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The Application of Technology Acceptance Models SMEs in Sleman

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Abstract

In this era, economic growth is getting faster because of the use of technology, technology drives it, but there is a gap between big and small businesses due to differences in opportunities to participate and develop digital marketing strategies. SMEs are expected to help the economic growth of a country. The purpose of this study is to explore the use of technology by small businesses by investigating their belief that technology is easy to use and can help the performance of SMEs so that they use the technology. The data that has been collected is then analyzed by several tests, namely the validity test and reliability test meanwhile. The data analysis technique used to answer the hypothesis is descriptive statistical analysis and Partial Least Square (PLS) using the SmartPLS 3.2.8 software program. The results of this study indicate that Perceived Usefulness, Perceived Ease Of Use, attitude affect Behavior Intention to Use SMEs in Sleman.

Keywords: SMEs, Digital Marketing, Tam Model

I. INTRODUCTION

Technology is an important field of study in various fields, including small and medium enterprises (SMEs), an ongoing problem at the global level. It has become increasingly important due to the development of the internet today. This fact has been further highlighted by the advancement of social media, with the advent of Web 2.0 and social commerce, the new stream of e-commerce. This development makes social media to increase the potential for communication between businesses and consumers, using new channels such as blogs, social networking sites, social media, and online communities (Hajli, 2012). However, the effect of this phenomenon on developing countries has not received sufficient attention. As a fundamental part of the economy, especially in developing countries, one of them is Indonesia. SMEs need a pre-adoption model to apply the use of social media to their business. In this era, many businesses and customers are connected through new platform technology or social networks. This development appears to be the result of a new flow in e-commerce called social commerce. In a study on the adoption of information technology systems, the Technology Acceptance Model (TAM) is one of the most dominant research models used.

TAM consists of two main factors, namely: perceived Usefulness (PU) and perceived ease of use (PEOU). The rapid growth of Information and Communication Technology (ICT) in Indonesia has made user acceptance an increasingly critical issue in technology implementation and management. According to Aboelmaged and Gebba (2013), perceived usefulness increases the intention to use. Also, the study by Rogers (2003) supports ease of use among the factors that determine the level of adoption of new technology. In this context, less complicated applications will require less training to be adopted. However, according to Cope's (2005) research, not all SMEs can experience the ease of use of technology, although access to free and open digital marketing media, the whole service industry has emerged where professionals specialize in search engine optimization (SEO), e-commerce management systems. And social media, and can do this activity for other businesses. However, the implementation of digital marketing by small businesses is usually done by the experiential or "learn-by-doing" method. This study investigates the TAM model for SMEs in Sleman.

II. LITERATURE REVIEW

II.1. TAM

There are several models created to analyze and understand the factors that influence the acceptance of the use of computer technology, including those contained in various literature and references to the results of research in technology, such as Theory of Reasoned Action (TRA), Theory of Planned Behavior. (TPB), and the Technology Acceptance Model (TAM). TAM is adapted from the Theory of Reasoned Action (TRA) model, which explains and predicts people's behavior in certain situations (Ajzen and Fishbein, 1980). The main purpose of TAM is to present an approach to studying the influence of external variables on people's internal beliefs, attitudes, and intentions. TAM proposes perceived ease of use (PEOU) and Perceived Usefulness (PU) as the most important factors to explain technology acceptance (Davis, 1989).

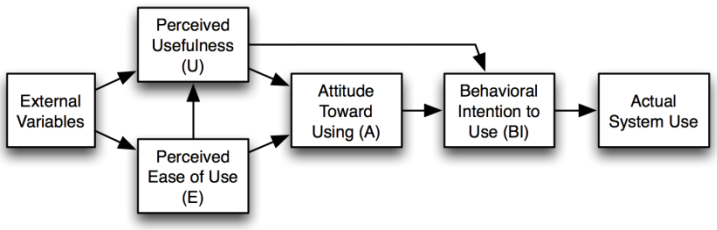

Figure 1 Technology Acceptance Model (TAM) (Davis, 1989)

II.2. Behavior Intention to Use

A tendency to attract users to use a given technology. The level of use of technology in a person can be predicted from the attitude of his attention to the technology, for example, the desire to add supporting peripherals, motivation to continue to use, and the desire to motivate other users (Davis, 1989). Behavior is done because the individual has an interest or desire to do it, or behavior interest will determine his behavior. Behavioral intention is a person's desire to carry out a certain behavior or a person's tendency to keep using certain technology. Someone will do a behavior if they have the desire or interest to do it (Hartono 2007).

