

The challenge to Technology Acceptance Model

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Any application toward the usage of technology will refer to the technology acceptance model (TAM) theory. However, there is one thing that becomes a major concern for small traders. It is the attitude toward risk. This study wants to evaluate this variable related to the development of Micro and Small Businesses (MSME) with ICT Adoption. This research will want to see the effect of attitudes on business risk on usage behaviour, on their innovation capacity. The quantitative research method is used to analyse the interview result of traditional small business owners who have limited capital, have a low income and run their businesses. The results of this paper show that there is a new perspective on technology acceptance models. Based on this paper, the attitude in taking risks to using technology in developing business has a significant influence on small businesses.

Key words: *TAM, SME, application, technology, risk, attitude, business.*

Introduction

The internet rapidly expands the network of the computer to billions of computer and smart devices connections in various function, interconnected activities, and needs. The development of this technology can provide new opportunities for all parties who can use it to encourage the optimisation of operational activities, increase the potential for creation through comparison and adaptation of information available on the internet and many more potential that can be developed. The benefits of this technology do not just come just like that, but the existence of technology needs to be supported by the availability of infrastructure, accessibility to the technological devices needed, and the availability of costs required to pay for this service. In this internet technology ecosystem, if there is a difference in the level of accessibility and the level of adoption, it will cause connection gaps in the adoption of digital transformation. In



ASEAN, access costs are a gap contributor to the use of this technology. Singapore has the lowest high-speed Internet cost at US \$ 0.05 per megabit (Mbit) per month, followed by Thailand (US \$ 0.42); Indonesia (US \$ 1.39); Vietnam (US \$ 2.41); the Philippines (US \$ 2.69) and Malaysia (US \$ 3.16). The quality and capabilities of micro and small entrepreneurs also vary in allocating funds for these services.

There are 63 million small-medium enterprises (SMEs) in 8 ASEAN countries (Indonesia, Malaysia, Thailand, Myanmar, Laos, Philippines, Cambodia, Vietnam, Brunei, Singapore). The question to them now is: Is the adoption gap happening now whether it can have an impact on SMEs? Can they adapt to ICT technology? Are they able to use this ICT technology? Can they develop their business using ICT? What is their attitude towards the risks of using ICT in developing their business? What should they do to optimise the use of ICT? From the last survey conducted by APJII (Indonesian Internet Service Provider Association), in Indonesia in 2017, there were 143.26 million internet users or 54.7% of the total population of Indonesia. The growth is quite high from year to year. From 1998 to 2017, the CAGR reached 36.9%. 72.41% majority of internet users are still in the urban area. The utilisation also varies, from communication, buying goods or services, doing business and create employment. The level of penetration in the lower social-economic is only 21.72% while the lower middle social-economic level is in the range of 58.55% (IISPA, 2017).

Indonesia's business ecosystem is currently still dominated by Micro Small by businesses. There are 26 million small micro-enterprises that absorb almost 59 million employees or almost three-quarter of Indonesian worker (Tusianti et. Al., 2016). Small and Medium Enterprises (SME) are a form of business that is seen from the scale of the business equivalent to home industry, and small businesses only have some employees between 1-19 people. This SME has proven to be one form of business that can survive the economic crisis that has occurred in Indonesia. Small and Medium Enterprises is one of the fields that makes a significant contribution to spurring Indonesia's economic growth. Business development in a small enterprise, it seems that the business management concept will not be separated from the principles of entrepreneurship, because in small companies, their development efforts are very limited by their resources and ability to manage risks. However, what is interesting is that in previous studies there were differences in views and fundamental results of research, especially in taking risky actions (Gilmore et al., 2004; Ludmila et. Al., 2015). On the other hand, the evaluation of the effect of this attitude on the intention to use in the TAM business framework (technology acceptance model) in small businesses continues to be explored by researchers, because of the large research potential and not too many who do this research.

