

The Effect of E-Commerce Adoption on MSME Performance With Environmental Perspective as Moderation

Feber Sormin¹, Khomsiyah²

Fakultas Ekonomi dan Bisnis Universitas Trisakti, Jakarta, Indonesia

IJMSSSR 2021

VOLUME 3

ISSUE 5 SEPTEMBER - OCTOBER

ISSN: 2582 - 0265

Abstract: This study has a purpose to analyze the E-Commerce Adoptions' effect on MSME Performance and moderated by Environmental Perspectives in Jakarta. The answers of 172 MSME actors as respondents were analyzed using SPSS. With the multiple regression analysis methods, the results of this study are e-commerce communication, business processes, online e-commerce, and digital e-commerce platforms simultaneously affect the performance of MSMEs, while e-commerce services do not. In addition, it was found that the environmental perspective strengthens the influence of business processes and online e-commerce on the performance of MSMEs. These results can be utilized by MSME actors in developing their business and achieving maximum performance.

Keywords: MSME Performance, E-Commerce Adoption, Environmental Perspective

1. Introduction

E-commerce trading has recently become a trend among various community groups, especially among young people who are still pursuing education who already have income from online sales they do. Several young people have managed to enter the ranks of young entrepreneurs while still in college by opening an online store. This is possible because there are many supporting factors where e-commerce trading is slightly different from conventional trading. Rozama, *et al.* (2019) explained that the fast improvement of data and communication innovation has an affect on changes in different areas, such as social, financial, political, and social, as well as having an affect on way of life changes, counting utilization designs and how to offer and shop for the community. Individuals utilize data and communication innovation to purchase and/or offer products and/or administrations through the web. This wonder is known as electronic commerce or e-commerce, which gives individuals with a choice of how to shop without having to come specifically to the store.

The Central Statistics Agency (2019:33) states that from the results of the 2019 Annual Micro and Small Industry Survey (IMK), the number of MSMEs in Java is the largest in Indonesia. Of the 62,929 MSMEs in DKI Jakarta, there are 16,588 that have just used e-commerce (BPS, 2019; 21-22).

Jones, *et al.* (2013) in their research identified that the main obstacles to developing E-business are time, Financial resources, limited use by customers and suppliers, and lack of information Technology skills. Sandi (2019) stated that MSME problems that often occur in Indonesia are lack of capital, legal status in the field of licensing, limitations in innovation in developing businesses, lack of awareness of paying taxes, understanding of the use of electronic commerce which is still lacking. Scupola (2009) clarifies that in spite of the fact that SMEs are progressively receiving E-commerce, their utilize and misuse are still restricted and little companies have a restricted understanding of its potential. Kremez, *et al.* (2019) clarifies that for fruitful e-commerce integration, all parties in a relationship establishment ought to get it the significance and central part of the client in an e-commerce technique to guarantee ideal establishment execution.

Dessler (2000:41) explains that performance is work performance, namely the comparison between the work achieved and the standards set. Stolovitch and Keeps (1992) characterize execution as a set of comes about accomplished and alludes to the act of accomplishing and carrying out the asked work. Organizational performance depends on all parties, both external and internal, but employee performance has a strong relationship with the entity's performance in the end (Tarmidi & Augustine, 2019), and online applications can moderate this influence (Tarmidi & Arsiah, 2019). Turley (2001), George (2001), Ramanathan, *et al.* (2012) stated that MSME business performance includes sales growth, customer base, customer satisfaction, process

enhancement, and competitive advantage. The part of e-commerce is exceptionally essential to back the advancement of MSME execution in different businesses that are carried out by dealers from different e-commerce viewpoints.

Stroehle (2008) contends that the application of electronic commerce within the industry influences expanding the adequacy of showcasing exercises. Scupola (2009) clarified that e-commerce is characterized as sharing trade data, keeping up commerce connections, and conducting trade exchanges by the meaning of media transmission systems. Kalakota and Robinson (1999:11) clarify that the definition of e-commerce can be seen from a few points of view, specifically: From a communication viewpoint, a trade prepare point of view, a service point of view, and an internet point of view. From an environmental perspective, Duan, et al. (2012) explain that e-commerce is an external influence, such as pressure from consumers/suppliers, competitors, and other external supports that affect e-commerce adoption. The higher the pressure from business partners it will allow companies to adopt e-commerce to maintain their competitive position. Jahanshahi, et al. (2011) explained that electronic commerce has a significant and positive effect on operational performance in MSMEs.

From a communication perspective, Kalakota and Robinson (1999:11) explain that E-commerce is the delivery of information, products/services, or payments via telephone lines, computer networks, or other electronic means. E-commerce communication can be used in the dimensions of electronic payment systems. Lawal (2010), Block, et al. (1996), Zwass (1998), Fatimah, et al. (2000), Jahanshahi, et al. (2011), Nahan&Kristinae (2019) in their research found that Business Communication greatly affects business, especially in MSMEs which have a lot of cultural values / Local Wisdom so that it has a significant and positive influence on operational performance in MSMEs.