II.3. Perceived Usefulness (PU)

Perceived usefulness is defined as a level where an individual believes that using a certain system will help improve the individual's work performance and performance (Davis, 1989). Based on this definition, it can be concluded that the benefits of using technology can help improve the performance and work performance of individuals who use it. The use of technology drives the intention to adopt digital marketing, such as knowing which sites to use and how best to use them (Lacka and Chong, 2016). Small business owners can gain initial experience using digital marketing technology through their social media accounts and then with accounts specifically for their small businesses.

H1: Affects the attitude of SME owners to use digital marketing

II.4. Perceived Ease of Use (PEOU)

Perceived ease of use is a technology that is defined as a benchmark for someone who believes that technology can be understood and used easily. A level or situation where a person believes that using a certain system does not require heavy effort (Davis, 1989). Several indicators that can be used to measure perceived ease of use include flexible, easy to learn, easy to use, and can control work. Perceived ease of use emphasizes the ease of use of this technology. A technology that is difficult to control will provide a significantly negative level of perceived ease of use.

H2: The perceived ease of impact on SMEs' attitudes to using digital marketing

II.5. Attitude (AT)

Attitude is an expression of feelings, which reflects whether someone is happy or not, likes or dislikes, and agrees, or disagrees with objects and is the most important concept in the study. Consumer behavior, by influencing consumer attitudes, marketers hope to influence consumer behavior interest (Simamora, 2004). In the context of information system adoption, a negative attitude shows that the user will tend to refuse to use the information system, but if the attitude is positive, the user will accept the use of the information system. According to TAM, attitudes towards information systems are directly influenced by the perceptions of the users, namely the perceived usefulness and perceived ease of use. Attitudes as a user evaluation of their interest in using information systems (Hartono 2007). According to Hartono's research (2007), the attitude of using information systems is influenced by perceived usefulness and perceived ease of use, and according to Spacey (2004), Attitudes have a positive effect on behavioral intention.

H3: The attitude of SMEs to use affects the Behavior Intention to Use

II.6. Thinking Framework

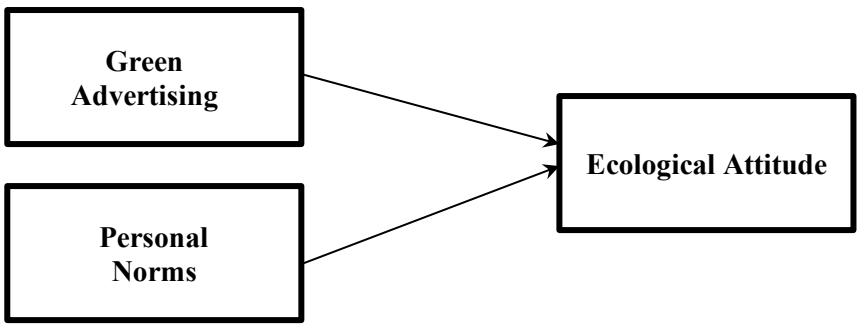

Figure 1. Research Framework

III. RESEARCH METHODOLOGY

This research was conducted to test PU, PEOU, and AT against BI. The population of this research is UKM in Sleman, Yogyakarta, Indonesia. This research is explanatory research with a survey approach. Based on the research objectives, this study is research for hypothesis testing. The data analysis technique used to answer the hypothesis is descriptive statistical analysis and Partial Least Square (PLS) using the SmartPLS 3.2.8 software program. This research is quantitative research with the sampling technique in this study using the Non-Probability Sampling method with a purposive sampling technique, namely the sampling technique with certain considerations (Sugiyono, 2013). Researchers distributed questionnaires to 100 SME respondents in Sleman. Respondents are UKM owners in Sleman who are interested in using and utilizing social media as a marketing medium.

IV. FINDING AND DISCUSSION

Data analysis and discussion explain whether there is an influence of PU, PEOU, and AT on BI UKM in Sleman. This study used 100 respondents of UKM owners in Sleman who are interested in using and utilizing social media as a marketing medium.

IV.1. Descriptive Analysis of Respondents

Primary data that has been successfully collected by researchers is analyzed to determine the characteristics include Length of business establishment, number of employees, the position of questionnaire filler, and recent education.

