



The Contribution of E-Commerce to Economic Growth in The Covid-19 Era

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Article Information Abstract

History of Article

Received October 2022

Accepted December 2022

Published February 2023

Keywords:

E-commerce, Covid-19, Information Technology, Economic growth, SMEs

The e-commerce business sector is a sector that has undergone considerable changes due to the COVID-19 pandemic. This study aims to examine the impact of the decline in e-commerce revenue due to the COVID-19 pandemic on Indonesia's economic growth. The decline in e-commerce revenue was influenced by the number of e-commerce itself and the information technology training received by e-commerce business actors as well as the number of Small and Medium Enterprises (SMEs) in Indonesia. The analytical method used in this research is Partial Least Square Structural Equation Modeling (PLS-SEM). This study found that the number of SMEs, information technology and e-commerce training had a negative effect on the decline in e-commerce revenues in the era of the covid-19 pandemic. This study also found that the decline in e-commerce revenue in the era of the Covid-19 pandemic in Indonesia had an impact on Indonesia's economic growth. This study also shows the results that a significant decrease in e-commerce income partially mediates the variables of the e-commerce and SME sector on economic growth. However, information technology training can be fully mediated on economic growth.

INTRODUCTION

Indonesia's economic growth experienced tremendous fluctuation in 2020, especially during the Covid-19 pandemic (Herlina, 2020). Indonesia's economy has been dramatically affected by the Covid-19 pandemic and shifted to decline condition. The data of Central Bureau Statistics recorded that in the first quarter of 2020, the economic growth was 2,97% year on year. In the second quarter, it declined sharply to -5,32%. According to the research of Alwandi & Muchlisoh (2021), The three provinces of DKI, Jakarta, Banten, and West Java, which contributed 35,03 to Indonesia's GDP, suffered the worst economic contraction in the second quarter of 2020. Those three provinces are the basis for the manufacturing and wholesale industry. They are also Indonesia's three biggest Covid-19 epicenters.

Sadiyah's (2021) study showed that Covid-19 generated price disparity for more than 50 % of agriculture commodities. This study also highlighted 14 thousand tons of beef or buffalo commodity deficit during January-May of 2021. Indonesia's economic growth during the Covid-19 pandemic experienced a sharp decline, reaching -2.07 (BPS, 2022).

Table 1. Indonesia's economic growth in 2017-2021

Year	Economic Growth (%)
2017	5,07
2018	5,17
2019	5,02
2020	-2,07
2021	3,69

Source: BPS, 2021 (Processed)

This condition is in line with the finding of Bischi *et al.* (2022) that the determining state of a decline in economic growth is the strictness of the suppression policy, the proportion of infected workers, and the level of monetary savings. Thus, the economy can fall into a poverty balance in such a way that the economy.

The COVID-19 pandemic has caused changes in economic activity, especially people's consumption patterns. Digital-based transactions

or e-commerce contribute to changing people's consumption patterns and lifestyles (Kalakata, 2021). Electronic Commerce (E-Commerce), based on the Organization for Economic Co-Operation and Development (OECD) 2009, sells or buys goods or services through computer networks with methods specifically designed to receive or place orders. However, e-commerce brings a major paradigm shift in business practices. These conditions are driving tremendous growth worldwide, (Shelke *et al.*, 2022)

The development of e-commerce is significant for third-world countries and developing countries. Research conducted by Al-Fawwaz (2022) found that Information Communication Technology contributes to the growth of e-commerce and the African economy. Indonesia is one of the countries that prioritize the digital economy sector as a potential sector to be developed, especially during the Covid-19 pandemic Maulida & Ayuningrat (2022) and Jílková & Králová (2021). The e-commerce sector can catalyze economic growth, especially when the economy experiences a significant decline due to the COVID-19 pandemic (Beckers *et al.*, 2021). There has been a significant shift to digital shopping since the COVID-19 crisis began compared to before COVID-19. The frequency of consumer purchases has increased across all age groups (Jílková & Králová, 2021) and (Tran, 2021)

The development of technology and the availability of communication media and supporting network systems are the principal capital for SMEs to enter the e-commerce sector (Tolstoy *et al.*, 2022; Akash, 2020). In addition, Nuru (2020) explained that e-commerce is one of the business sectors used by the SME sector to survive the crisis caused by the COVID-19 pandemic. The COVID-19 pandemic has had a significant impact on global e-commerce trends. The overall economic downturn in the world's economy also impacted e-commerce. Studies of the effects Covid-19 pandemic on specific economic sectors and the impact of the Covid-19 pandemic on macroeconomic indicators have

been carried out quite a lot (Pramono, C. A.; Manurung, A. H.; Heriyati, P.; Kosasih, 2021).