Meanwhile, from a business process perspective, Kalakota and Robinson (1999:11) continue that E-commerce is the application of innovation towards the mechanization of exchanges and company workflows. Febriyanty, et al. (2020:5-11) explains that all activities of a business company have the main function, namely changing something that has less value into something of high value and can meet all the needs of the community. The functions of a business company are Production Function, Distribution Function, Sales Function, Marketing Function, Finance Function, Human Resources Function.

From the perspective of business services, Kalakota and Robinson (1999:11) explain that e-commerce could be a device that fulfills the wishes of companies, customers, and administration to cut benefit costs whereas moving forward the quality of products and expanding the speed of conveyance administrations. Lovelock (1992), Sedarmayati (2000:243) explains that service is a total organizational approach that becomes the quality of service received by service users, as the main driving force in business operations. The e-commerce business service factor has dimensions of E-commerce Ordering and Delivery by carrying out indicators such as planning acquirement with online providers, requesting program items online, lower costs of commerce exchanges, following approaching and active products shipments, and section and exit online arrange conveyance (Jahanshahi, et al. 2011; Johnson, 2003; Turban, et al. 2000).

Turban, et al. (2000), Ainin& Jaffar (2003), Fatimah, et al. (2000), Jahanshahi, et al. (2011) also stated that e-commerce applications with e-commerce client back administrations have a noteworthy and positive impact on the operational execution of Indian SMEs. The utilize of e-commerce is essentially successful on MSME execution and e-commerce applications are altogether successful on execution components such as monetary execution, inside forms, clients, development, and learning. The relationship between e-commerce, execution, and its components is additionally directed by advancement (Sedighi&Sirang, 2018)

Kalakota and Robinson (1999:11) include that from an internet point of view, E-commerce is related to the buying and offering capacity of items and data on the web and other online administrations. Jahanshahi, et al. (2011), Arie et al. (1995), Block, et al. (1996), Johnson (2003), Kotler (2000), Smith & Chaffey (2005), explains the dimensions used in terms of e-commerce advertising capabilities and e-commerce marketing capabilities are measured by giving item data to clients, showing company data on websites, online electronic brochures or acquiring guides, showing as it were a arrangement of items that are important to certain clients from MSMEs. In his research, Jahanshahi, et al. (2011) also conveyed that online variables measured by the dimensions of e-commerce advertising ability and e-commerce marketing capabilities affect business performance.

Innovative improvements have driven to the quick arrangement of more complex advances, known as advanced stages (Parker, et al., 2016). Computerized stages are advances that empower companies to homogenize, alter and convey information at an uncommon scale (Yoo, et al., 2010). Reacting to competitive weights, numerous MSMEs utilize computerized stages to use their trade techniques (Li, et al., 2016). Advanced stages are in this way changing the way companies construct competitive advantage (Parker, et al. 2016). Advanced stages speak to a modern field that challenges the establishments of undertaking execution (Kazan, et al., 2018). The comes about of the consider of Sanchez-Torres & Juarez-Acosta(2019) appear an circuitous relationship between MSME advanced stage capabilities and execution, whereas MSME organize capabilities have a critical positive impact on execution.. In any case, the complexity of digitalization infers that advanced stage capabilities cannot move forward company execution straightforwardly but or maybe through energetic capabilities (Kroh, et al., 2018).

The environmental perspective is an external influence, such as pressure from consumers/suppliers, competitors, and other external supports that affect the adoption of e-commerce. Scupola (2009) clarifies within the setting of the environment, finding that both in Denmark and Australia the weight from competitors and providers isn't as well noteworthy. Tornatzky and Fleischer (1990) clarified that in a natural setting, the address centered on the part of competitors, suppliers, buyers, governments, and innovation back foundation within the appropriation and broad selection of e-commerce in endeavors. Meanwhile, Irijayanti&Azis (2012), Gaganis, et al (2019) found that external environmental factors such as task environment affect business performance. Based on research from Schumpeter (1942) that the existence of competitive pressure has an impact on company performance. Research Tyler, et al. (2020), says that MSMEs respond to performance differently to perceived competitive pressures, namely competitive opportunities or threats, managers' perceptions of being subject to competition are positive and significant to financial performance.

Based on the description above, the researcher wants to know about the effect of e-commerce adoption on the performance impact of Micro, Small, and Medium Enterprises (MSMEs) with Environmental Perspective as a moderating variable in DKI Jakarta. Researchers modify existing research by adding indicators on online e-commerce, the external environment on the role of government, and the role of culture.

2. Literature Review

2.1. Attribution Theory

Attribution theory states that when individuals observe a person's behavior, they try to determine whether it is generated internally or externally (Robbins, 1996). Attribution theory in this study is closely related to the behavior of traders in MSME activities. The behavior of these traders is certainly influenced by the goals/intentions of traders to open businesses both from within and from outside. Increasingly high competition and changes in consumption patterns and patterns of selling goods in the current technological era, indirectly individual traders must be able to adapt to external influences from the company, to maintain or improve company performance. Many MSME traders who used to always sell traditionally, inevitably have to switch to electronic trading such as selling goods online, without considering the size of the company.

