

EFFECTS OF THE COVID-19 PANDEMIC ON THE OPERATING OF DIGITAL ECONOMY ON SMES

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ABSTRACT

The implementation of the digital economy as a result of the industrial revolution 4.0 and the Covid-19 pandemic that occurred provided opportunities and challenges for the economic sector. SMEs are one that must be considered because they are one of the pillars of the Indonesian economy. This study aims to determine how the Covid-19 pandemic affecting the operating of of the digital economy on SMEs. Can the operating of the digital economy in SMEs be an alternative to deal with these conditions? The operating of the Digital Economy in this research is proxied by the use of ICT in the form of Digital Capital which is an accumulation of the use of digital technology. This research is focused on SMEs in the handicraft home industry in the city of Jogjakarta which had been operating before Covid-19 hit Indonesia and made sculpture or paintings products as its popular products. This study uses multiple linear regression analysis with the help of E Views 10 Software. The results of this study indicate that the operating of the digital economy in the form of the use of ICT in the form of Digital Capital has a significant effect on SMEs income and is not affected by Covid-19.

Keywords: Covid-19 Pandemic, Digital Economy, ICT, MSMEs, Revenue, Digital Capital

A. INTRODUCTION

The changes that occur are increasingly evident when the world conditions are hit by the Covid-19 pandemic which has an impact on all sectors of human life, including the economic sector (Baldwin and Mauro, 2020). Industrial revolution 4.0. The revolution has taken place also changed business models and patterns of competition but also overhauled the economic system and society and created a new economic environment where digital technology has a role in it (Afenya Millicent Selase, 2019). These two conditions present challenges and opportunities for business actors, especially SMEs. (Nida Masroor, 2019). Digitization using digital technology in the form of the internet in information and communication technology is one form of revolution 4.0 and can be used to face challenges and take advantage of existing opportunities. This technology enhances connectivity, interaction of people, machines and other resources. The world is moving rapidly towards an economic system based on continuous and widespread innovation that relies heavily on information and communication technology, where telecommunications forms an integral component for innovation (Schumpete, 1942 in Chege, Wang and Suntutu, 2020). The internet has become an inseparable part of information and communication technology. The internet contributes to economic growth (Donou-Adonsou, 2019) this makes many innovations involving the internet in the economic sector.

The economic sector should adapt to technological developments, especially during the COVID-19 pandemic. The form of adaptation of the economic sector to this development is the formation of a Digital Economy. The Digital Economy that is happening in Indonesia is one of the impacts of technological developments in Indonesia.

SMEs should be responsive in dealing with these very fast changes, not only in changing market trends but also in technological developments, not only in changing market conditions but also in technological developments. SMEs are able to absorb 96 percent of the workforce, and contribute 60 percent to the national GDP (Indrawan, 2019). This of course makes digital transformation in the SME business a must and is increasingly important and deserves attention.

Digital transformation in the SME business is becoming increasingly important and deserves attention. This transformation must be carried out immediately because it has great benefits for MSMEs. The rapid development of technology has changed people's behavior which is increasingly leading to digitalization. At this time the change in people's behavior that leads to digitalization is also driven by the Covid-19. Utilization of digital technology can be used to increase productivity, especially sales in the business sector, including by SMEs (Rodriguez, Peterson and Ajjan, 2015). With the many potentials, as well as the benefits of using information and communication technology as a form of the using of the Digital Economy by SMEs, it can increase income (Helmalia and Afrinawati, 2018) (Rodriguez, Peterson and Ajjan, 2015).

The Organization for Economic Co-operation and Development (OECD) informed that the COVID-19 pandemic had a serious impact on the economy. When viewed from the supply side, there is a reduction in the supply of raw materials and labor by the company. From the demand side, there was a decline in the demand for goods which was influenced by efforts to reduce consumption by the public. When viewed from the business world, SMEs are one of the sectors that have felt the direct impact of the COVID-19 pandemic (OECD, 2020).