In the era of the COVID-19 pandemic, many companies, tiny and medium-scale companies in Indonesia, experienced a drastic decline in sales. The following table shows that 72,39% of e-commerce businesses faced difficulty running the business while 9,72% strived to secure business operations. Only the rest of the 9,72% found the opportunity to expand their business, and only 4.62% in the e-commerce sector experienced increased transactions.

Table 2. The impact of the covid-19 pandemic on the volume of transactions in the e-commerce sector

Business Condition	Percentage (%)
Growth	9,72
Stable	17,89
Decline	72,39

Source: Ecommerce Statistics, 2021

A study by Djatikusumo (2016) on adopting information technology innovation in small and medium-sized enterprises (SMEs) and its impact on organizational performance in Malang, East Java, emphasized the role of ICT in pushing the performance of SMEs. This study is supported by (Pamungkas *et al.*, 2021), which argued that the ICT contribution to SMEs performance counts for 44,95 and is statistically significant.

Muchlissoh & Suhendi (2021) and Romaningsih *et al.* (2022) found that ICT utilization and readiness to change have a significant positive effect on the dynamic capabilities of SMEs. Another study by (\ Ali & Mudiantono, 2019) showed that ICT has the most considerable total and direct development on the business performance of SMEs instead of network and innovation. Nevertheless, Covid-19 brought several constrain to some areas of SMEs. The largest affected areas are accommodation services, tourism, food and beverages retail, and transportation. Rosita (2020) 72,6% of SMEs were affected by Covid-19, and Amri (2020) found that 30-35 % of the revenues of SMEs in the non-culinary sector fell during Covid-19.

Similarly, (Pakpahan, 2020) in his study argued that 56% of SMEs reported a drop in their revenues, 22% said a problem with financing, 15% reported an issue with product distribution, and there were 4% of SMEs reported a problem with raw materials.

This study tries to fill the research gap in the form of the impact of the decline in e-commerce revenue in the Covid-19 era on economic growth and e-commerce on Indonesia's economic growth. The study of the effects of declining e-commerce sector revenues on economic growth is a novelty in this research. Specifically, this research tries to describe the current condition of E-Commerce, examines the role of decreasing acceptance of e-commerce to mediate the supporting variables of e-commerce on economic growth

This study includes a macro perspective of the critical variables significant in the E-commerce business. The interesting phenomenon is that despite Covid-19 opening up opportunities for the development of the e-commerce sector due to changes in people's consumption patterns, data shows that there has been a significant decline in e-commerce sector revenue due to the COVID-19 pandemic.

Based on the background and literature study, the proposed hypothesis on how the income of the e-commerce sector in the era of covid 19 mediates the relationship between e-commerce, information technology training, and the number of SMEs with economic growth as follows: H₁: the number of e-commerce has a negative effect on the e-commerce revenue drop, H₂: Information technology training has a negative effect on the e-commerce revenue drop to covid-19, H₃: The number of SMEs has a negative effect on the e-commerce revenue drop to covid-19, H₄: the number of e-commerce revenue drops has a negative effect on economic growth, H₅: the number of e-commerce has a positive effect on economic growth mediated by e-commerce, H₅: the number of e-commerce has a positive impact on economic growth mediated by e-commerce revenue drops, H₆: Information technology training has a positive effect on economic growth mediated by e-

commerce revenue drops, H_7 : the number of SMEs has a positive impact on economic growth mediated by e-commerce revenue drops.

RESEARCH METHODS

Solow (2016) claimed that the availability of production factors like population growth and labor decides economic growth in one of his most recent books, "Resources and Economic Growth." This theoretical view is based on the assumption of classical economic analysis, namely that the economy fully utilizes full employment and its production factors. Then the economy that experiences growth will continue to grow, which is determined by population growth, optimal labor and capital accumulation, and technology accumulation.

The approach to calculating economic growth is based on the value of the production of goods and services in an economic area in a particular year against the value of the previous year, which is calculated based on GDP/GRDP at constant prices (BPS, 2022). Economic growth is measured in (%). The COVID-19 pandemic has caused the productivity of production factors to decline sharply. There is a restriction on people's movement space, so there is a decrease in public demand for goods and services. Many production sectors had to close or reduce their production.