Table. 1. Characteristics of Respondents

Characteristics of Respondents	%
The Old Establishment of Enterprises	
<1 year	25%
One year - 4 years	47%
Five years - 8	15%
years>8 years	13%
Number of Employees	
<10	78%
10 -	10%
20>20	12%
Position:	
Owner	8.5%
Manager	35.5%
Owner and Manager	56%
Latest Education:	
Elementary / Middle School	32.6%
High School	19.9%
Diploma / Bachelor	47.5%
Degree / MasterDegree	0%
Doctoral/ Doctoral Degree	0 %

IV.2. Quantitative Analysis of Respondents

Results of Testing the Measurement Model (Outer Model)
The analytical method used in this study is the Partial Least Square (PLS) with the Smart PLS 3.0 program. This technique consists of an outer model or measurement model and an inner model or structural model (Ghozali, 2014). An outer model or indicator test is carried out to assess the reliability and validity of the model. The results of the outer model in this study are shown in Tables 2 and 3 as follows:

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	ReliabilityComposite	AVE
AT	0.973	0.973	0.980	0.926
BI_	0.976	0.976	0.981	0.912
PEOU	0.975	0.977	0.980	0.892
PU	0.984	0.985	0.987	0.928

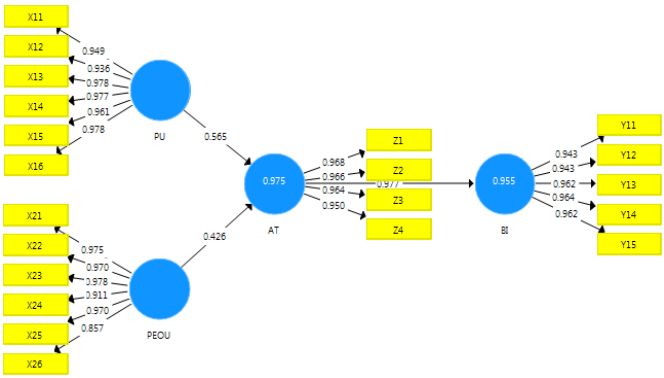

Figure 3. Algorithm (Outer Model)

Table 3. Cross Loading

	AT	BI	PEOU	PU
X11	0,940	0,888	0,943	0,949
X12	0,906	0,858	0,937	0,936
X13	0,964	0,945	0,957	0,978
X14	0,964	0,949	0,953	0,977
X15	0,942	0,915	0,936	0,961
X16	0,971	0,945	0,959	0,978
X21	0,965	0,948	0,975	0,974
X22	0,947	0,906	0,970	0,938
X23	0,955	0,919	0,978	0,956
X24	0,869	0,845	0,911	0,881

X25	0,953	0,931	0,970	0,958
X26	0,871	0,843	0,857	0,862
Y11	0,925	0,943	0,908	0,893
Y12	0,922	0,943	0,900	0,897
Y13	0,942	0,962	0,909	0,925
Y14	0,941	0,964	0,926	0,925
Y15	0,935	0,962	0,904	0,905
Z1	0,968	0,955	0,960	0,979
Z2	0,966	0,931	0,963	0,943
Z3	0,964	0,935	0,931	0,958
Z4	0,950	0,940	0,926	0,907

From the data above, it shows that saying that the variable value can be declared reliable or meets Cronbach alpha if it has a Cronbach alpha value> 0.7, the indicator requires that the value be> 0.5 for a good model, outer loading is> 0.7 and has a composite reliability value> 0.6 (Ghozali, 2014). From the data above, it can be concluded that the indicators of the studied variables are considered very good to meet the requirements.

Structural Model testing results (Inner Model)
The following is the result of inner testing models:

Table 4. Results of Inner Model

Testing	result	Criteria
The Coefficient of Determination (R-square) attitude Behavior Intention to Use	 0.975 0.955	High. The percentage of attitude can be explained by the PU and PEOU variables of 97.5% and the amount of Behavior Intention to Use through the PU, PEOU, and attitude variables of 95.5%
Predictive Relevance (Q-square) $Q^2 = 1 - (1 - R1^2)(1 - R2^2) \ldots (1-Rp^2)$ $Q^2 = 0.95$	0.95	Good, meaning that the observed values have been reconstructed well with predictive relevance of
The Goodness of Fit (GoF) $GoF = \sqrt{average\ AVE\ x\ average\ R^2}$ $= \sqrt{0914\ x\ 0.16443}$ $= \sqrt{0.965}$ =0.94	94%	Large. The results of the GoF value are above 0.36, so it can be said that the model used is very fit.

