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Digitalization of Micro Small and Medium Enterprises in the Age of COVID-19: Adopting the Use of Digital Platforms

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Abstract- The spread of COVID-19 in Indonesia has pushed the government to impose a lockdown policy to contain the spread of the pandemic. The policy has a negative effect of decreasing aggregate demand thus affecting the income of MSMEs which is one of the important engines for the national economy. The research has the aim to analyze the level of the adoption of "UMKM Tirtajaya" as a strategy for the development of MSMEs by using the approach of The Unified Theory of Acceptance and Use of Technology (UTAUT). The respondents in this research are entrepreneurs from the city of Depok, West Java. The analysis of the answers in the research was completed by utilizing Structural Equation Modeling-Partial Least Square (SEM-PLS). The result shows that Performance Expectancy and Social Influence variables have a positive impact and do not have any significance towards the intention to use the digital platform UMKM Tirtajaya. On the other hand, the Effort Expectancy variable shows a negative impact and is not significant towards the intention to use the digital platform UMKM Tirtajaya. Following that, the analysis of the variable of Facilitating Conditions on Behavioral Intention is found to have a significance on the aforementioned intention.

Keywords: COVID-19, Unified Theory of Acceptance and Use of Technology (UTAUT), Structural Equation Modeling-Partial Least Square (SEM-PLS)

I. INTRODUCTION

The digital era was born with the emergence of internet networks, especially in computer information technology. This development then creates the 4.0 revolution that is based on the digital transformation in almost every aspect of the business which becomes very important for the continuity of the businesses. With digital technology, it is easier for consumers to be able to access anything, including access to various information about the products and services, and also for buying and selling. This applies not only to multinational companies but also to Micro, Small, and Medium Enterprises (MSMEs) [17].

In Europe, Small and Medium Enterprises (SMEs) are the backbone of the economy. In 2018, there were 25 million MSMEs in the EU-28, of which 93% were micro-SMEs [3] [4]. MSMEs represent 99% of all businesses in the EU and employ around 100 million people. MSMEs also have a massive contribution of more than half of the European GDP to the EU's economic sector and also play a key role in adding value to it [5]. The contribution of European MSMEs is clearly visible in Italy. MSMEs contribute to 66,9% of Italy's non-financial businesses, exceeding the EU average of 56.4%. The achievements of Italian MSMEs cannot be separated from the ability to utilize digital technology. With digital technology, MSMEs can modify business models, create new distribution channels [20] and make it easier for consumers to access and service information for buying and selling products [32]. Based on the 2019 performance report of the Ministry of Cooperative and MSME of Indonesia, the number of Indonesian MSMEs in 2018 reached 64,194,056 units with 98.68% of them being Micro Enterprises. There was an increase of 1,271,440 companies from 2017 to 2018. There was also an increase of 547,407 in the number of employees in 2018, adding to the number of employees of 116.431.224 in 2017. This surge was also expected to occur in 2019. This data shows that there are around 64.2 million Indonesian MSMEs facing challenges in digitizing the businesses they run [14].

