advances in Management Research*, 19(3), 464-487. https://doi.org/10.1108/JAMR-06-2021-0202

Yang, H., Cheng, J., Schaefer, A. D., & Kojo, S. (2022). Influencing factors of Chinese consumers' purchase intention towards sustainable luxury, *Asia Pacific Journal of Marketing and Logistics*, 1(2), https:/ /doi.org/10.1108/APJML-03-2022-0198

Zygiaris, S. (2021). The impact of innovation systems on e-commerce capacity. *Journal of Knowledge Economy*, 13, 276-289.