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THE INFLUENCE OF *E-COMMERCE* ON THE COMPETITIVENESS OF UMKM USING THE *TECHNOLOGY ACCEPTANCE MODEL* (TAM) METHOD IN PAMULANG SUB-DISTRICT SOUTH TANGERANG CITY

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Abstrack

In the process of running a business or business, business actors must be aware of several factors that accompany the business or business activities, one of which is competitiveness. In this study, examining the effect of E-commerce on the competitiveness of MSMEs in the Pamulang sub-district with the Technology Acceptance Model (TAM) as a measure of technology acceptance that affects the competitiveness of MSMEs. The influence of E-commerce is analysed with several aspects of the Technology Acceptance Model, namely the ability to use a computer (X1), Aspects of usefulness (X2), Ease of use (X3), Aspects of Intention to use E-commerce (X4), and Aspects of actual use (X5). The data analysis technique begins with data compilation, data tabulation and finally the testing phase. This research uses quantitative methods. The value (R2) of 86.5% indicates that the variables (X1) - (X5) have an effect on the competitiveness of MSMEs and 13.5% are other factors. In conclusion, E-Commerce has an effect on the competitiveness of MSMEs.

Keywords*: MSME competitiveness, E-Commerce, Technology Acceptance Model*

INTRODUCTION

President Joko Widodo paid special attention to MSMEs at the 2021 MPR Annual Session. Jokowi emphasised increasing the competitiveness of local products in global competition. By August 2021, more than 14 million SMEs will join online shopping applications. According to data released by *E-commerce* application, Shopee, by 2021, more than 180,000 Indonesian MSMEs will enter the global export market. (Setkab.go.id, 2021)

In 2021, Shopee reported over 50,000 local products sold daily overseas to six export destinations, namely Singapore, Malaysia, the Philippines, Vietnam, as well as Thailand and Brazil. Participation in the digital economy is crucial because the potential is huge and it makes it easier for SMEs to access global supply chains. In 2020, the value of digital business transactions in Indonesia surpassed IDR 253 trillion. The value will increase to IDR 330.7 trillion in 2021.

In addition, the strength of MSMEs is also based on the events of 1998, which turned out to be the strongest MSMEs to get through the dark period in Indonesia's economic world. MSMEs play a strategic role because it is the first step to starting a business. MSME is a business criteria with maximum assets of 50 million Rupiah and has an income of 300 million per year. UMKM is a business category under SMEs, namely small and medium enterprises that have assets of 50 million - 500 million Rupiah and income of 2.5 billion - 50 billion Rupiah. Indonesia has at least 59.2 million MSMEs (Kemenkop UKM-2019). This number is able to absorb 117 million workers, which means 97% absorption in the business world (Kemenkop UKM-2019).

Indonesian MSMEs are considered capable of producing commodity goods that the world needs. The platform has logarithms for the products sold. In addition, increasing competitiveness also has other factors such as advertisement or advertising. the phenomenon of advertising in social media in Indonesia has many types, the easiest and most familiar is the *paidpromote system*, which is promoting a product or store service on an account that has high intensity or *highlights by its followers*. This phenomenon is considered very effective because advertisers are able to choose accounts according to the category and *target market of* consumers. MSMEs need to see this as an opportunity and take advantage of it. This process is what researchers study in the process of accepting technology to increase competitiveness.

Table 1 Number of MSMEs and E-commerce Users in Pamulang sub-district

Year	**Number of MSME**	**MSME Users *E-commerce***
2019	18.933	4.112
2020	18.311	5.347
2021	17.919	7.640

Source: Data Processed (2023)

The table shows that there has been a decrease in the number of MSMEs in the last 3 years due to the impact of the *Covid-19* pandemic which has made some MSMEs choose to go out of business because they are no longer able to cover operational costs. What is quite unique is also presented in the table, namely that the number of MSME users has increased due to the conditions and needs of the impact of the *Covid-19* pandemic which requires MSMEs to transform in order to be competitive or even for the business to be *sustainable.* The urgency that is built between the efforts of MSMEs to survive, plus the impact of covid-19 requires a solution that works together to produce the right solution The impact studied between the relationship between the use of *E-commerce* and competitiveness requires a strong theoretical study and theoretical basis to examine how far and aspects of aspects that influence the elements of *E-commerce* on competitiveness with the object of MSMEs in Pamulang sub-district, the *Technology acceptance model is* used as a step to trace the relationship.