TAM concept was raised because of its ability to explain the businesses that relate to technology including SME. SME needs an improvement in their business capabilities and capacities. Most of the small business problems are caused by the lack of access to resources,



access to business partner, trade assistance and trade information. ICT technology is expected to help these business activities. For this reason, this research will analyse how technology can help small businesses through the adoption of the TAM model and evaluate the influence of the owner attitude toward business risk and challenge in adopting the ICT in developing their business value.

Literature Review

David introduced the TAM concept in 1986, which offers a theory as a foundation for learning and understanding user behaviour in receiving and using technology. In 1989 Davis published the results of his research by the name of TAM theory with an emphasis on the perception of ease of use and usefulness that has a relationship to predict attitudes in using information systems (Davis, 1989). The TAM model developed from psychological theory, that explains the behaviour of computer users, which is based on belief, attitude, intention, and the relationship of user behaviour. Two primary factors influence user behaviour, namely: 1. Perception of Ease of Use (Perceived Ease of Use) that eases in using a system. Ease perceptions explain the reason a user uses a system with all forms of conditions and levels of literacy. 2. Perception of Usefulness (Perceived Usefulness) explains the level of trust and understanding of someone that this system can help their business or activities. If these two perceptions give positive results, the probability of the person using this system will be substantial. The output of this stage is the intention to use. Furthermore, if the internal to use of a system is positive then the person psychologically will tend to move towards use behaviour (behaviour intention to use) that encourage him to use this technology and make it an actual system usage. Bem, 1972 introduce the self-perception theory that suggested people will reveal attitude without considering their cognition process. This condition included the attitude toward risk.

Risk Attitude controls our personality, and mindset of someone to determine whether someone will take a risky step or avoid it or deal with it with careful consideration and calculation. Knowledge about risk continues to grow in line with the increasingly diverse situation, and condition of a person to the type of problem faced, the level of complexity of the problem, the environment that affects it and the time and resources that are available in solving this problem. Attitude to risk can be categorised into several concepts. In general, there are three types of risk attitude, namely, risk-averse or risk avoidance, risk tolerance / neutral and risk-seeking or risk-takers (Hilson & Webster, 2005). This attitude will determine a person's behaviour whether he will avoid risk, tolerate risk or indeed take any risks that will appear later on. As an output, this risk attitude will moderate the further consequences for any actions taken or not. This research wants to re-visit the concept of TAM, whether the attitude toward risk could create a barrier or become a motivator in initiating trial action to use the internet technology and the applications as a starting of action. Perceive ease of use can be translated or represented

by having good feeling toward the action. Perceive of usefulness can be demonstrated as an acceptance of thought that the action is right or positive. Interestingly, if people have a strong attitude toward an object, it will influence thoughts and feelings as well. Attitude has an accumulation of belief and experience. It is a result of multiple evaluations of issues, objects, people. In business development, especially for entrepreneurs, every business decision making must be related to the ability to manage risk. This ability is closely related to the courage of individuals in making risky decisions. This individual courage is motivated by his attitude that grows and develops from what he believes to be true and underpins previous decisions.