Based on the explanation above, a question arises. Is the implementation of the digital economy in the form of using digital technology by SMEs be an alternative to deal with these conditions? For this reason, this study will look at the impact of the Covid-19 pandemic that has occurred on the operations of the Digital Economy on MSMEs.

B. LITERATURE REVIEW

DIGITAL ECONOMY

The concept of the digital economy was first introduced by Don Tapscott (1995) which is a sociopolitical and economic system that has characteristics as an area of observation includes information, various access to information instruments, information capacity and information processing. The components of the Digital Economy that were identified for the first time were the ICT industry, e-commerce activities, digital distribution of goods and services.

If we refer to the definition of the Asian Development Bank (ADB), the digital economy refers to various economic activities that use digital information and knowledge as the main factor of production. The digital economy is sometimes narrowly defined as an online platform, and the activities carried out on that platform. If viewed broadly the International Monetary Fund (IMF) digital economy defines as all activities that use digital data, all of these activities are part of the digital economy in the modern economy. The concept of the Digital Economy according to Zimmerman (2000) is often used to explain the global impact of information and communication technology, not only on the internet but also on the economy. In addition, there is also the understanding of Digital Economy according to PC Magazine is "The Impact of information technology on the economy" which has the meaning of highlighting the application of ICT in the economic field. The digital economy is an economy based on online transactions in the form of digital cable networks or wireless communications, computers, software, and other related information technology (Efraim Turban, 2018). From the explanation above, the digital economy can be interpreted as the interaction of ICT and the field of Economics in the form of utilizing ICT in various forms in various economic activities, one of which is the use of Platforms / Applications.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

ICT provides opportunities for SMEs to reach a wider market at a very low cost (Saridakis et al., 2018). One of the tools or media that can be used to increase the productivity of a business is technology. Putu Martini Dewi (2014) stated that technology partially has a positive and significant effect on SME income. The more modern the technology used by a business, the higher the income earned by the business. At this time Information and Communication Technology has its own role in a business. Yoga S.S, et. al (2018) stated that the biggest benefits felt by SME actors when they used ICT in the form of online media, the first is to increase income; the second benefit will be to expand the market network; and the third can reduce marketing costs. The benefits of ICT in each MSME will be different, this will be influenced by the specifications and business processes for each MSME (Lolanda Hamim Annisa, 2019). From the description above, it can be concluded that the use of ICT in business processes will increase sales so that it will increase the income of MSMEs.

Alex Capri (2018) states that the characteristics of the use of information and communication technology by SMEs in Indonesia are dominated by four types of ICT, namely Cloud Computing, Social Media, E-commerce and Sharing economy. Cloud computing that are often used are Google Drive, Drob Box, Google Map. For social media used includes Facebook, WhatsApp, YouTube, Instagram, Line, and Twitter. For e-commerce in Indonesia, there are local e-commerce companies such as Bukalapak, Tokopedia and Traveloka, in addition to big players such as Amazon. The positive impact of using e-commerce is more efficient, reduced investment costs, increased sales, improved relationships with consumers, new market

penetration, and ultimately financial returns (Bramantyo Adi Nugroho P. W., 2019). Sharing economy in Indonesia includes Ruang Guru, Gojek, Grab, Maxim, Kaskus. The main benefits for sharing economy actors are efficiency, reduced investment costs, and increased sales (Efraim Turban, 2018).

DIGITAL CAPITAL

The characteristics of the application of ICT in a business are influenced by the digital capabilities of a business, and the management of HR (Human Capital) of a business (Kelchevskaya N.R., 2019). With the high adoption of the use of ICT in a business which can be seen in the characteristics of the use of ICT in the business.