2.2. Conceptual Framework and Hypothesis Development

From a communication point of view, e-Commerce can be within the frame of sending data, products/services, or installments by means of phone lines, computer systems, or other electronic implies so that they can be utilized within the measurements of the electronic installment framework. Lawal (2010), Zwass (1998), Fatimah et al. (2000), Jahanshahi, et al. (2011). Nahan&Kristinae (2019) in their research said that business communication greatly affects business processes, especially MSMEs which have many cultural values / Local Wisdom. The results of Jahanshahi et al. (2011) found that e-commerce applications with e-commerce payment systems have a significant and positive influence on the operational performance of Indian MSMEs, these results are in line with the findings of Ramanathan, et al. (2012) who found a positive effect of operating effects and e-commerce marketing effects on business performance

H1. The perspective of e-commerce communication influences MSME Performance

From a Business process point of view, E-commerce is the application of innovation towards the robotization of exchanges and workflows of endeavors. The main purpose of a business is to get the maximum operating profit or profit from products or services that are produced/produced and sold to meet the needs of the community. E-commerce Business Process Factors using the dimensions of e-commerce customer support services with online help indicators to identify frequently asked questions, online product discussions, and handle customer question feedback online, online registration, and personalized email communication. Turban, et al. (2000), Ainin& Jaffar (2003), Fatimah, et al. (2000), Jahanshahi, et al. (2011) found a positive effect of e-commerce applications with e-commerce customer support services on operational performance in Indian and Danish MSMEs.

H2. E-commerce Business Process Perspective affects MSME Performance

From the perspective of business services, e-Commerce could be a device that fulfills the want of companies, shoppers, and administration to cut benefit costs whereas still making strides the quality of merchandise and expanding the speed of conveyance administrations. Sedarmayati (2000: 243) defines service as a total organizational approach that becomes the quality of service received by service users, as the main driving force in business operations. E-commerce business services have an E-commerce Ordering and Delivery dimension with indicators such as planning obtainment with providers online, Requesting computer program items online, lower taken a toll of trade exchanges, following approaching and active products shipments, and online arrange section and conveyance. (Jahanshahi, et al., 2011, Johnson, 2003; Turban, et al., 2000). In his research, Jahanshahi, et al. (2011) said that e-commerce business services with the dimensions of E-commerce Ordering and Delivery have a noteworthy and positive impact on the operational execution of SMEs.

H3. E-commerce services affect MSME performance

From an online perspective, e-commerce is related to the capacity to purchase and offer items and data on the web and other online administrations. Arie, et al. (1995), Johnson (2003), Kotler (2000), Smith & Chaffey (2005), Jahanshahi, et al. (2011) clarifies, in this case, the measurements utilized in terms of electronic promoting capabilities and e-commerce promoting capabilities. The measurements of e-commerce publicizing capabilities can be measured by giving item data to clients, showing company data on websites, online electronic brochures, or acquiring guides, showing as it were a arrangement of items that are pertinent to certain clients from SMEs. Whereas the capacity of e-commerce showcasing can be measured by permitting clients to contact the deals office, sharing data with competitors, clients, and providers, utilizing the web to discover out client needs and wants, utilizing the web to expect client needs, and accomplishing client fulfillment through electronic channels. In his research, Jahanshahi, et al. (2011) also conveyed that online variables measured by the dimensions of e-commerce advertising capabilities and e-commerce marketing capabilities affect business performance.

H4. Online e-commerce affects MSME Performance

Computerized stages are advances that empower companies to homogenize, alter and disperse information on an phenomenal scale (Yoo, et al. 2010). The work of the Stage is to gotten to be a fundamental framework (holder) for arranging or a certain work component. a few common stage benefits such as chat, e-mail, record drives, equipment & computer program, and more. Numerous entrepreneurial SMEs utilize computerized stages to use their trade methodologies (Li, et al., 2016). Advanced stages have changed the way companies construct competitive advantage (Parker, et al., 2016). Advanced stages play a central part within the esteem suggestion of numerous companies by empowering them to use data administration (Cenamor, et al., 2019). In this way, computerized stages speak to a modern field that challenges the establishments of corporate execution (Kazan, et al., 2018). The comes about of Sanchez-Torres& Juarez-Acosta (2019) appear an backhanded relationship between MSME advanced stage capabilities and execution, and MSME arrange capabilities have a noteworthy positive impact on execution. Be that as it may, the complexity of digitization suggests that advanced stage capabilities cannot move forward company execution specifically but or maybe through energetic capabilities (Kroh, et al., 2018).