SMEs and digital economic activities or e-commerce strongly influence economic growth. The results of research conducted by (Batrancea, 2022) show that SMEs and the e-commerce sector significantly influenced the economic growth of European Union countries from 2005-2020. The results of this study are also in line with research conducted by (Brodny & Tutak, 2022). Referring to the basic model of the Cobb Douglas economic growth function, it is shown that technology dramatically determines the level of output formed, such as the following production function equation.

$$Y = K^\alpha L^{1-\alpha} \dots\dots\dots (1)$$

Where Cobb Douglas explains that the level of output (Y) is a function of capital (K) and labor

(L) (Solow, 1956). However, technological change is something that needs to be considered in the production function so that the production function become.

$$Y = A(t)F(K,L) \dots\dots\dots (2)$$

The increase in production will occur proportionally and constantly according to the level of production used by A(t). This Solow basic concept was developed in a study model of how the role of digital technology and SMEs in economic growth with the production function equation is as follows:

$$Y=[A\rho K^\rho+B\rho L^\rho]^{1/\rho} \dots\dots\dots (3)$$

The production level is also primarily determined by the level of technology used in the production process and inputs of capital (K) and labor (L). In this equation are the values $A \geq 0$ and $B \geq 0$. These values are at a certain level of enterprise technology limits, and ρ is the proportion of technology use. The use of technology in production will affect the components of production costs. It was found that technology's effect on the production level is significant (León-Ledesma & Satchi, 2019). So from the above model, it can be concluded that the proportion of technology used in the production process will have an effect and is directly related to the production level or ultimately determine economic growth. In line with this, e-commerce is an economic sector whose development is strongly supported by technological developments in hardware and software.

Consumer economic activity in the digital economy is influenced by information technology capabilities and in a country. The ability of human resources in digitization also determines the power of digital business actors to develop. The availability of information technology infrastructure should also support this condition to encourage the development of the digital economy or e-commerce (Enberg, 2020).

More expressly stated by (Ray *et al.*, 2021), digital economic activity in its development highly depends on the ability to use technology. Therefore, knowledge of human

resources for e-commerce players and the availability of technology is fundamental for smooth e-commerce transactions. It is more firmly stated that the role of e-commerce companies in meeting consumer needs in the Covid-19 era cannot be separated from the support of available information technology capabilities (Haque & Alam, 2021). This condition is reinforced by research (Vinoth *et al.*, 2022; Bawack *et al.*, 2022), which states that the availability of technology equipment and technology system security supports the smooth running of the e-commerce business sector

This research was conducted with the object of study on the decline in e-commerce revenue due to the impact of the COVID-19 pandemic and economic growth. The data used is secondary data with samples from all provinces in Indonesia during the Covid-19 pandemic era. The data analysis method used is partial least square structural modeling (PLS-SEM). PLS-SEM is a method capable of analyzing complex models, such as the presence of mediating variables. The PLS-SEM model can also analyze model with the purpose of prediction (Hair *et al.*, 2017). The structural equations of the research model are as follows:

$$\text{E-commerce revenue drop} = \gamma_1 \text{ e-commerce} + \gamma_2 \text{ training IT} + \gamma_3 \text{ number Smes} + \zeta_1 \dots (4)$$

$$\text{Economic Growth} = \gamma_1 \text{ e-commerce} + \gamma_2 \text{ IT training} + \gamma_3 \text{ Number SMEs} + \beta_1 \text{ e-commerce drop} + \zeta_1 \dots (5)$$

Where, the structural equation model (4) explains the decline of e-commerce revenue influenced by e-commerce, training IT, and the number of SMEs. While the model in equation (5) explains the variables in the economic growth with e-commerce revenue drop as a mediating variable. The coefficient value of the exogenous variable to the endogenous variable of economic growth is stated by γ ; here, γ_1 = e-commerce, γ_2 =training IT + γ_3 = number Smes. Meanwhile, β = the decline of e-commerce revenue represents the value of the coefficient of the relationship between endogenous variables, and ζ is the error value.

In this research model, "revenue decline" refers to the percentage value of the decline in e-commerce revenue due to COVID-19. The term "e-commerce variable" refers to a variable that contains information on the number of e-commerce at the time of COVID, "information technology (IT) training" refers to the number of SMEs receiving IT training, and "economic growth" refers to the rate of economic growth in each province of Indonesia.