Judging from the theory of the digital economy, it gave birth to the concept of digital capital (Digital Capital) which is one aspect of the digital economy. Massimo Ragnedda (2018) states that digital capital is the accumulation of digital competencies (information, communication, safety, content creation and problem solving), and digital technology. In a company, digital capital is valuable in the form of professional characteristics or digital competencies. Bughin, J.& Manyika, J. (2013) argue that measuring the impact of digital capital on business development and states that there are two forms of digital capital, namely tangible and intangible. Tangible digital capital, for example, is online purchasing platforms, servers,outers, and basic internet software. Intangible digital capital includes, among other things, patents and unique designs that take large numbers of users into account and enhance their digital experience. It is concluded that digital capital has an impact on growth and business competition in the digital era.

In the context of the digital economy, human resources are a key factor in the digital economy (E. Shirinkina, 2018). Kelchevskaya N.R., et. al (2019) revealed that digital information, knowledge, and human resources are important factors in production. In the production process, the factors of production are not only seen from the availability of labor but the quality of the workforce is also a concern.

The demand for labor increases significantly with a certain level of digital competence. The most universal digital competencies, which are needed for everyone, become a benchmark for employee competitiveness and the economy as a whole (Bannykh, 2020). Baker et. al. (2015) found that there is a positive relationship between digital skill level and turnover growth where this skill level is not related to the formal educational background of the workforce, this skill level is more to the expertise possessed by the workforce. Saridakis et. al. (2018) states that the human resource capabilities of an SME have an impact on the SME's ability to adopt something new. Based on the description above, it can be said that digital competence seen from the availability of workers with digital competence and the use of ICT in the form of digital technology such as Platforms / Applications has a good impact on a business.

INCOME

According to Keynes, income is a change in the number of factors of production used and changes in the ability of each unit of production factors to generate income (Rosyidi, Introduction to Economic Theory, 2003). Saridakis et al., (2018) stated that the performance of a business improves when SMEs adopt information and communication technology. The use of ICT will make the market for SMEs bigger and increase online sales. In line with this, Helmalia and Afrinawati (2018) also state that an increase in the performance of a business will be obtained through an increase in income. Capital In an economic sense, capital is goods or money which together with factors of production such as buildings and labor produce new goods. Capital is one of the things that is prepared in a business. Putu Martini Dewi in 2014 stated that capital partially has a positive and significant effect on SME income. The research capital variable uses the total capital of MSMEs. Capital is one of the factors of production. Capital affects output through the consumption of inputs in the production process. The greater the capital used, the greater the tendency to increase the income obtained by a business. With increase of the income of a business will certainly have an impact on the growth of the business. Demisew G. Degefu (2018) uses capital growth as a measure of the growth of a business. Labor Human resources in the form of labor is one of the important factors of production. Labor partially has a positive and significant effect on SME income (Dewi, 2014). The higher the education level of the workforce in a business, the greater the income earned by the business. In determining the competitiveness of a business, Siti Rahmana Bintari &, Lilies Setiartiti (2013) describes the elements of labor that determine a business, namely the number of workers, education of workers, wages of workers, hours of labor. Workforce education is defined as formal education owned by the workforce. One of the competitive advantages can be seen from the demand factor which is described by the number of requests/product sales. The amount of demand will be correlated to the income of a business. This is in line with

research conducted by Dewi Putu Martini (2014) which states that labor partially has a positive and significant effect on SME income. The higher the education level of the workforce in a business, the greater the income earned by the business. Manpower education is defined as the level of formal education possessed by the workforce. The time needed to feel the impact of improving performance on SMEs varies depending on the capabilities of the SME human resources. Meanwhile, increasing company performance can be obtained through increasing revenue (Helmalia and Afrinawati, 2018). Based on the description above, the ability of human resources in SMEs, especially digital skills / skills, has an impact on SMEs. The impact will be felt on business performance which can be seen from the income of SMEs. Meanwhile, the human resource capability in question is a certain skill possessed by the workforce in SMEs. In this study, we will look at the impact of using digital technology by SMEs on SME revenue with an approach to the Cobb-Douglas production function which has a simpler concept of the economy where production output (Y) is determined by the amount of invested capital (K). and the number of workers (L) involved in production. The Cobb-Douglas production function also takes into account the parameters that indicate technological improvement.