H5. Digital e-commerce platforms influence MSMEs

The environmental perspective is an external influence, such as pressure from consumers/suppliers, competitors, and other external supports that affect the adoption of e-commerce. The environmental perspective in this

research consists of Culture, Price Pressure, and Government Role. The higher the pressure from business partners, it will allow companies to adopt e-commerce to maintain their competitive position (Duan & Corbitt, 2012). Purwandari, et al. (2019) said that Competitive Pressure influenced Indonesian MSMEs to adopt e-marketplaces. Nurlinda, et.al (2020) in their research found a positive influence of the external environment on e-commerce adoption, and e-commerce adoption had a significant positive effect on financial performance.

H6. Environmental Perspective moderates the effect of E-commerce Communication on MSME performance

H7. Environmental Perspective moderates the influence of E-commerce Business Process on MSME performance

H8. Environmental Perspective moderates the effect of E-commerce Services on MSME performance

H9. Environmental Perspective moderates the influence of Online E-commerce on MSME performance

H10. Environmental Perspective moderates the influence of the Digital eCommerce Platform on MSME performance

3. Methodology

3.1. Population and Sample

The population in this study is MSME traders who use e-commerce in DKI Jakarta with MSME grouping as stated in Law No. 20. The results of the 2019 IMK Survey from the Central Statistics Agency of DKI Jakarta Province (2019; 21-22) show that the number of MSEs in DKI Jakarta that use e-commerce reaches approximately 16,588 Units. 172 respondents were used as research samples using purposive sampling such as SMEs located in Jakarta, having a Tax ID Number, and using e-commerce for more than 1 year

3.2. Operational Variable

The performance of SMEs in this study was measured by adopting the research of Turley (2001), George (2001), using indicators of Sales Growth, Customer Base, Customer Satisfaction, Process Improvement, and Competitive Advantage.

E-Commerce Communication is measured by adopting an e-commerce payment system conducted by Lawal (2010), Block, et al. (1996), Zwass (1998), Fatimah et al. (2000) namely Electronic Fund Transfer, Online Credit Processing, Electronic Money, and Smart and Prepaid Cards. While the E-Commerce Business Process in this study adopted the measurement of E-commerce Customer Support Service conducted by Turban, et al. (2000), Ainin& Jaffar (2003), Fatimah, et al. (2000) namely Online Help, Online Product Updates, Customer Question Feedback, and Online Registration.

E-Commerce services in this study were measured by adopting the measurement of E-commerce Order and Delivery in the research of Johnson (2003), Turban, et al. (2000) namely coordination of procurement with online suppliers, online product ordering, lower cost of business transactions, tracking incoming and outgoing goods shipments, and online order entry and delivery. While Online E-Commerce is measured by adopting the measurement of E-commerce Advertising by Block, et al. (1996), Ainin& Jaffar (2003), Soh, et al. (1997) namely providing product information, providing company profile information, brochures or purchasing guides, changing types and forms of advertising through e-commerce, as well as measuring E-commerce marketing used by Arie, et al. (1995), Block, et al. (1996), Johnson (2003), Kotler (2000), Smith & Chaffey (2005) namely Allowing customers to contact the sales office, Using the internet to find out customer needs and desires, Achieving customer satisfaction through electronic channels.

The Digital Commerce Platform in this study was measured by adopting the Platform Integration measurement used by Cenamor, et al. (2019), namely Platforms that are easy to access data from partner IT systems, Platforms that provide seamless connections, Platforms that can exchange information with partners, and Platforms that easily collect relevant information from partner databases, and are measured by embracing estimations Stage Reconfiguration by Cenamor, et al. (2019) to be specific Stages that are effectively versatile to incorporate modern accomplices, Stages that can be effectively extended to oblige unused IT applications or capacities, Stages that utilize guidelines acknowledged by current and potential accomplices, and Stages comprising of measured computer program components, which Most of it can be reused in other trade applications. In the mean time, the

outside environment in this consider was measured by embracing the estimation of weight from exchanging accomplices such as providers and clients used by Jeyaraj, et al. (2006), also competitive pressure used by Dholakia and Kshetri (2004). In addition, it is also measured by adopting the measurement of the role of government used in Dholakia and Kshetri (2004) namely Assistance with Technology Facilities, Provision of cheap transportation fares, E-commerce tenders, and the addition of indicators in this study, namely lower tax rates. The environmental culture was also adopted in this study which was used by Scupola (2009) and Azam (2015).

3.3. Hypothesis Testing Method

Information investigation was performed utilizing SPSS computer program by first performing validity and reliability test, then classical assumption tests such as normality tests, heteroscedasticity tests, multicollinearity tests, and autocorrelation tests. then performed the F test and r-square and t-test.

4. Result

4.1. Respondent Profile

This study involved 172 respondents consisting of 55.8% women and 44.2% men. From the age criteria, there are 46.5% of respondents aged 20-30 years, 27.9% are aged 31-40 years, then 20.9% are aged 41-50 years and 4.7% of respondents are aged > 50. Respondents with a bachelor's education are the most respondents, namely 60.5%, then 25.6% of respondents with master's education, and respondents with doctoral education are 2.3%, while the rest is 11.6%.