The measurement model analysis method used in this study is the path coefficient and indirect effect. To determine the hypothesis test and structural evaluation of the research model, the coefficient of determination (R2). Where the results of the structural evaluation of the research model based on the R-square value are used to assess the influence of the independent variable on the dependent variable and whether it has a substantive effect. In the data analysis model, an evaluation of the Q square (Q2) value is also carried out. Q-square measures how well the observed values are generated by the model as well as the estimated parameters.

RESULTS AND DISCUSSION

By using the partial least squares structural modeling analysis method to test the hypotheses that have been formulated in this study, the following results were obtained:

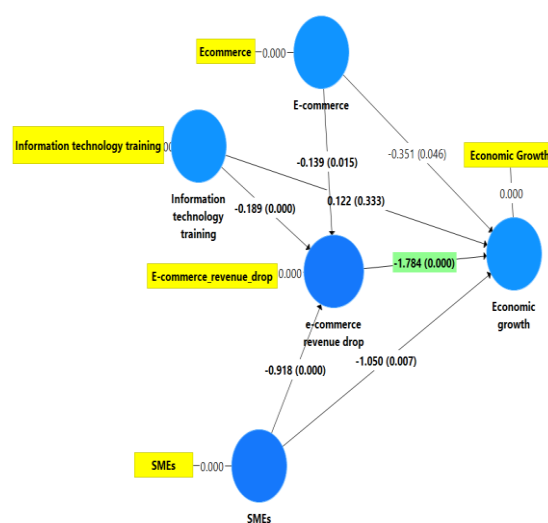


Figure 1. PLS Algorithm Path Results
Source: Data Processed, 2022

From the diagram above, it can be seen that the exogenous variables of e-commerce, IT training, and the number of SMEs influence the drop in e-commerce revenue. Likewise, the effect

of the drop in e-commerce revenue variable on economic growth also looks significant. It can be explained in more detail by the following table:

Table 3. Hypotheses testing

No.	Path Coefficients	Coefficient	T Statistics	P Values	H Result
H1	E-commerce -> e-commerce revenue drop	-0.139	2.461	0.014	Accepted
H2	Information technology training -> e-commerce revenue drop	-0.189	7.174	0.000	Accepted
H3	SMEs -> e-commerce revenue drop	-0.918	17.025	0.000	Accepted
H4	e-commerce revenue drop -> Economic growth	-1.784	5.752	0.000	Accepted
H5	E-commerce -> e-commerce revenue drop -> Economic growth	0.249	2.134	0.033	Accepted
H6	Information technology training -> e-commerce revenue drop -> Economic growth	0.337	5.273	0.000	Accepted
H7	SMEs -> e-commerce revenue drop -> Economic growth	1.638	5.759	0.000	Accepted

Source: Data Processed, 2022

From the table above, it can be seen that all exogenous variables hurt the e-commerce revenue drop. This negative effect has a significant degree of 99.9%. However, for the direct effect on economic growth, it was found that Information technology training was positively related but not significantly affected. This study also shows that a significant decrease in e-commerce income partially mediates the e-commerce and SME sector variables on economic growth. However, information technology training can be fully mediated in economic growth, So it can be concluded that all hypotheses are proven true.

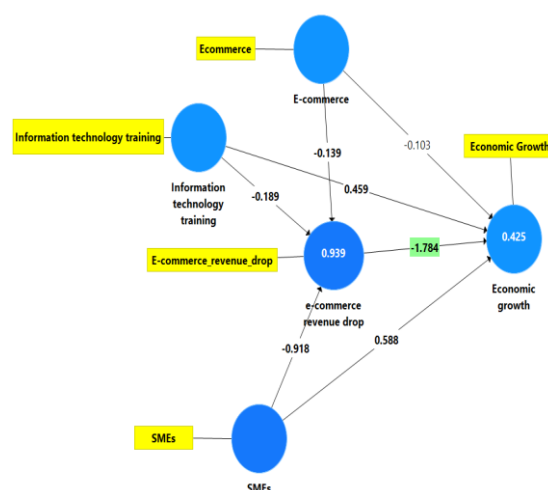


Figure 2. PLS Boostroping
Source: Data Processed, 2022

The data diagram shows that the R squared adjusted in this research model has pleasing results; the R squared adjusted value for

e-commerce revenue drop is 0.940. This means that e-commerce, IT training, and SME variables can explain the variable of e-commerce revenue drop. The exogenous variables in the model have a substantive effect. However, the variable of e-commerce revenue drop is moderate in explaining its effect on economic growth at the R squared 0.448.