C. RESEARCH METHOD

This research is a quantitative-descriptive study to explain the influence of the Covid-19 pandemic on the impact of the implementation of the Digital Economy on SMEs, especially on SME income. The SMEs studied were focused on SMEs in the handicraft home industry in the city of Jogjakarta which had been operating before Covid-19 hit Indonesia and made sculpture and paintings as its main product. The research was conducted using a direct survey method to respondents using a questionnaire. The sampling technique used was the purposive sampling technique. Determination of the number of samples is calculated using the Slovin formula (Riduwan, 2010) with the following formula:

$$n = N / (1 + N \cdot e^2)$$

The population of SMEs in the handicraft home industry sector with the main product being sculpture and paintings in the city of Jogjakarta is 300 SMEs. By using the Slovin formula, a sample size of 100 samples was obtained. Then, stratified sampling with the formula (Riduwan, 2010): $n_i = N_i / (N \cdot n)$ is applied.

Using multilevel sampling, the sample size of medium enterprises is 5 samples, 17 small enterprises and 40 micro enterprises. Determination of the sample as respondents in this study will be based on random numbers obtained from the use of the random between function in Microsoft Excel software.

This research was conducted by using quantitative analysis method. Data analysis in this study used multiple linear regression analysis with the help of E Views 10 software on the collected data. Data analysis was performed using the simultaneous test (F-test) and partial test (t-test) to determine the effect between variables. The influence between variables will be seen in conditions before the covid-19 pandemic occurs, during the covid-19 pandemic (beginning of the pandemic) and conditions after the new normal is implemented.

In this study, we will look at the impact of using digital technology by SMEs on SME revenue with an approach to the Cobb-Douglas production function, then the mathematical form of multiple linear regression analysis can be described as equation

$$\ln Y = B_0 + B_1 \ln K + B_2 \ln L + DCD + e_i$$

Y is defined as revenue or Total Revenue which will be calculated in Rupiah unit.

K is defined as Capital used for production, especially working capital which is in Rupiah unit.

L is the number of workers in units of people.

The technology referred to in this research is the dummy variable Digital Capital (DDC)

Digital Capital utilization which is the embodiment of the use of digital human resources and Digital platforms/applications (ICT) carried out simultaneously (Massimo Ragnedda, 2020),

Utilization of digital human resources, which means the use of human resources with digital capabilities. The use of ICT platforms/applications reviewed in this study consists of four types technology, namely, Cloud computing, Social media, E-commerce, Sharing economy (Capri, 2018). e_i is the error or remainder or deviation and B_0 , B_1 , B_2 is the constant coefficient of the equation.

Table 1.Operational Variables

Variables	Indicator	Method	Reference	Unit	Method
		Questioner	Dewi (2014), Baker	Rupiah	
Revenue	Total sales of products within one month		(2015), (Maria		
		Questioner	Carvalho (2018),		
			(Selase et al., 2019).		
Capital	Expenditure for purchasing raw material within 1 month	Questioner	(Dewi, 2014). Satyo	Rupiah	
			Nugroho (2014)		
Labor	Specialize labor in sculpturing and painting	Questioner	Siti Rahmana Bintari	Headcount	
			&, Lilies Setiartiti		
			(2013),		
			E. Shirinkina (2018)		
Dummy	Skilled Labor	Questioner	(Massimo Ragnedda,	Yes/No	
Digital			2020),(Ragnedda,		
Capital	Person assigned to manage IT	Questioner	2018), (Bughin,	Yes/No	
			2013),		
			Baker et. al. (2015),		
	Using, access and interaction	Questioner	(Massimo Ragnedda,	Yes/No	
			2020), Alex Capri		
			(2018), (Efraim		
			Turban, 2018).		