4.2. Hypothesis Test

The validity and reliability test found that data is valid and reliable. Then classical assumption test conducted found that the research data was normal and fit and free from multicollinearity, heteroscedasticity, and autocorrelation problems. With an F-test value of 0.000 and an adjusted r-square value of 83.4%, it explains that the research data is fit.

Table 1. Main Hypothesis

Variable	Coef.	Sig.	
X1. E-Commerce Communication	0.210	0.000	***
X2. E-Commerce Business Process	0.194	0.001	***
X3. E-Commerce Service	0.095	0.092	*
X4. Online E-Commerce	0.211	0.000	***
X5. Digital E-Commerce Platform	0.249	0.000	***
N	172		
Adj. R-Square	0.834		
Prof F	0.000	***	
Note: * Significant 10%, ** Significant 5%, ***Significant 1%			

With a significance value less than 0.05 and a positive coefficient value in Table 1, it indicates that E-Commerce Communication, E-Commerce Business Processes, Online E-Commerce, and Digital E-Commerce Platforms individually have a significant positive impact on the performance of MSMEs, while e-services commerce is not. These results also answer the research hypothesis where H1, H2, H4, and H5 are accepted, while H3 is rejected.

Table 2. Moderating Hypothesis

Variable	Coef.	Sig.
X1Z. E-Commerce Communication Moderated by Environmental Perspective	0.022	0.087 *
X2Z. E-Commerce Business Process Moderated by Environmental Perspective	0.038	0.007 ***
X3Z. E-Commerce Service Moderated by Environmental Perspective	-0.003	0.820
X4Z. Online E-Commerce Moderated by Environmental Perspective	0.043	0.000 ***
X5Z. Digital E-Commerce Platform Moderated by Environmental Perspective	0.001	0.969
N	172	
Adj. R-Square	0.774	
Prob F	0.000	***

Note : * Significant 10%, ** Significant 5%, *** Significant 1%

Table-2 shows the significance value for X2Z and X4Z is less than 0.05 and the positive coefficient value explains that the environmental perspective strengthens the influence of e-commerce and online e-commerce business processes on MSME performance, while X1Z, X3Z, and X5Z explains that the environmental perspective does not moderate with a significant effect of e-commerce communication, e-commerce services and digital e-commerce platforms on the performance of MSMEs, individually. These results also answer the presumption that hypotheses H7 and H9 are accepted, while H6, H8, and H10 are rejected.

With the discovery of the positive influence of e-commerce communication on the performance of MSMEs, it is explained that the better e-commerce communication that is carried out, the better the distribution of information to the public, this is a positive consideration for consumers to make purchases through e-commerce. Likewise, the way the e-commerce payment system is carried out by utilizing technology such as electronic transfer of funds, e-banking, mobile banking, and other means, with the use of this communication system, of course, consumers will be more interested in using e-commerce because it is supported by an easy payment process. The results of this study are in line with Nahan&Kristinae (2019), Jahanshahi, et al. (2011), Ramanathan, et al. (2012) where E-commerce communication has a significant influence on the performance of MSMEs.

With the discovery of the positive influence of business processes on the performance of MSMEs, it is explained that the better the business process support services carried out by business people for e-commerce customers, ideally, the performance of MSMEs will be better. For example, by responding/answers to consumers' questions or ignorance of a product sold by e-commerce, the satisfaction of consumers with the information or explanation provided will be able to help motivate consumers to obtain/buy products sold through e-commerce. Because consumers do not hesitate to get about the goods they want, given that they understand the process of getting them, know the quality of their products, and other information. The results of this study are in line with Turban, et al. (2000), Ainin& Jaffar (2003), Fatimah, et al. (2000), Jahanshahi, et al. (2011) who also found that e-commerce applications with e-commerce customer support services have a significant and positive influence on operational performance in MSMEs.

With no significant influence found on e-commerce services on the performance of MSMEs, it is explained that the coordination of sellers with suppliers in ordering products, ordering and shipping costs from suppliers and even ordering online to get e-commerce goods to be sold are ignored by consumers so that it This does not affect the performance of MSMEs. The results of the study are not in line with Johnson (2003),

Turban, et al. (2000), Jahanshahi, et al. (2011) who found the effect of e-commerce business services with the dimensions of E-commerce Ordering and Delivery on operational performance in MSMEs.

With the discovery of the positive influence of online e-commerce on the performance of MSMEs, it is explained that the empirical results of processing online e-commerce research data prove that there is an influence on the performance of MSMEs. This explains that by providing sufficient product information for each consumer through advertisements, online electronic brochures, allowing consumers to ask questions directly or via the internet,

consumer satisfaction will be fulfilled. So that consumers can be motivated to get the goods they want after receiving the information they need about the products they need. These results are in line with Jahanshahi, et al. (2011) who also found that online e-commerce as measured by the dimensions of e-commerce Advertising Ability and e-commerce marketing ability affected business performance.