To measure how well the observation value is generated by the model and also the parameter estimates can be seen from the Q square results in the following figure:

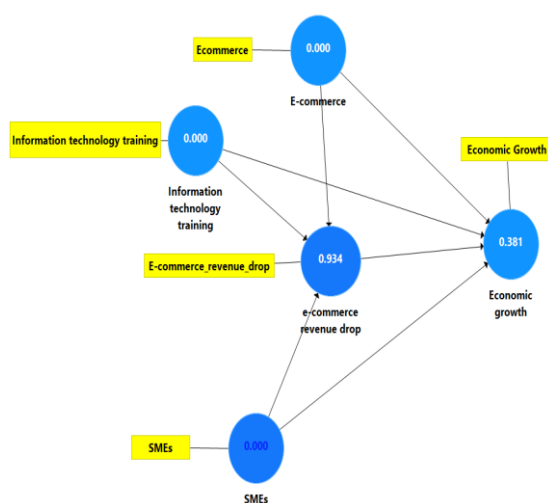


Figure.3 Indicator Crossvalidated redundancy
Source: Data Processed, 2022

The picture shows that the economic growth and e-commerce revenue drop model built in this study is at a solid predictive value level, which is at a value > 0.35 , namely 0.934 and 0.381(Hair *et al.*, 2017)

The Covid-19 pandemic has had an impact on almost all sectors of life. Among them is the economic activity of the community. Consumption patterns by shopping online are alternatives many consumers choose to reduce interactions with others directly. The increase in shopping activities with online media should increase income for the business sector engaged in the online pattern, especially e-commerce. The data also revealed an intriguing finding: the Covid-19 period resulted in a revenue decline for Indonesian e-commerce.

This is most likely due to a correlation between the expansion of e-commerce and a decrease in e-commerce revenue. The rise in e-

commerce will make the sector more developed and well-known to the general public, leading to a general fall in the sector's acceptance due to the rising number of competitors. E-commerce is still a new economic pattern for some people, so its existence is a place for entrepreneurs to survive amid the crisis due to the COVID-19 pandemic. Many business beginners and workers are doing business online. This condition further increases competition in the e-commerce sector so that the maximum profit decreases.

The findings support that the development of e-commerce is significant for third-world countries and developing countries Al-Fawwaz (2022) and Maulida & Ayuningrat (2022), which underlined the fundamental position of the digital economy in Indonesia. The result of this study also agrees with (Jílková & Králová, 2021) that argue e-commerce sector is a catalyst for economic growth, especially during the COVID-19 pandemic. (Beckers *et al.*, 2021).

Information technology training obtained by e-commerce business actors is a factor in reducing revenue decline due to COVID-19. Business actors who master information technology can innovate to survive and face business competition better than those who have not received information technology training. Study from Tahalele *et al.* (2021) assessed that information technology training is important and provides an understanding of the significance of e-commerce in assisting SME business development.

The results of this study found that information technology training directly did not significantly affect economic growth. Because information technology training in the e-commerce sector in Indonesia was still relatively low, it did not play a direct role in economic growth.

This finding contradicts the previous study that the development of technology and the availability of communication media and supporting network systems are the principal capital for SMEs to enter the e-commerce sector (Tolstoy *et al.*, 2022) and (Akash, 2020). In addition, Nuru (2020) explained that e-commerce is one of the business sectors used by

the SME sector to survive the crisis caused by the COVID-19 pandemic

However, information technology training significantly affects the decline in e-commerce acceptance. So the decline in e-commerce acceptance becomes a complete mediation of economic growth. The same finding was also found by Mohdhar & Shaalan (2021) Good information technology capabilities and availability have even been found to reduce the risk of financial losses in payment mechanisms in the e-commerce sector (Yu *et al.*, 2021).

The finding relates with Muchlisoh & Suhendi (2021) that ICT utilization and readiness to change have a significant positive effect on the dynamic capabilities of SMEs. The finding also accommodates the study by Fahmi Ali & Mudiantono (2019) showed that ICT has the most significant total and direct effect on the business performance of SMEs instead of network and innovation.