D. RESULTS AND DISCUSSION

Classic assumption test Based on the analysis of the normality test using the Skewness-Kurtosis test for Normality method.In table 2 it can be seen that before Covid-19 the Prob>chi2 value from the normality test was 0.4566.Conditions during Covid-19 obtained a Prob>chi2 value from the normality test of 0.0853.And in the New Normal condition, the value of Prob>chi2 from the normality test is 0.4073.In each condition, the results obtained are greater than the 0.05 significance level, so it can be concluded that the normality test in this study was normally distributed.

Tabel 2. Normality Test

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
UR					
(Before Covid-19)	62	0.2460	0.6867	1.57	0.4566
UR					
(During Covid-19/Early Pandemic)	62	0.1530	0.0866	4.92	0.0853
UR					
(New Normal)	62	0.2510	0.5228	1.80	0.4073

Based on the analysis of the heteroscedasticity test using the Breusch-Pagan test for heteroscedasticity with the assumption that Ho is Constant variance or homoscedasticity. In table 3 it can be seen that before Covid-19 the Prob>chi2 value was obtained at 0.3695. Conditions during Covid-19 obtained a Prob>chi2 value of 0.3766. Meanwhile, in the New Normal condition, the value of is obtained.

$Prob > chi^2$ is 0,2396. At any conditions $Prob > chi^2$ or higher than significance of 0,05 so that H_0 not rejected and concluded that there is no heteroscedasticity occurred. .

Table 3. Heteroscedasticity Test

Condition	chi2 (1)	Prob > chi2	Remarks
(Before Covid-19)	0.81	0.3695	No heteroscedasticity
(During Covid-19/Early Pandemic)	0.78	0.3766	No heteroscedasticity
(New Normal)	1.38	0.2396	No heteroscedasticity

From the results of the Multicollinearity test, the VIF results on each independent variable and the average VIF value are below 5 so it can be concluded that there is no multicollinearity. Based on table 4, it can be seen that in each condition the VIF results are obtained and the average VIF of each independent variable is smaller than 5 so that it is concluded that there is no multicollinearity.

Table 4. Multicollinearity Test

Condition	Variable	VIF	1/VIF	Remarks
(Before Covid-19)	Capital	1.52	0.657183	No Multicollinearity
	Labor	1.48	0.675895	No Multicollinearity
	Digital Capital	1.05	0.953488	No Multicollinearity
	Mean VIF	1.35		No Multicollinearity
(During Covid-19/Early Pandemic)	Capital	1.43	0.698684	No Multicollinearity
	Labor	1.29	0.773850	No Multicollinearity
	Digital Capital	1.15	0.869317	No Multicollinearity
	Mean VIF	1.29		No Multicollinearity
(New normal)	Capital	1.83	0.546725	No Multicollinearity
	Labor	1.76	0.568761	No Multicollinearity
	Digital Capital	1.17	0.856405	No Multicollinearity
	Mean VIF	1.58		No Multicollinearity

REGRESSION TEST

Table 5 shows regression based on regression analysis at each conditions observed. Based on regression analysis the regression below obtained.

Table 5. Regression

Condition	Remarks	R-squared
(Before Covid-19)	Total Income = 3.4780 + 0,7760 Capital + 0,1319 Labor + 0,1435 Digital Capital	0.8842
(During Covid-19/Early Pandemic)	Total Income = 2,1609 + 0,8846 Capital + 0,1498 Digital Capital	0.9158
(New Normal)	Total Income = 2,8049 + 0,8328 Capital + 0,1657 Digital Capital	0.9262

Based on the equation, the constant value in conditions before Covid-19 was 3.4780. it can be interpreted that if it is assumed that there is no influence from the variables of Capital, Labor and Digital Capital, the total income (revenue) is 3.4780. The constant value under conditions during Covid-19 is 2.1609. it can be interpreted that if it is assumed that there is no influence from the variables of Capital, Labor and Digital Capital, the total income (revenue) is 2.1609. The constant value in the New Normal condition is 2.8049. it can be interpreted that if it is assumed that there is no influence from the variables of Capital, Labor and Digital Capital, the total income (revenue) is 2.8049. With this condition, it can be seen that the Covid-19

pandemic has reduced total income. However, New Normal conditions can affect total income for the better when compared to total income during Covid-19 conditions.