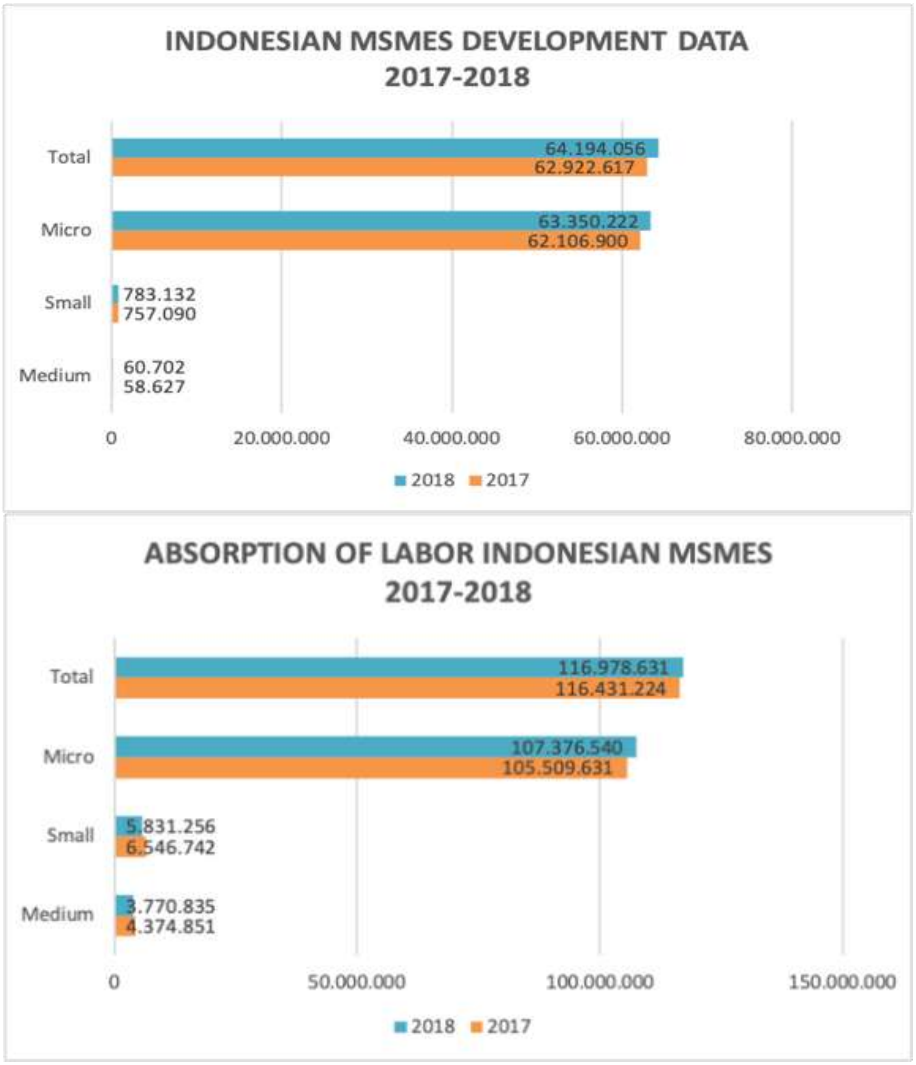

Figure 1. Number of MSMEs Indonesia in 2017-2018

The economic sector is not an exception to the impact of the COVID-19 pandemic, which is caused by many of the world's governments imposing lockdowns in their countries, including Indonesia that uses the term Large-Scale Social Restrictions (PSBB). During the Large-Scale Social Restrictions, there was a change in consumer behavior, which previously made direct transactions, switching to online transactions [19]. Economic growth and positive urban growth occur in major cities in developing countries due to technological advances [35] [36]. This change benefits the big players but is very detrimental to MSMEs that do not have the privilege of exploiting digital-based services and products [12]. This phenomenon requires business companies to use digital to survive and recover from the crisis that they experience. Technology is an important strategy in increasing the productivity of MSMEs [6] [7]. This research focuses on MSMEs in Tirtajaya district, Depok, Indonesia. The results of the observations and interviews (3rd of August 2020), MSMEs in Tirtajaya experience a significant decrease in sales during the COVID019 pandemic. One of the causes of the decrease are that the MSMEs still conventionally run their businesses with a only little touch of digital technology. Consequently, when a lockdown is imposed, a decrease in sales is inevitable. Researchers then try to analyze the interest of MSMEs in Tirtajaya in utilizing a digital platform in their business operation. The result of this research could be useful for literature development regarding the digitalization of MSMEs as well as explaining the potential for digital platform development based on variables used in the research.

II. THEORETICAL BACKGROUND

2.1 MSMEs and Digitalization

Digitalization or the application of digital technology has received the most attention in certain business disciplines during the last two decades [8]. In recent years, the company's business strategy has

undergone significant changes due to new digital technologies, such as big data, artificial intelligence, and machine 4.0 [24] [22]. The use of digital technology can increase operational efficiency by optimizing task management and market orientation through advanced market knowledge [21]. Thus, their main factors are driving the need for the use of digital technology. First, the emerging of many new digital technologies, which indicates that companies need to change the business strategy. Second, competition has changed dramatically. Third, the change in consumer behavior due to the digital technology revolution [32]. Responding to the need to use digital technology, digital platforms have become a business strategy used by many MSMEs [16]. A digital platform is defined as a simple architecture consisting of modules and core modules that allow companies to pursue scalability - by integrating common features in these modules - and expanding capabilities by reconfiguring replaceable modules [33]. By utilizing a digital platform, companies can play a central role in many value propositions that allow them to take advantage of information management which then becomes a competitive advantage for the company [26]. Thus, digital platforms represent a new field that challenges the fundamentals of corporate performance [15].