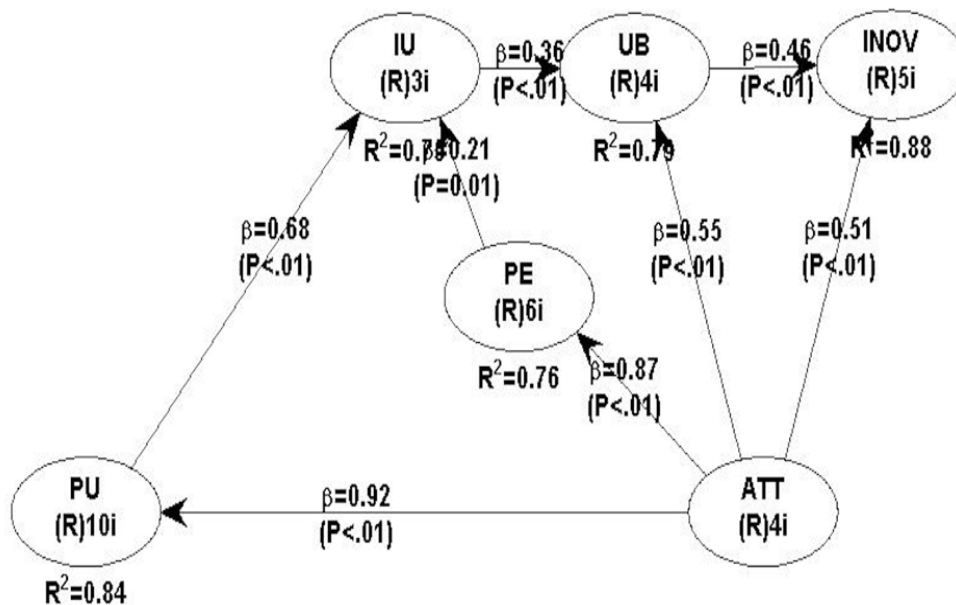
The output of the previous decision is a result that can be accepted by himself and those who become his supporters or even family or close people. What has become our observation in the field is that almost all micro-businesses originate from family businesses. This family business is passed down from generation to generation. This business has been tested for years and is an asset of the family. Lots of secrets are kept in running this business, especially food recipes, drugs or operational tricks that are effective and have the greatest benefit. Not to mention the culture that requires the next generation to respect their ancestors. Changes made are considered not respecting previous generations or ancestors, especially concerning the existence of other parties who are the main objects of this business. This kind of business has been maintained for generations and has become a strength for this business. The question is whether in the current era, a business cannot change to make it more acceptable and easier to access. So the main target of the revisit of TAM is evaluating the attitude variable toward the Perception of Ease of Use (Perceived Ease of Use) and Perception of Usefulness (Perceived Usefulness).

Methodology

This study used quantitative research, cross-sectional data. In addition, interviews were also conducted to get more insight stories from this business and its relation to the use of technology. The object of research was small business clusters, usually doing business by using carts, bicycles, goods carried, and using pedicabs, including traditional entrepreneurs, hawkers merchant around the Kemanggisan area of West Jakarta Indonesia. 5% is the error rate. SPSS 22 and Warp PLS software ver 6.0 was used to perform statistical calculations of the data analysed. The questionnaire used a Likert scale. The sampling technique used was purposive sampling, which focused on individual entrepreneurs. Defining the notion of small businesses was a people's economic activity that met the criteria as 1. the businesses that had a net worth of at most Rp 200 million, not including land and building of business premises, 2. Businesses that had annual sales of at most Rp. 1 billion, 3. A stand-alone business, not a company or branch of a company that was owned, controlled or affiliated, directly or indirectly with a medium or large-scale business, 4. A business entity owned by an individual, a business entity that was not a legal entity, including a cooperative (Zulkarnain, 2006). This study obtained 104

respondents from a population of 141 small entrepreneurs, dominated by traders who use carts as many as 62 people (59%), then followed by traders using bicycles as many as 33 people (32%), then traders used yoke as many as 5 people (5%), then the last 4 traders used Becak (4%). Respondents who trade with a mobile capability were 65 people (62%) while 39 people (38%) other traders tend to settle even though using a bicycle or a cart. With this research, we tried to find out the digital inclusion issues for business and the welfare of small entrepreneurs in the Kemanggis area of West Jakarta. 6 variables were chosen in this study. Those were: Perceived of usefulness (PU), Perceived Ease of Use (PE), Intention to Use (IU), Usage Behavior (UB), Attitude toward Risk (ATT), and Innovation (INOV). The research model is in Figure 1.