According to Prasetio et al., (2018) TAM is an information systems theory designed to explain how users understand and use information technology. In formulating TAM, Davis did not accommodate all components of TRA theory, Davis only utilised the "*Belief* and *Attitude*" components, while *Normative Belief* and *Subjective Norms were* not used. According to Davis, the behaviour of using IT begins with the perception of benefits (*Perceived Usefulness*).

According to Prasetio et al., (2018) there are two perceptions that can influence *attitude towards use*. The first perception is called *perceived usefulness*, which is defined as the level of a person's belief that using certain technology will improve their performance. This study explains that perceived usefulness has a positive impact on attitudes towards using *E-commerce.* Made Agus Ana

Widiatmika, n.d. researched that perceived usefulness has a significant relationship to attitudes towards using a system. And the perception of the ease of using IT (*Perceived Ease of Use*). These two components when associated with TRA are part of *Belief*. Syafrizal & Dwiandiyanta, (2019) explains that TAM is used to see the understanding of individuals who continuously use information technology in their activities.

The use of information systems on individuals to perform activities and their utilisation is still an important concern for researchers, despite considerable progress in hardware and software capabilities. (*Perceived Ease of Use*) means without difficulty or free from difficulty or no need to try hard. Thus the perception of the ease of using an IT refers to individual beliefs that the IT system to be used is not troublesome or does not require great effort when used. With this perception, the desire to use technology should be able to increase and there will be more technology users, especially MSME players in increasing competitiveness. This is the task of researchers to find ways how familiarity can affect the *belief system* and will facilitate the process of accepting technology among MSMEs in the Pamulang District area.

The ability to master this technology becomes increasingly difficult with the large disparity or *gap in* technological adaptability within the community. Herdiana et al., n.d.). The disparity in technological adaptability between users of technology users in urban and rural areas is quite large, especially in communities with weak economic status. (Herdiana et al., n.d.). This makes a gap between technological capabilities in society (Dwi Kurniawan et al., n.d.). (Dwi Kurniawan et al., n.d.). On the other hand, the community is required to become increasingly consumerist with the existence of technology but does not have a direct impact on the ability to master this technology. Although MSME players already have awareness of the flow of technology, their mastery of technology is considered not optimal.

MSMEs are currently still using Whatsapp *Business* and *Facebook* as their trading *platforms, even though there are* very few promotional activities and consumer scope. *Whatsapp business* only reaches contacts that we *save* and is unable to reach other people who are not contacts of the seller, while for *Facebook*, even though it already has a *Facebook ads* feature, the majority of MSMEs do not have the expertise to utilise it. This makes our MSMEs lag far behind other countries with a fairly high level of technology acceptance. With the acceptance of technology that is considered unequal, it affects competitiveness in fighting for as many consumers as possible. Changing perceptions about the application of technology to MSMEs in the Pamulang District area is expected to be in line with the desire to process and transform into MSMEs with high competitiveness strength on a national scale and become the backbone of a strong and *sustainable* Indonesian economy.

THEORETICAL STUDIES

Theory of Reasoned Action

A good theory usually consists of a series of theories that have previously been refined by several researchers. The theory will also change according to the dilemma of the times. For example, the *theory of reasoned action* which is the initial innovation in the formation of the *technology acceptance model*. *Theory of reasoned action* means that humans will consider everything that will be done according to their will in other words, attitudes tend to provide a judgement of whether they like or dislike objects and reflect a person's feelings towards something. (Magdalena et al., 2018).

Theory of reasoned action was first proposed by Ajzen and Fishbein (1980), Ajzen and Fishbein say that the intention to do or not do an activity comes from two influencing factors, namely (*Attitude towards behavior*) which discusses attitudes and (*subjective norm*) which means social influence. Ajzen and Fishbein also added that there are elements (*beliefs)*, namely beliefs about something. The development element of (*beliefs*) can be linked to the element (*behavioural beliefs*), namely how an object has beliefs about behaviour. Another element that supports subjective norms associated with beliefs is (*normative beliefs*).