With the discovery of the positive influence of the digital e-commerce platform on the performance of MSMEs, it is explained that with the e-commerce platform that is easier to access and provides unlimited connections in exchanging information, it will be easier for MSMEs to collect relevant information as a database in selling e-commerce goods. It also makes it easier for parties to see the standards used when using platform applications that are easily accessible from the existing technology system. This is important in supporting the service needs of customers at all times. The results of this study are in line with Sanchez-Torres & Juarez-Acosta (2019) which found a positive influence on MSME digital platform capabilities that had a positive impact on performance.

The finding of the moderating effect of environmental perspective on the influence of individual E-commerce and online E-commerce business processes on MSME performance explains that MSMEs are in a competitive condition in terms of product quality, pricing, raw material suppliers, ordering and delivery services, thus requiring E-commerce business process support in terms of selling its merchandise, so that the pressure of competitors, suppliers or consumers as well as the support of the role of technology and transportation facilities as well as lower tax rates and other environmental factors will be able to strengthen the performance of MSMEs themselves. Besides that, getting used to confirming the goods that have been sent and whether it has been received, as well as confirming the payment that has been received to consumers proves to increase customer satisfaction, so that consumers can be motivated to make the next order comfortably. The results of this study are in line with Duan, et al. (2012) and Mandasari & Pratama (2020). The higher the pressure from business partners, it will allow companies to adopt e-commerce to maintain their competitive position.

5. Conclusion

This study found the following results:

- a. E-Commerce communication has a positive effect on MSME Performance.
- b. The E-Commerce Business Process has a positive effect on MSME Performance.
- c. E-Commerce services do not affect MSME Performance
- d. Online E-Commerce has a positive effect on MSME Performance.
- e. E-Commerce Digital Platform has a positive effect on MSME Performance.
- f. Environmental Perspective does not moderate the effect of E-Commerce Communication on MSME Performance.
- g. Environmental Perspective strengthens the influence of the E-Commerce Business Process on the performance of MSMEs.
- h. Environmental perspective does not moderate the effect of E-Commerce Services on MSME Performance.
- i. Environmental Perspective strengthens the influence of Online E-Commerce on MSME performance.
- j. Environmental Perspective does not moderate the influence of the Digital e-commerce Platform on MSME performance.

6. Implication and Limitation

With the discovery of the positive influence of E-Commerce Communication, E-Commerce Business Processes, Online E-Commerce, and Digital E-Commerce Platforms individually on MSME performance, MSME actors are advised to use e-commerce in all their business processes so that business continuity and improvement MSME performance is achieved. With the discovery of the influence of the Environmental Perspective in strengthening the influence of the individual E-Commerce and Online E-Commerce Business Processes on the performance of MSMEs, encouragement from outside parties is needed to improve MSME performance, such as support from the government, suppliers, and facilities in e-commerce transactions. This study only uses 172 respondents and only analyzes the independent variables due to limited time and funds, further research is expected to use more varied samples and variables to obtain wider and useful information for MSMEs.