In table 5 it can be seen that the value of the determinant coefficient (R²) in conditions during covid-19 increased compared to the value of the coefficient of determination in conditions before covid-19, the value of this coefficient of determination also increased during new normal conditions. This shows that the COVID-19 pandemic has a positive impact on the model's ability to explain the dependent variable.

In conditions before Covid-19, R² was obtained at 0.8842, which means that the model that has been formed can explain the dependent variable of 88.42%. Total income can be explained by the model by 88.42% and the rest is explained by variables outside the model. In the current condition of Covid-19, an R² of 0.9158 was obtained, which means that the model that has been formed can explain the dependent variable of 91.58%. Total income can be explained by the model by 91.58% and the rest is explained by variables outside the model. In the current condition of Covid-19, an R² of 0.9262 was obtained, which means that the model that has been formed can explain the dependent variable of 92.62%. Total income can be explained by the model by 92.62% and the rest is explained by variables outside the model.

F TEST

Table. F Test

Output	Before Covid-19	During Covid-19	New Normal
Prob > F	0.0000	0.0000	0.0000

Seen in table 6 simultaneously Pvalue obtained a small value of the significance level of 0.05. Simultaneously Pvalue in conditions before covid-19, when covid-19 occurs, and when new normal conditions have a value of 0.000. It can be interpreted that simultaneously the independent variables used significantly affect the independent variables in every existing condition, be it in conditions before covid-19, during covid-19 and new normal. The regression equation used can also be said to be appropriate and can be used for research testing.

T TEST

Partially, the P value of the statistics obtained on each independent variable have various values. This diversity is also seen in conditions before covid-19, during covid-19, and during new normal conditions.

Table.T Test

Variable	Before Covid-19		During Covid-19		New Normal	
	Coefficient	P> t	Coefficient	P> t	Coefficient	P> t
Capital	0.7760195	0.000	0.8846897	0.000	0.8328792	0.000
Labor	0.1319550	0.020	0.0826399	0.144	0.1034530	0.083
Digital Capital	0.1435249	0.036	0.1498340	0.055	0.1657995	0.028
_cons	3.578.067	0.000	2.160.954	0.000	2.804.969	0.000

Partially the independent variable Capital does not change P value in each condition. This indicates that the Capital variable has a significant effect on income and this significance is not affected by the covid-19 pandemic.

Partially, the independent variable of Labor experienced a change in P value in the conditions of the covid-19 pandemic. P value in conditions before the COVID-19 pandemic was small from a significance level of 0.05. This condition means that the workforce has a significant positive effect on income. However, in the conditions of the covid-19 pandemic and now normal, the P value obtained on the independent variable of Manpower have changed. During the COVID-19 pandemic and the new normal, it was obtained large from a significance level of 0.05. It can be interpreted that in the conditions of the covid-19 pandemic and now normal, the Labor variable has no effect on income.

Partially, the dummy variable Digital Capital, which means that the use of digital human resources and digital platforms/applications is carried out simultaneously as the utilization of manpower with ICT capabilities specifically used in ICT management as well as the simultaneous use of Platform/Applications. The dummy variable Digital Capital did not experience significant changes in P value in each condition. Pvalue in conditions before the covid-19 pandemic, during the covid-19 pandemic and new normal

conditions. In conditions before the covid-19 pandemic P value was at a small value of the 0.05 significance level, during the Covid-19 pandemic P value was at a high value of the 0.05 significance level but low in terms of the 0.10 significance level. In the new normal condition, P value is applied at a small value from the 0.05 significance level. P value before the covid-19 pandemic was 0.036. In the conditions during the covid-19 pandemic, the P value changed to 0.055, but when the new normal conditions were enacted, the P value changed to 0.028 for the better. This condition means that raw materials have a significant positive effect on income. The Digital Capital dummy variable has a significant effect on revenue and the covid-19 pandemic affects the impact of the Digital Capital dummy variable on revenue.