Technology Acceptance Model

The Technology Acceptance Model is an adaptation of an existing theory, namely the *theory of reasoned action*. The *Technology Acceptance model was* introduced by Davis in 1986. The *Technology Acceptance Model* which is a development certainly has differences from the theory of Reasoned Action. The technology acceptance model has *external* variables, *perceived ease of use, perceived usefulness,* attitude *towards using, behavioural intention to use,* and *actual system usage.* (Made Agus Ana Widiatmika, n.d.).

Micro, Small and Medium Enterprises

The government defines MSMEs in Law No. 20/2008 on Micro, Small and Medium Enterprises (MSMEs), namely: Micro Enterprises are productive businesses owned by individuals and/or individual business entities that fulfil the criteria of Micro Enterprises as stipulated in this Law. Small Businesses are productive economic businesses that stand alone, conducted by individuals or business entities that are not subsidiaries or branches of companies that are owned, controlled, or part of either directly or indirectly by medium or large businesses that meet the criteria of Small Businesses as referred to in this Law.

Competitiveness

The Minister of National Education Regulation No. 41/2007 on process standards, defines competitiveness as the ability to show better, faster or more meaningful results. The ability in question is the ability to strengthen its market share, the ability to connect with its environment, the ability to improve performance without stopping, the ability to uphold a favourable position. By using

performance or looking at certain indicators as a reference, it can be measured the level of strength and weakness of a competitiveness.

According to Pasaribu & Oktavia, (2020) there are 4 factors that affect competitiveness, namely: Product excellence, Innovation, Human resources, and Marketing with the use of information technology. These factors are explained as follows:

1. Product excellence Product excellence is how entrepreneurs maximise the products they have so that they have a special attraction for consumers. This variable is measured using the following indicators: product uniqueness, quality, price, product difference, and product standardisation.
2. Innovation is how companies have the ability to innovate the goods or services they manage. Because this innovation is the success of a company in competing. This variable uses the following indicators: product packaging, renewable tools, raw materials, strategy, and innovation planning.
3. Human resources are the potential contained in humans to realise their role as adaptive and transformative social beings who are able to manage themselves and all the potential contained in nature towards achieving the welfare of life in a balanced and sustainable order. This variable is measured using the following indicators: selection of competent labour, selection of labour that has skills in their respective fields, MSME training, quality aspects and educational background.
4. Marketing in IT Marketing is how the company sells its business products. Where in an era that already uses increasingly developed technology, it is hoped that companies can market their products using information technology properly to increase the competitiveness of their business. This variable is measured using the following indicators: (a) use of computers, the internet, websites, *chat* applications (*Line, BBM, WhatsApp* and so on), and *online shops.*

RESEARCH METHODS

This research uses quantitative methods, according to Sugiyono (2019: 17) quantitative research is research based on positivism, has a certain population or sample to be studied and collected for quantitative analysis to test existing hypotheses. This study has 5 independent variables and 1 dependent variable, namely the ability to use a computer (X1), the convenience aspect of *E-commerce (*X2), the usefulness aspect of *E-commerce (*X3), the intention to use *E-commerce* (X4), the actual use aspect (X5). For the dependent variable, namely MSME Competitiveness (Y)

Object of research

The object of this research is MSMEs in Pamulang sub-district which is divided into 5 villages, namely Pamulang Barat Village, Pamulang Timur Village, Pondok Cabe Udik Village, Pondok Cabe ilir Village, Kedaung Village. Benda Baru Village, Pondok Benda Village, Bambu Apus Village.

Population and sample

This research will use *Purposive Sampling* so that it requires accurate data and represents the criteria for each type of MSME, the largest, most frequent use of E-commerce, Absorbs labour, and has a large turnover. The population in this study are MSMEs in the South Tangerang city area by focusing on 5 criteria, namely: Culinary, Accommodation, Grocery and Staples, Automotive, *Fashion/Clothing*.