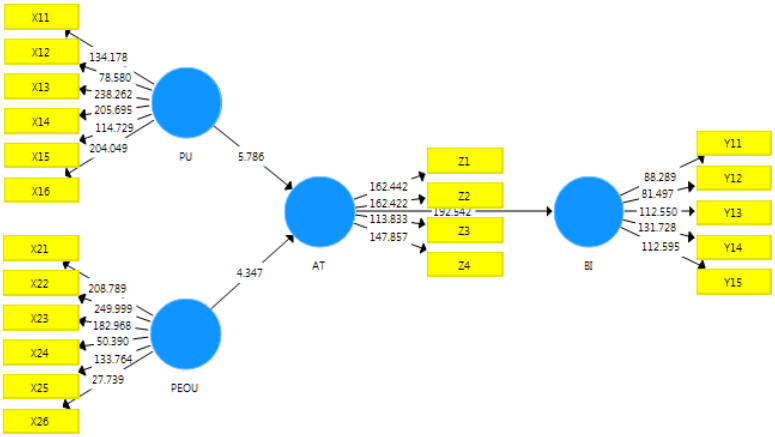

Figure 4. PLS-Bootstrapping

Hypothesis testing is done by looking at the probability value and t-statistic. For probability values, the p-value with α of 5% is <0.05 and the t-table value for α 5% is> 1,960. So that the criterion for acceptance of the hypothesis is when the t-statistical value> t-table. Hypothesis testing using the Smart PLS 3.0 method was carried out by doing a bootstrapping process so that the relationship between the influence of exogenous variables on endogenous variables was obtained as follows:

Table 5. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AT -> BI_	0,977	0,977	0,005	9,542	0,000
PEOU -> AT	0,426	0,428	0,098	4,347	0,000
PU -> AT	0,565	0,564	0,098	5,786	0,000

V. DISCUSSION

V.1. Effect of Perceived Usefulness of the Attitude

Based on the table path coefficient, there is the influence of Perceived Usefulness of the Attitude amounting to 0.565 and significant because the T-statistic is 5.786> 1.96, and the P-value is 0.000 <0.05. Thus it can be stated that the higher the respondent's perception of the speed of doing tasks, increased performance, increased productivity, increased effectiveness due to the influence of technology to be used on their SMEs, the higher their sense of pleasure and desire to use this technology. These results support the research of Davis (1986), and Spacey et al. (2004) show that there is a significant relationship between perceived usefulness and attitudes towards using technology.

V.2. Effect of Perceived Ease of Use on Attitude

Based on the path coefficient table, there is an effect of Perceived Ease of Use on Attitude of 0.426, and it is significant because the T-statistic is 4.347> 1.96, and the P-Value is 0.000 <0.05. Thus it can be stated that the higher the respondents' perceptions of the ease of learning, the ease of accessing the system, the ease of understanding, the ease of interaction, the ease of using this technology, the higher their sense of pleasure and happiness towards the adoption of technology in the form of social media which they will apply to their UKM. This study supports the research of Ramayah and Lo (2007), which shows a significant relationship between perceived ease of use and technology use.

V.3. Effect of Attitude on Behavior Intention to Use

Based on the path coefficient table, there is an influence of Attitude on Behavior Intention to Use of 0.977, and it is significant because the T-statistic is 9,542> 1.96 and the P-Value is 0,000 <0.05. Thus it can be stated that the higher the feeling of wanting to use this technology system for their SMEs or having a positive attitude or accepting information systems, the greater the behavioral interest of SME owners to adopt the technology and the stronger the realization of the behavior of using the technology will be. This study supports research from Spacey et al. (2004), which shows related attitudes in interest in the real use of the system.

VI. CONCLUSION AND FURTHER RESEARCH

This study uses data obtained by 100 respondents of SMEs in Sleman, Yogyakarta, Indonesia. Based on the data analysis carried out in this study, the conclusions that can be presented from the results of this study are as follows: the effect of perceived usefulness, perceived ease of use has an effect on attitude, and attitude has a significant and positive effect on Behavior Intention to Use. This research is expected to be a reference for future researchers who examine the effect of perceived usefulness, perceived ease of use, attitude, and Behavior Intention to Use. This research can only be generalized to the scope of research that has certain criteria for subjects and research objects. The research is also limited to the scope of SMEs in Sleman; for the next research, it is expected that the research setting is not only in Sleman Regency and uses this variable but many other factors that can actually be used to predict the effect of the Behavior intention to use the TAM model.

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