III. The Impact of the COVID-9 global pandemic on MSMEs

At the beginning of 2020, the world was awakened by tiny creatures that multiply rapidly: the new coronavirus or COVID-19. The new coronavirus is the cause of the most violent pandemic in human history, resulting in a massive health crisis [34], chaos of the social order, and enormous economic losses [30]. This situation has a very negative impact on the global economy, where governments, companies, and individuals are competing to make adjustments [12]. To understand the impact of the COVID-19 pandemic better, Narula (2002) divided MSMEs into 3 categories. First, the independent MSMEs that have their own brands and produce goods for the consumer or industrial market. Second, the supplier specialist MSMEs are mainly in an oligopolistic environment where they supply intermediate goods to large companies. Lastly, the knowledge-based MSMEs that generally develop emerging paradigmatic technologies and supply specialized knowledge-based assets to other companies or consumer markets [26]. In fact, lockdown and border closure are the external obstacles experienced by the three categories of MSMEs. In general, these external barriers affect the demand and supply of MSMEs. There was a significant drop in demands due to the lockdown. Then, on the supply side, there are logistical problems due to border closures and lack of workers [13]. In general, these three types of MSMEs will have challenges and advantages in the field of digital technology. There will also be more independent MSMEs that adopt and improve digital technology in their businesses. Digital technology is very important for MSMEs because it supports important downstream activities such as sales and marketing, and it also increases internal efficiency and productivity [23]. However, some MSMEs may find it difficult to implement digital initiatives due to financial problems after the crisis, and the need to retrain staff [13].

IV. Research Methods

Mix method that combines the essence of qualitative and quantitative methods was used in this research to answer the research questions, to develop the correct method, to collect the data, and to analyze the procedure which ultimately leads to the conclusion [2] [29]. In this design, researchers collect the qualitative and quantitative data at the same time, integrating the information in the overall interpretation of the result [2]. The quantitative data were obtained and analyzed using the model of Unified Theory of Acceptance and Use of Technology (UTAUT) developed by [31]. This model was proven to be successful in increasing the predictive efficiency by about 70%, especially in checking the key factors contributing to the acceptance of users of technology applications [20]. This model explicates the behavioral intention towards the utilization of technology through factors of performance expectancy, effort expectancy, social influence, facilitating condition. Furthermore, researchers also conducted in depth-interviewed with few experts (in the fields of technology and economics/MSMEs) in which it will the qualitative data needed for the research [27]. The method utilized to collect the sample was non-probability sampling. This method was chosen due to the absence of the sample framework which could be used as the main reference. The instrument used was an online questionnaire made in Google Form and distributed through social media applications; WhatsApp, Twitter, and Facebook. The questionnaire was solely distributed to MSMEs in Tirtajaya district, Depok, West Java as the target participants of this research.

V. RESULT AND DISCUSSION

The study essentially utilizes the UTAUT method to check the interest of digital platform usage by MSMEs in Indonesia, Especially Tirtajaya sub-district, Depok. The result of the survey as it has been conducted in the research was obtained from the respondents with characteristics presented in Table 2.

Table 1.Demographic Characteristics of the Respondents

Variable	Category	Percentage (%)
Sex	Male	22,6
	Female	77,4
Marriage Status	Married	83,9
	Not Married	9,7
	Divorced	6,5
Education	Elementary School	6,5
	Junior Highschool	9,7
	Senior Highschool	12,9
	Diploma (D1/D2/D3/D4)	32,3
	Undergraduate (S1)	38,7
Business Sector	Culinary	83,9
	Fashion	9,7
	Accessories	6,5
Sales per month	Less than Rp. 2.000.000	54,8
	Rp. 2.000.000 – Rp. 4.999.999	19,4
	Rp. 5.000.000 – Rp. 9.999.999	9,7
	Rp. 10.000.000 – Rp. 19.999.999	6,5
	Rp. 20.000.000 or more	9,7

5.1 Measurement Model Result

The measurement of the value of the reliability model could also be completed by using the Average Variance Extracted (AVE) [8]. The adequate AVE value is 0.5 or higher [10]. The result showing the AVE value is presented in Table 3 which shows that every variable has met the criterion of AVE values. All variables calculated in this research is > 0.5, which concludes that the measurement model in this research has met the reliability model test.

Table 2. AVE Result & Reliability Analysis

	Average Variance Extracted (AVE)	Cronbach's Alpha	Composite Reliability
PE	0.889	0.969	0.976
EE	0.921	0.978	0.983
SI	0.868	0.962	0.970
FC	0.908	0.974	0.980
BI	0.845	0.954	0.965

The reliability test for the instrument that is used in this research is *Cronbach Alpha Coefficient* and Composite Reliability value. The use of Cronbach coefficient is based on the criteria that the instrument's level of consistency is significant at a value of 0.7 or higher [28]. Conversely, the CR value that is usually recommended is > 0.7.