Data collection techniques

The type of data used and processed is primary data obtained directly from respondents of MSME players in Pamulang District. Looking at the type of data used, this research is quantitative research. In this study, the data collection method is a survey by giving questionnaires to respondents focusing on 5 criteria, namely: Culinary, Accommodation, Grocery and Staples, Automotive, *Fashion/Clothing*.

Data analysis techniques

The analysis technique in this study is to use Smart Partial Least Square (PLS) with a small sample size that makes it easy to use this tool to test between variables to see whether they have an influence or not. The technique consists of 2 models, the first is the Outer model and the Inner model. *Outer model* is part of the SEM model which has the use to assess the validity and relationship between variables and other indicators along with variable reliability. The reliability test is used to assess a concept or test the level of consistency in respondents in answering each question on the questionnaire.

1. Convergent *Validity*

   Used to test whether a validity is related to the principle that the measure of a variable has a high influence and correlation. PLS valid or invalid testing sees it with the Loading factor to measure the variable. outer loading in the rule of thumb must have >0.7 and AVE (Average Variance Extracted) >0.5.

2. Discriminant *Validity*

   The principle where the measure of a number of variables should not have a high correlation effect. Discriminant validity is seen by focusing on the cross loading value, which is> 0.70 for each variable. Discriminant validity can also be tested by comparing the square of the AVE on each variable with the correlation between variables.

3. *Composite Reliability*

   Reliability test in measuring research variables to show the level of accuracy, consistency, and accuracy. Compoite reliability and Cronbach alpha are 2 ways that can be tested with PLS. variables are said to be reliable if Cronbach alpha has alpha reliability above 0.6 or constructs have reliability above 0.7.

Inner Model (Structural Model)

The measurement that describes the prediction of the causal relationship between the variables under study is called the structural model. The structural model in PLS is evaluated with R" as the dependent variable and the coefficient value of the T-values on the positive and negative relationships between variables. The R2 value is used as a measure of the level of variation in changes in independent and dependent variables. The value will be said to be better if R2 has a high value.

Hypothesis Testing

Hypothesis testing of the hypothesis in this study pays attention to the T-Statistic value and its P-Value. The criterion applied in probability is the p-value with an alpha of 5%. P-value <0.05. Hypothesis testing can be declared significant or insignificant if :

- The T-Statistic value> 1.96 and its P-Value <0.05 have a significant effect. These results make the hypothesis accepted, the aspects of convenience, usefulness, intention to use, actual use, affect the competitiveness of MSMEs.
- The T-Statistic value <1.96 and its P-Value> 0.05 have no significant effect. These results make the hypothesis to be rejected, the aspects of convenience, usefulness, intention to use, actual use, have no effect on the competitiveness of MSMEs.

RESEARCH RESULTS

PLS-1 Model Convergent Validity Test Table

No.	Computer Usage Ability (X1)	Ease of E-Commerce (X2)	E-Commerce Usability (X3)	Intention to Use E-Commerce (X4)	Actual Use in E-Commerce (X5)	Competitiveness of MSMEs (Y)
1	0.34	0.662	0.82	0.378	0.86	0.317
2	0.73	0.657	-0.13	0.571	0.876	0.868
3	0.759	0.834	-0.628	0.856	0.87	0.771
4	0.764	0.815	0.377	0.675	0.795	0.798
5	0.727	0.83	0.229	0.795	0.863	0.784
6	0.606	0.728	0.003	0.842	0.848	0.099

Source: Data Processed (2023)

Based on the table and figure above, indicators X1.1, X4.1, X4.2, Y1, and Y6 with values below 0.6 will be eliminated. Especially for X3, because only one indicator is used, it should be eliminated altogether, because it cannot represent if it has only one indicator.