Reference

1. Ainin, S., & Jaffar, N. (2003). E-Commerce Stimuli and Practices in Malaysia. *7th Pacific Asia Conference on Information Systems*, 10-13 July 2003, Adelaide, South Australia.
2. Arie S., Dadong, W. & Caroline, B. (1995). *Financial EDI over the Internet: a Case Study. Working Paper CITMWP-1006*. Fisher Center for Information Technology & Management, University of California in Berkeley
3. Azam, M.S. (2015). Diffusion of ICT and SME Performance. *Advances in Business Marketing and Purchasing*, (23A), Emerald Group Publishing Limited, Bingley, pp. 7-290. <https://doi.org/10.1108/S1069-096420150000023005>
4. Block, M., Yves, P., & Arie S. (1996). On the Road of Electronic Commerce- a Business Value Framework, Gaining Competitive Advantage and Some Research Issues. *Working Paper: Fisher Center for Information Technology and Management, University of California, Berkeley*.
5. Cenamor, J., Parida, V. & Wincent, J. (2019). How entrepreneurial SMEs compete through digital platforms: The roles of digital platform capability, network capability and ambidexterity, *Journal of Business Research*, (100), pp. 196-206, <https://doi.org/10.1016/j.jbusres.2019.03.035>.
6. Dessler, G. (2000). *Human Resources Management*, Eight Edition, Prentice-Hall, Inc.
7. Dholakia, R.R., & Kshetri, N. (2004). Factors Impacting the Adoption of the Internet among SMEs. *Small Business Economics*, 23, pp. 311-322. <https://doi.org/10.1023/B:SBEJ.0000032036.90353.1f>
8. Duan, X., Deng, H. & Corbitt, B. (2012). Evaluating the critical determinants for adopting e-market in Australian small-and-medium sized enterprises. *Management Research Review*, 35(3/4), pp. 289-308. <https://doi.org/10.1108/01409171211210172>
9. Fatimah, M. A., Kusairi, M. N., & Mohd, F. A. (2000). E-commerce Adoption in Malaysia: Problems and Barriers from the Firms' Perspective. *International Conference on Electronic Commerce Proceedings*, 21-23 November, Kuala Lumpur.
10. Febrianty, Nurmiati, Parinduri, L., Sirait, S., Leuwol, N.V., Julyanthry, Dharta, D., A. Suddarso (2020). *Pengantar Bisnis Etika, Hukum & Bisnis Internasional*. Jakarta: Yayasan Kita Menulis.
11. Gaganis, C., Pasiouras, F., & Voulgari, F., (2019). Culture, business environment and SMEs' profitability: Evidence from European Countries. *Economic Modelling*, 78(May 2019), pp. 275-292. <https://doi.org/10.1016/j.econmod.2018.09.023>.
12. George, T. (2001). *Making way for high tech*. Information Week 855, 165-168.
13. Iriyanti, M., & Azis, A.M. (2012). Barrier Factors and Potential Solutions for Indonesian SMEs. *Procedia Economics and Finance*, 4(2012), pp. 3-12. [https://doi.org/10.1016/S2212-5671\(12\)00315-2](https://doi.org/10.1016/S2212-5671(12)00315-2)
14. Jahanshahi, A.A., Gashti, M.A.H., Khaksar, S.M.S., & Pitamber, B.K. (2011). Electronic Commerce Applications among Indian Small and Medium Enterprises. *Information Management and Business Review*. 2(6), pp. 276-286.
15. Jahanshahi, A.A., Gashti, M.A.H., Mirdamadi, S.A., Nawaser, K., & Khaksar, S.M.S (2011). Study the Effects of Customer Service and Product Quality on Customer Satisfaction and Loyalty. *International Journal of Humanities and Social Science*, 1(7), pp. 253-260.
16. Jeyaraj, A., Rottman, J.W., & Lacity, M.C. (2006). A Review of the Predictor, Linkages, and Biases in IT Innovation Adoption Research. *Journal of Information Technology*, 21(1), pp. 1-23. <https://doi.org/10.1057/palgrave.jit.2000056>
17. Johnson, C. (2003). *U.S E-commerce: the year in review*, Cambridge, MA: Forrester Research
18. Jones, P., Beynon, P., Davies, & Muir, E. (2013). Ebusiness barriers to growth within the SME sector. *Journal of Systems and Information Technology*, 7(1/2), pp. 1 - 25. <http://dx.doi.org/10.1108/13287260380000771>.
19. Kalakota, R., & Robinson, M. (1999). *E-Business: Roadmap for Success*. Sydney, Addison Wesley.
20. Kazan, E., Tan, C., Lim, E.T.K., Sørensen, C. & Damsgaard, J. (2018). Disentangling Digital Platform Competition: The Case of UK Mobile Payment Platforms. *Journal of Management Information Systems*, 35(1), pp. 180-219, DOI: 10.1080/07421222.2018.1440772
21. Kotler, P. (2000). *Marketing Management*. 10th ed.. New Jersey: Prentice-Hall.
22. Kremez, Z., Frazer, L., Weaven, S. & Quach, S. (2019). Ecommerce structures for retail and service franchises: Ecommerce implementation in mature franchise systems. *Asia Pacific Journal of Marketing and Logistics*. <https://doi.org/10.1108/APJML-11-2018-0461>
23. Kroh, J., Luetjen, H., Globocnik, D., & Schultz, C. (2018). Use and Efficacy of Information Technology in Innovation Processes: The Specific Role of Servitization. *Journal of Product Innovation Management*, 35(5),