D. CONCLUSION AND RECOMMENDATION

The Covid-19 pandemic has had a negative impact on SMEs, resulting in lower income for SMEs. The establishment of New Normal conditions has a good impact on SMEs, can improve SME income for the better.

In conditions prior to Covid-19 simultaneously Capital, number of employees, and Digital Capital had a significant effect on the total income of SMEs. In the conditions when Covid-19 struck simultaneously, Capital and Digital Capital had a significant effect on the total income of SMEs. Under the conditions of the New Normal, simultaneously Capital and Digital Capital have a significant effect on the total income of SMEs.

The COVID-19 pandemic does not partially affect the impact of Capital and Digital Capital on SME income. The COVID-19 pandemic has partially affected the impact of Labor on SME income

For SME actors, more efforts are needed to take advantage of digital platforms/applications and simultaneously improve the quality of human resources in the digital field especially knowledge wise, technical expertise and insight into the use of ICT for actors and workers involved in managing ICT used by SMEs as this can also support the implementation of the digital economy in the form of the use of ICT in SMEs. Utilization of digital platforms/applications with human resources who have knowledge, technical expertise and insight into the use of ICT can also play a positive role in efforts to deal with unexpected changes in times such as the impact of the current COVID-19 pandemic.

The government needs to pay special attention to efforts to increase the utilization of digital platforms/applications and the quality of human resources in SMEs. Improving the quality of human resources in question is a matter of knowledge, insight and technical ability on the use of ICT for actors and workers involved in SMEs. Attention can be implemented in providing technical assistance, technical training in the use of ICT in a business.

Researchers and academics need to consider the very dynamic development of Information and Communication Technology, including the development of platforms or applications that have their own characteristics. With this very dynamic development, of course, it is possible that several new variables will emerge that can affect the impact of the use of Information and Communication Technology on SMEs. Of course, it is necessary to conduct further research in the future in order to accommodate the development of existing Information and Communication Technology.

REFERENCES

1. Afenya, M. S., A. E.-R.-A. (2019). Impact of Technology Adoption and Its Utilization on SMEs in Ghana. *International Journal of Small and Medium Enterprises*, 1-13.
2. Baker, G. L. (2015). Digital Capabilities in SMEs: Evidence Review and Re-Survei of 2014 Small Business Survei respondents,. BMG Research and Durham University.: BIS Research Paper No 247.
3. Bannykh, G. (2020). Digital Capital and the Labor Market: Factors of Mutual Influence. *Advances in Economics, Business and Management Research*, volume 128, 2946-2953.
4. BPS. (2019). Analisis Hasil Se2016 Lanjutan Potensi Peningkatan Kinerja Usaha Mikro Kecil. Jakarta: Badan Pusat Statistik.
5. Bramantyo Adi Nugroho, P. W. (2019). Analisis Persepsi Usaha Mikro Terhadap Pemanfaatan Media Daring di Kota Samarinda. *Jurnal Riset Pembangunan Volume 1* , 79-89.
6. Bughin, J. &. (2013). Measuring the full impact of Digital Capital. Mackinsey and Co.