PLS-2 Model Convergent Validity Test Table

No.	Computer Usage Ability (X1)	Ease of E-Commerce (X2)	E-Commerce Usability (X3)	Intention to Use E-Commerce (X4)	Actual Use in E-Commerce (X5)	Competitiveness of MSMEs (Y)
1	-	0.659	-	-	0.86	-
2	0.737	0.649	-	-	0.876	0.871
3	0.773	0.836	-	0.84	0.87	0.772
4	0.77	0.819	-	0.715	0.795	0.8
5	0.719	0.833	-	0.844	0.863	0.793
6	0.582	0.726	-	0.836	0.848	-

Source: Data Processed (2023)

PLS-3 Model Convergent Validity Test Table

No.	Computer Usage Ability (X1)	Ease of E-Commerce (X2)	E-Commerce Usability (X3)	Intention to Use E-Commerce (X4)	Actual Use in E-Commerce (X5)	Competitiveness of MSMEs (Y)
1	-	0.659	-	-	0.86	-
2	0.752	0.649	-	-	0.876	0.871
3	0.805	0.836	-	0.84	0.87	0.772
4	0.8	0.819	-	0.715	0.795	0.8
5	0.668	0.833	-	0.844	0.863	0.794
6	-	0.726	-	0.836	0.848	-

Source: Data Processed (2023)

Discriminant validity test table

Aspects	Average Variance Extracted (AVE)	AVE Value Limit	Results
Aspects of Computer Proficiency	0.575	0.50	Valid
Ease of E-Commerce Aspects	0.574	0.50	Valid
Aspects of Intention to Use E-Commerce	0.657	0.50	Valid
Aspects of True Use in E-Commerce	0.727	0.50	Valid
Competitiveness of MSMEs	0.656	0.50	Valid

Source: Data Processed (2023)

The discriminant validity test results show that the average extracted variance (AVE) exceeds the 0.5 limit so that it is said to be valid.

Composite reliability test table

Aspects	Cronbach's Alpha	rho_A	Composite Reliability	The result
Aspects of Computer Proficiency	0.752	0.76	0.843	Reliable
Ease of E-Commerce Aspects	0.854	0.895	0.889	Reliable
Aspects of Intention to Use E-Commerce	0.826	0.845	0.884	Reliable
Aspects of True Use in E-Commerce	0.925	0.927	0.941	Reliable
Competitiveness of MSMEs	0.825	0.83	0.884	Reliable

Source: Data Processed (2023)

The composite reliability test conducted shows results above 0.6 - 0.7 which indicates directly that the data is reliable because it has shown results that meet the minimum requirements for composite reliability.

R Square Test Table (R)^2

Variables	R Square	Adjusted R Square	The result
Competitiveness of MSMEs	0.865	0.85	Strong Model

Source: Data Processed (2023)

The table above shows that the result of R square is 0.865 with an adjusted R square of 0.85 which has strong results.

Hypothesis Test Table

Hypothesis	Original Sample (O)	Sample Average (M)	Standard Deviation	T Statistics	The result	P Values	The result	Conclusion
Aspects of Computer Use Ability -> Competitiveness of MSMEs	-0.118	-0.101	0.135	0.872	Rejected	0.384	Not Significant	No effect
Ease of E-Commerce -> Competitiveness of MSMEs	0.374	0.377	0.122	3.06	Accepted	0.002	Significant	Positive and significant effect

Aspects of Intention to Use E-Commerce -> Competitiveness of MSMEs	0.464	0.427	0.131	3.55	Accepted	0	Significant	Positive and significant effect
Aspects of True Use in E-Commerce -> Competitiveness of MSMEs	0.266	0.285	0.14	1.904	Accepted	0.057	Not Significant	Positively influenced, but not significant

Source: Data Processed (2023)

CONCLUSIONS

Based on the results of the analysis and discussion of the research, the researcher can conclude that the ability to use computers has no effect on the competitiveness of MSMEs because business actors think that they are more concerned with the ability to use *gadgets*, 2. The convenience aspect in *E-commerce* affects the competitiveness of MSMEs in this case business actors are interested because *E-commerce* makes it easier for them to strengthen competitiveness, 3.The aspect of usefulness in *E-commerce has* no effect on the competitiveness of MSMEs because some MSMEs have not fully understood the benefits of *E-commerce*, 4. The aspect of intention to use *E-commerce affects* the competitiveness of MSMEs because the intention to use it is the first step in developing and strengthening competitiveness, 5. The aspect of actual use of *E-commerce* affects the competitiveness of MSMEs in actual use, business actors feel that E-commerce feels able to develop their business and strengthen competitiveness.

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