Figure 1. Research Model



Result

The questionnaire was tested using 2 tests, the reliability test and validity test. The result was that all variables were reliable, and all indicators were valid. Several classic tests such as Normality, Autocorrelation and Multicollinearity, had been done. For the normality test, we used the One-Sample Kolmogorov - Smirnov Test measurement method, which the result was 0.945 meaning it was above 0.05. This means that this data was normal. While in the multicollinearity test, the VIF value was <10 (PU = 6.772, PE = 5.279, IU = 4.030, ATT = 7.068, UB = 5.661) so the multicollinearity did not occur. Based on the results of this evaluation, our data was processed using WARP PLS to evaluate the effect size of this business model. The result is in Figure 1 and Table 1.

Table 1: Effect Size for Path Coefficients

	PU	PE	IU	UB	ATT	INOV
PU					0.841	
PE					0.759	
IU	0.580	0.167				
UB			0.305		0.481	
ATT						
INOV				0.415	0.465	

Based on the effect size for path coefficients, most of the paths have high value, or above 0.35 except PE to IU (0.167), IU to UB (0.305) (Kock, 2012). While the rest of the path between PU to IU (0.58), ATT to PU (0.841), ATT to PE (0.759), ATT to UB (0.481), UB to INOV (0.415) and ATT to INOV (0.465)), the values were higher than 0.35. Based on the value was indicated that the path was influential. This condition was in line with R² in mediating variables and the dependent variable that had high value. The R² value of PU (84%), IU (75%), PE (76%), UB (79%) and INOV (88%) were quite high. All the paths had a significant impact since all the P-value was close to zero. So the research model could describe optimally all the behaviours of all variables that were connected in the model. The attitudes (ATT) had a significant influence on the Perceive of Usefulness (PU) with $\beta = 0.92$ and it had a significant impact also on Perceived Ease of Use (PE) with $\beta = 0.87$. One interesting note is that the PE had not an impact on the intention to use (IU) with $\beta = 0.21$. Nevertheless, since IU has high R²(0.75), this condition cannot be neglected. ATT influences on UB (0.55) and INOV (0.51). Although these influences are lower than ATT to PU or PE, yet the possibilities in changing the decision on user behaviour or innovation are quite significant. In summary, ATT toward individual preference or risk have an impact in the Perceive Ease of Use and Perceive of Usefulness model like in the TAM model.

Discussion

Micro and small businesses that can access the internet and use computers are still very few. Although the cost of internet access is getting cheaper, internet usage is very dependent on understanding the benefits of using ICT technology, especially when Indonesia is currently developing 4.0. Referring to the results of the research, there is an important note that becomes the focus on the objectives of micro-business development, especially on the company's interest in product development through the use of ICT. During these observations and discussions with entrepreneurs, the desire to work on the family micro-business is more focused on volume and not on variation. Even though if we look at the spirit of

entrepreneurship, product variations can become a cornerstone to encourage competitive advantage. However, the development of product variations requires creativity. On the other hand, for the presenters, creativity in their view is a risk that must be faced. The main issue is maintaining business while maintaining tradition.

Product development requires cash flow in financing product development. The more creations that are carried out the costs that must be done will be the greater the costs required in financing. If at this time digital technology in the business has not been utilised optimally, then market participants have not mastered it well so that in the future products from abroad may dominate the Indonesian market (Tusianti et al., 2016). Today's marketing ecosystem has relied heavily on online systems so that the reach of the marketing area is expansive. Small entrepreneurs need to be encouraged to do an online system. With the development of the digital world, the marketing area should not be limited. This is a golden opportunity for small entrepreneurs to develop their product distribution range, product variety, product segmentation, and product positioning. However, it should be noted, that to realise this, the support of information infrastructure is very important. Currently, around 33.78 percent of villages in Indonesia cannot capture internet signals properly; even 8 percent of them have not been touched by the internet network (Tusianti et al., 2016). The challenges for small business that they should develop its product through the creative usage of information that widely available on the internet. This research shows this opportunity. However, on the flip side, if the attitude is negative or risks averse. It will also reduce their opportunity in developing the business