7. Capri,A. (2018). Micro And Small Businesses In Indonesia's Digital Economy Keys To Developing New Skills And Human Capital. Jakarta: The Asia Pacific Foundation OfCanada .
8. Chege, S. M., Wang, D., & Suntu, S. L. (2020). Impact of information technology innovation on firm performance in Kenya. *Information Technology for Development* vol. 26, 316-345
9. Degefu, D. G. (2018). Factors That Determine the Growth of Micro and Small Enterprises: In the Case of Hawassa City, Ethiopia. *Scientific Research Publishing*, 185-200.
10. Deloitte. (2015). *UMKM Pemicu Kemajuan Indonesia : Instrumen Pertumbuhan Nusantara*.
11. Sydney: Deloitte Access Economics.
12. Dewi, P. M. (2014). Pengaruh Modal, Tingkat Pendidikan dan Teknologi Terhadap Pendapatan Usaha Mikro Kecil dan Menengah (Ukm) di Kawasan Imam Bonjol Denpasar Barat. *E-Jurnal Ekonomi Pembangunan Universitas Udayana* Vol. 3, No. 12, hal 576-585.
13. Donou-Adonsou, F. (2019). Technology, education, and economic growth in Sub-Saharan Africa. *Telecommunications Policy*, 1.
14. E. Shirinkina, A. K. (2018). Management of human capital in the national economy: Estimation and simulation. *Revista Espacios*, 28. Vol. 39 (Number 44)..
15. Efraim Turban, J. O.-P. (2018). *Electronic Commerce 2018 A Managerial and Social Networks Perspective* 9 th. spinger.
16. George Saridakis, Y. L. (2018). Industry characteristics, stages of E-commerce communications, and entrepreneurs and SMEs revenue growth. *Technological Forecasting & Social Change*, 56-66.
17. Helmalia, A. (2018). Pengaruh E-Commerce Terhadap Peningkatan Pendapatan Usaha Mikro Kecil dan Menengah di Kota Padang. *JEBI (Jurnal Ekonomi dan Bisnis Islam)* - Volume 3, No. 2.
18. Indrawan, R. (2019). *Sinergitas Pengembangan KUMKM melalui Penguatan Peran Antar Lembaga*. Sanur: Kementrian Koperasi dan Usaha Mikro Kecil dan Menengah RepublikIndonesia.
19. Kelchevskaya N.R., S. E. (2019). Estimation of interrelation of components of human capital and level of digitalization of industrial enterprises by method of modeling of structural equations. *Advances in Economics, Business and Management Research*, volume 81, , 135-140.
20. Kelchevskaya N.R., S. E. (2019). Evaluation of Digital Development of Human Capital of Enterprises. *Advances in Social Science, Education and Humanities Research*, volume 298, , 446-449.
21. Lolanda Hamim Annisa, M. E. (2019). Impact of Alignment between Social Media and Business Processes on SMEs' Business Process Performance: A Conceptual Model . *Procedia Computer Science* 161 , 1106–1113.
22. Massimo Ragnedda, M. L. (2020). *Digital Capital: A Bourdieusian Perspective on the Digital Divide*. UK: Emerald Group Publishing.
23. Divide. UK: Emerald Group Publishing.
24. Nida Masroor, M. A. (2019). SMEs in the Contemporary Era of Global Competition. *Procedia Computer Science* 158, 632-641.
25. ORCD. (2020). *Coronavirus (COVID-19): SME Policy Responses*. Organisation for Economic Co-operation and Development
26. Ragnedda, M. (2018). Conceptualizing Digital Capital. *Telematics and Informatics* vol. 35, 2366– 2375.
27. Riduwan. (2010). *Metode & Teknik Penyusunan Tesis*. Bandung: Alfabeta.
28. Rodriguez, M., Peterson, R. M., & Ajjan, H. (2014). Crm/Social Media Technology: Impact on Customer Orientation Process and Organizational Sales Performance. *Journal of Marketing Development and Competitiveness* vol. 8, 85-97

29. Siti Rahmana Bintari, &. L. (2013). Pengukuran Daya Saing Usaha Mikro Kecil dan Menengah Menyongsong Masyarakat Ekonomi Asean. Jurnal Ekonomi dan Studi Pembangunan Volume 14, Nomor 2, 153-162.
30. Yoga Satria Siaga, J. J. (2018). Penerapan dan Pemanfaatan Media Online dalam Pengembangan Sistem Pemasaran UMKM (Agroindustri) di Kabupaten Jember. Seminar Nasional Program Studi Agribisnis Fakultas Pertanian Universitas Jember,, (hal. hal. 433-441).Jember.