- pp. 720-741. <https://doi.org/10.1111/jpim.12445>
24. Lawal, A. S. (2010). *Electronic commerce in Nigeria banking industry (a case study of guaranty trust bank Nigeria plc.)* department of business administration, faculty of business and social science, university of Ilorin, Ilorin.
25. Li, W., Liu, K., Belitski, M., Ghobadian, A., & O'Regan, N. (2016). E-Leadership through strategic alignment: An empirical study of small- and medium-sized enterprises in the digital age. *Journal of Information Technology*, 31(2), 185–206. <https://doi.org/10.1057/jit.2016.10>.
26. Lovelock, C.H. (1992). *Managing Service: Marketing, Operations and Human Resource*. New Jersey: Prentice Hall, Englewood Cliffs.
27. Mandasari, I.A.C.S., & Pratama, I.G.S (2020). The Use of E-Commerce During COVID-19 Pandemic Towards Revenue and Volume of MSMEs Sales. *International Research Journal of Management, IT & Social Sciences*, 7(6), pp. 124-130. <https://doi.org/10.21744/irjmis.v7n6.1022>
28. Nahan, N., & Kristinae, V. (2019). Analisis Media Online sebagaikomunikasibisnis pada UKM pekerja Wanita di Gunung Mas, Kalimantan Tengah. *Jurnal Aplikasi Manajemen, Ekonomi dan Bisnis*. 3(2).
29. Nurlinda, N., Napitupulu, I.H., Wardayani, W., Azlina, A., Andina, A., Ulfah, A.K., Supriyanto, S. (2020). Can E-Commerce Adoption Improve SME's Performance? (Case Studies on Micro, Small and Medium Enterprises with Gojek Services in Indonesia). *WMA-3, EAI*. DOI: 10.4108/eai.11-12-2019.2290850
30. Parker, G., Alstyne, M.V., & Jiang, X. (2016). Platform Ecosystem: How Developers Invert the Firm. *SSRN Electronic Journal*, Jan 2016.
31. Purwandari, B., Otmen, B., & Kumaralalita, L. (2019). Adoption Factors of E-Marketplace and Instagram for Micro, Small, and Medium Enterprises (MSMEs) in Indonesia. *2nd International Conference on Data Science and Information Technology (DSIT'19)*. Seoul, Republic of Korea, 6pages. <https://doi.org/10.1145/3352411.3352453>
32. Ramanathan, R., Ramanathan, U., & Hsiao, H.L. (2012). The impact of e-commerce on Taiwanese SMEs: Marketing and operations effects. *International Journal Production Economics*, 140(2012), pp. 934–943. <http://dx.doi.org/10.1016/j.ijpe.2012.07.017>
33. Robbins, S.P. (1996). *Perilaku Organisasi: Konsep, Kontroversi dan Aplikasi*, Vol. 1. Jakarta: Prenhallindo.
34. Rozama, N.A., Kusumatriana, A.L., Ilmiyah, Z., Sutarsih, T., Siswayu, G., & Syakilah, A (2019). *Statistik E-Commerce*. Jakarta: Badan Pusat Statistik Indonesia.
35. Sanchez-Torres, J.A., & Juarez-Acosta, F. (2019). Modelling SME e-commerce with IMAES. *Journal of Business & Industrial Marketing*, 34(1), pp. 137-149. <https://doi.org/10.1108/JBIM-04-2018-0132>
36. Sandi, F.B (2019). 5 permasalahan UMKM yang sering terjadi di Indonesia dan solusinya. <https://www.online-pajak.com/seputar-pph-final/permasalahan-umkm>
37. Schumpeter, J.A. (1942). *Capitalism, Socialism, and Democracy*. 3d ed. New York: Harper and Brothers
38. Scupola, A. (2009). SMEs' e-commerce adoption: perspectives from Denmark and Australia. *Journal of Enterprise Information Management*, 22(1/2), pp. 152-166. DOI 10.1108/17410390910932803.
39. Sedarmayati. (2000). *Manajemen Sumber Daya Manusia Suatu Pendekatan Mikro*. Jakarta: Djambatan
40. Sedighi, A & Sirang, B (2018), The Effect of E-Commerce on SME Performance. *International Journal of Applied Research in Management and Economics*
41. Smith, P.R., & Chaffey, D. (2005). *E-marketing Excellence: at the Heart of E-business*, 2nd edn. Butterworth Heinemann Elsevier, Oxford.
42. Soh, C., Quee, M., Fong, G., Chew, D. & Reid, E. (1997). The use of the Internet for business: the experience of early adopters in Singapore. *Internet Research: Electronic Network Application and Policy*, 7(3), pp. 217–228.
43. Stolovitch, H.D., & Keeps, E.J. (1992). *Handbook of Human Performance Technology A Comprehensive Guide for Analysis and Solving Performance Problem in Organizations*. San Francisco: Jersey.
44. Stroehle, F. (2008). Effective E-Commerce in China Lessons from cross-cultural research. *Otago Management Graduate Review*, 6, 65-79.
45. Tarmidi, D., & Augustine, Y. (2019). Performance of Commission Recipient: Impact of Discipline, Motivation, Training and Incentive. *Journal of Resources Development and Management*, 52(), 70-75. DOI: 10.7176/JRDM/52-06
46. Tarmidi, D., & Arsiah, R.J. (2019). Employee and Organizational Performance: Impact of Employee Internal and External Factors, Moderated by Online Application. *Journal of Resources Development and Management*, 57(), 30-37. DOI: 10.7176/JRDM/57-04
47. Tornatzky, L.G. & Fleischer, M. (1990). *The Processes of Technological Innovation*. Lexington Books, Lexington, MA.
48. Turban, E., McLean E. & Wetherbe, J. (2000). *Information Technology for Management*, NY: John Wiley &

- Sons. Inc.
49. Turley, B., (2001). The real promise of the net. *Advisor Today*, 96(6), 28
 50. Tyler, B., Lahnenman, B., Beukel, K., Cerrato, D., Mincuiillo, M., Spielmann, N., & Cruz, A.D. (2020). SME Manager's Perception of Competitive Pressure and the Adoption of Environmental Practices in Fragmented Industries: A Multi-Country Study in the Wine Industry. *Organization & Environment*, 33(3), pp. 437-463. <https://doi.org/10.1177/1086026618803720>
 51. Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). Research commentary—The new organizing logic of digital innovation: An agenda for Information Systems Research. *Information Systems Research*, 21(4), 724–735. <https://doi.org/10.1287/isre.1100.0322>.
 52. Zwass, V. (1998). *Structure and Macro- Level Impacts of Electronic Commerce*, CA: Saga Publication.