The result of the test shows that the indicator score has been adequate, therefore it can be concluded that the model for the measurement has met the requirement of the reliability model test. Based on the coefficient of determination (R-squared) obtained the value of 0.647, the independent variables being examined in the research (performance, expectancy, effort expectancy, social influence, and facilitating condition) is shown to be able to explicate the interest or the behavioral intention of the respondents in using UMKM Tirtajaya mobile application; with the score reaching 64.7% and the other 35.5% was explained by other variables.

Table 3. The Results of The Relationship Test Between Variables

	Path Coefficients	T Statistics	P Values	**Result**
PE→BI	0.003	0.008	0.993	Unsupported
EE→BI	-0.439	0.468	0.938	Unsupported
SI→BI	0.226	0.591	0.555	Unsupported
FC→BI	1.005	2.039	0.042	Supported

The test of the relationship between variables was completed with a significant rate of 5% (0,05). The analysis of the path coefficient value shows a positive as well as a negative value. It has become an indicator of whether the relationship between positive and negative variables supports the utilized. The significance of the relationship between variables, however, is shown through the T statistics.

5.2 Performance Expectancy (PE)

Based on the results in table 7, it can be concluded that the Variable Performance Expectancy (PE) has a positive but insignificant effect on the intention of using the digital platforms in MSMEs in Tirtajaya. This finding corresponds with the previous study done by [18] who stated that Performance Expectancy (PE) does not significantly affect the intention to use digital technology. This finding is also in line with the result of an in-depth interview with one of the participants who stated that MSMEs may not utilize the digital platform because of the lack of skills in managing digital technology. The finding shows that the use of the digital platforms among Tirtajaya MSMEs could be increased by upgrading the knowledge of the entrepreneurs in technology operation, especially in the use of the digital platforms for MSMEs in Tirtajaya. In other words, MSMEs in Tirjaya may be able to operate the digital platform as soon as they possess the needed operational skills.

5.3 Effort Expectancy (EE)

The findings regarding the Effort Expectancy (EE) show that this variable has a negative but insignificant effect on the intention to use the platform for MSMEs in Tirtajaya. Meanwhile, based on the results of this analysis, this is in line with research conducted by [25] which states that many studies of acceptance and use of technology have not found a significant effect of Effort Expectancy (EE) on behavioral intention. The utilization of this digital platform depends on the skill of the human resources in supervising and renewing their products being sold in the digital platform. The differentiation of skills could be caused by age and experience difference, that younger entrepreneurs may possess more advantage than the older ones who may experience some limitations in utilizing the technology. The same thing was expressed by one of the informants from the results of the in-depth interview for this research. He uttered that there were many cases where MSMEs do not have competent human resources to create e-catalogs, which can lead to frustration. If they get help in making the e-catalog, they will be confused about updating the e-catalog and are frustrated again.

5.4 Social Influence (SI)

As noted in Table 1, the results of this study indicate that Social Influence (SI) is not a significant determinant of the intention to use digital platforms for MSMEs in Tirtajaya. This result is in line with [1] [9] who reported that Social Influence (SI) has no significant effect on the use of digital technology. Based on the results of the in-depth interview, one of the informants also agreed with the current findings that say that one of the reasons why the Social Influence is insignificant can be influenced by colleagues or individuals that often become the new users an innovation of digital technology.

5.5 Facilitating Conditions (FC)

The results of the test of the relationship between Facilitating Conditions (FC) and Behavioral Intention (BI) significantly affect the intention to use digital platforms for MSMEs in Tirtajaya. This finding is in line with the results of research conducted by [1] [11] which stated that Facilitating Conditions (FC) has an important role in the stages of using the digital platform. The influence of Facilitating Conditions (FC) on the use of the digital platform is moderated by the use of mobile phones and internet access. Further explained by one of the informants from the results of the in-depth interview of this study, it has been said

that ownership of cellphones and equal distribution of internet access in each region will increase the potential use of the digital platform, starting from the production process, payment methods, marketing, to product delivery.

VI. CONCLUSION

The digitization of MSMEs is one of the most researched areas in the MSMEs literature. Models and frameworks for MSMEs digitalization are increasingly being applied to various contexts to explore the factors that influence the use of digital technology. This study empirically contributes to the development of scientific knowledge especially through the approach of the UTAUT model. The results of this study indicate that significant use of digital platforms is influenced by facilitating conditions. Meanwhile, Performance Expectancy, Effort Expectancy, and Social Influence were found not to significantly affect the interest in to use of digital platforms by MSMEs entrepreneurs. Thus, the contribution of this research could be made use of by stakeholders; MSMEs entrepreneurs, government, software developers, as well as e-business supply chain entities to further understand and discover the potential of the use of digitalization during the COVID-19 pandemic.

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