The magnitude of the decline in e-commerce receipts in Indonesia, which covers all provinces, is also influenced by the large number of existing SMEs. This is presumably due to an increase in e-commerce as a business sector that has a great opportunity in the era of the COVID-19 pandemic. So many SMEs use the SME sector to stay in business. Because by transforming into the e-commerce sector, SMEs can compete with a broader market share. This is due to the ease of access to potential markets with the e-commerce sector.

Promotional efficiency could be another reason that determines SMEs to transform into the e-commerce sector. However, the economic crisis due to Covid-19 has made many SMEs fail to survive and experience setbacks. It also determines the magnitude of the decline in e-commerce revenue. This finding is in line with research by (Yadav, 2014)

So from the results of this study, it is clear that the decline in e-commerce income has an effect on Indonesia's economic growth and the determinant variable for the decline in e-commerce revenue due to the COVID-19 pandemic in the form of the number of e-

commerce, SMEs and information technology training significantly affects economic growth.

People's behavior, including consumption activities during the pandemic, has significantly changed. Pandemics make humans find new patterns of activity that are more in line with existing limitations. It makes the trend of online shopping and business activities. It is easier for consumers to reach goods that are in offline markets that have been reached due to distance limitations. Various kinds of consumer goods that are not limited by the consumer's location can be accessed by consumers. This condition is expected to develop in the future, where the symptoms of a growth pandemic with new variants continue to emerge alternatively and become new outbreaks. It will still raise concerns about direct physical interaction.

The study's finding approves the study of Kalakata (2021), which mentioned that digital-based transactions or e-commerce contribute to changing people's consumption patterns and lifestyles. Seeing growing consumer preferences where business opportunities can be adapted to changing conditions is an opportunity for the development of e-commerce. This result confirmed the study of Maulida & Ayuningrat (2022) and Jílková & Králová (2021), which highlighted that Indonesia prioritizes the digital economy sector as a potential sector. The finding suggests that the e-commerce sector can catalyze economic growth. (Beckers *et al.*, 2021).

E-commerce is a solution for business people to meet consumer demand during the pandemic. Even when the Covid pandemic crisis has begun to subside with the level of concern also decreasing, people still tend to maintain consumption behavior with e-commerce. Koyuncu and Yilmaz (2008) states that rather than being broad-based, e-commerce expansions provide significant economic gains to specific groups of the rural population. Large and significant production-side effects appear unlikely to materialize for the average rural market place in the absence of complementary interventions such as business training, credit access, or targeted online promotions. (Lobacheva & Yadova, 2020).

The covid-19 pandemic has shown that at the beginning of the covid outbreak, there was a covid pandemic outbreak, there was a 22% decline in e-commerce turnover in Wuhan, but this sector was quickly able to rise to continue to grow in a better position. However, there are other factors to consider besides people's propensity to use e-commerce facilities more often when purchasing. The turnover of the e-commerce industry has decreased due to the unpredictability of online purchasing. There are many cases in cash on delivery (COD) that have problems with the common sense of responsibility of consumers and sellers who do not deliver goods that are not as promised. Most e-commerce transactions are carried out with this method in almost all business sectors. This condition makes e-commerce sometimes a difficult choice for the community.

Strengthening the result, Dianda & Pandin (2021), it was also discovered that there is an increase in e-commerce access during the Covid-19 pandemic, which significantly increases e-commerce revenue. The findings emphasized that increases in e-commerce revenue can benefit the community in a variety of ways, including social, health maintenance, and primary economic growth in Indonesia. E-commerce and business behavior have changed as a result of the pandemic, resulting in a more integrated and sustainable digital economy (Gazieva, 2021).

On the other hand, Covid 19 has reduced the level of productivity in the community, so people's incomes have decreased significantly. This causes a decrease in public demand for the consumption of goods and services in almost all sectors. So this weakening economic condition impacts a significant decrease in e-commerce receipts and, of course, a further macro impact on the decline in the national economy.

Since e-commerce has achieved a smooth flow of information dissemination, it is advantageous to assist in improving the international reputation of its enterprise products and services, which has undoubtedly played an important role in increasing exports (Liu, 2013). Furthermore, e-commerce applications enable us to participate in international market

competition more effectively, gaining advantages and initiative to obtain greater benefits in the process of economic globalization and promoting rapid and healthy economic development (Yadiati & Meiryani, 2019). The prosperity of e-commerce has also brought the prosperity of other industries, such as the advertising industry. (Miltiades N. Georgiou, 2009) The growth of e-commerce has accelerated the development of network advertising and increased the potential for advertising investment demand. In practice, e-commerce can increase funding sources and aid in the development of an economic system. When the global financial crisis hit in 2008, e-commerce was the obvious choice for Chinese businesses to get through it.

To this end, we comment on a few possible suggestions that, in our humble opinion, would be appropriate for how a developing country's development strategies should be streamlined in order to maximize the benefits of e-commerce. The recommendations of this study are based on existing literature. Miltiades N. Georgiou (2009), pointed out the importance of Investment in ICT infrastructure, that can be done with telecom liberalization, which will make the telecommunications market more competitive and, in turn, lead to lower prices and better qualities services for consumers. As a result, the overall quality of the infrastructure would improve in terms of speed, reliability, and, of course, usage.

The government should also prioritize digitalization of society, higher priority of human capital investment, trade protection, and make e-commerce entrepreneurship a national priority (Böhmer, 2009). Protection entails the development of mechanisms and legal frameworks that allow for increased security, privacy, intellectual property rights protection, and so on for each participant. To create a good e-market, it is necessary to advance the relevant laws and regulations. From the inception of e-commerce to the present day, this has been a critical component. To summarize, Gazieva (2021) recommends that governments implement macroeconomic policies that will maintain a favorable economic environment for the

continued development of electronic commerce. It is critical to emphasize that we believe our recommendations will have a distinct impact depending on the economy in question, given that the level of development of e-commerce varies.

The implications of the results of this study can be described as follows; a mechanism is needed in government policy to keep the e-commerce system and rules running without harming consumers and sellers and being able to become a driver of national economic growth. The need to educate consumers and sellers about the rights and obligations they must fulfill to avoid conflicts. The government needs to grow this sector because, from statistics, only 25.92 % of businesses carry out E-Commerce activities. This shows that conventional types of business still dominate business in Indonesia. Therefore, the government needs to support the development of this sector.

The level of technology development and readiness, as well as the creation and application of policies, greatly influence the effect of digital transformation on the digital economy. Another thing that is also important is the resources as a driver of the sector in terms of developing information technology infrastructure and digital ecosystems. For this reason, the government needs to overcome existing capacity limitations and promote the development of the digital economy. Financial capability for SMEs is something that the government needs to pay attention to so that SMEs can continue to improve their technological capabilities. SMEs are expected to contribute to economic growth increasingly.

CONCLUSION

The results of this study clearly show that the e-commerce sector is very influential on the economic growth of a country. The particular study in this study confirms that the COVID-19 pandemic has caused a decrease in e-commerce sector revenue, and a significant decline in revenue hurts Indonesia's economic growth.

The variable number of e-commerce has a negative influence on the decline in revenue due

to the covid-19 pandemic because increasingly intense competition will make some e-commerce which previously was able to achieve maximum profit will experience regular profits. Many business actors focus more on digital economic activities or e-commerce due to changes in consumer behavior in the Covid-19 pandemic era. The information technology training capability variable obtained by e-commerce business actors in the form of information technology training was able to reduce the magnitude of the decline in e-commerce sector income due to covid-19 and competition

The decline in revenue from the e-commerce sector due to the COVID-19 pandemic was also negatively affected by the number of existing SMEs. Amid the crisis due to the COVID-19 pandemic, many workers who experienced layoffs turned to the business sector. The most accessible business sector is SMEs because it is possible for novice business people and does not require considerable skills and capital. On the one hand, the COVID-19 pandemic has opened up opportunities for the development of the e-commerce sector, so many SME players have switched from traditional business patterns to digital or e-commerce. The degree of technology readiness and growth and the formulation and implementation of policies significantly impact how digital transformation affects the digital economy.

Because the hypothesis that the number of e-commerce, IT, and SME training could influence economic growth through a decline in e-commerce revenue due to covid as mediation was proven in this research. So for that, the government and business actors in the e-commerce sector must consistently innovate how this business sector can develop and market share expansion can be achieved. The development of information infrastructure and information technology education for the public is needed to support the development of e-commerce. The ability to finance facilities that are safe and affordable by all levels of society is also something that the government needs to pay attention to in supporting the development of the e-commerce sector.

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