With the limitation of capital sufficiency, small business will minimise its action to reduce risk. In fact, at the macro level, incubation was influenced by the industry, industrial stakeholder, the institutional and the cultural context (Chandra & Fealey, 2009). Perceived benefit is clear for small business. The perceived cost of internet access could probably no impact since the government wants to promote economic growth through e-commerce (Alam and Noor, 2009). Other journal stated that the cost of creative development and implementation might gain higher innovation performance (Parida and Örtqvist, 2015). In other journals, the ability to adapt knowledge in the early stages of using ICT greatly determines the quality of ICT implementation in developing its business (Giotopoulou et al., 2017). Therefore, in the application of ICT assistance from the government or larger companies is the key that is also important in the success of raising business performance, small and medium entrepreneurs (Giotopoulou et al., 2017).

Conclusion and Recommendation

The attitude of the owners strongly influences the use of the internet for small enterprises. The SME and Micro Business owners determine the direction of the business including its development. The level of risk that will and can be taken by the company also depends on the



ability of the owner to arrange, accept and anticipate the risks that will be faced or accepted. In different research, any business activities in small business that is related to cash flow, company size, entering new markets or new areas of business, and entrusting staff with responsibilities, are creating difficulties to the owner (Gilmore et al., 2004), unless the owners improve their managerial competencies and networking. They carry out their business activities based on pattern activities and ways of business that have been carried out for generations or taught by parents to their children. Very rarely do they make a variety of variations or very basic changes. Therefore, if this attitude arises, it will be difficult for businesses to carry out activities that are very different from previous activities. Unless the owner of the company begins to open up and develop his business gradually at the level of risk, he can face. The role of the government is also important in fostering these small entrepreneurs so that they can gradually grow and also start providing incentive assistance or support so that the risks they face become less burdensome for these small companies. Related to the results of this research and understanding the situation of small entrepreneurs reinforces a new perspective on TAM Theory. This means, with this research framework, the ability to change the attitude of business actors will lead to enormous changes in developing business through innovation by motivating people or companies to adapt, experience and build the perception of ease of use and usefulness toward creativity.

Many small businesses reluctant to take the risk especially that relates to cash flow, company size, entering new markets or new areas of business, and entrusting staff with responsibilities (Gilmore et al., 2004). This barrier holds up the owner of small business to make a decision and to make an innovation, including trying a new application that will be implemented in their business. This is the flipside argument to renew TAM for micro business. Based on this research, attitude influence the perceived ease of use and usefulness. If the attitude is negative, then the use of ICT for innovation process is very unlikely to be continued. Lai (2018) had the same case that TAM should be extended to the aspect of risk. Lai (2018) added security measured in the developing online payment system. This action will boost trust in the system. Issue of risk also has been a major discussion in strategic management (David and David, 2012). Hess (2010) also stated that business grow by managing risk. TAM models have been updated by several researchers several times, including becoming TAM 2 by Venkatesh & Davis (2003) and becoming UTAUT (unified theory of acceptance and use of technology) in 2003. Further development of this theory can be combined with the theory of entrepreneurship, leadership, and marketing. Especially if pushed further towards international business. The variable operational dimension will be increasingly expanded and expanded, especially in Southeast Asian countries that have a similar vision and business culture. ICT technology that naturally drives business internationalisation should provide an attraction for all entrepreneurs to grow and develop. TAM theory explores perceptions towards evaluating behaviour in using applications. This TAM's new perspective on this research will encourage an effort to innovate business or business creativity through the use of technology. This research is still focused on



small, micro and medium business. In the future, this new concept can be evaluated if the object changes into a regular company or even a parent company. Other potentials are also evaluated between technology-based companies and non-technology-based companies that utilise technology for operational purposes only. So this area is still providing opportunities for other researchers to improve the framework. Some components of Perceived risk are a functional risk, time risk, privacy risk, psychological risk, social risk and financial risk (Biucky, 2017) which can also be investigated further by researchers in the next study. Because technology will change people, owner, customer, although they do not always like to be changed. Introducing a small business forum in each country is one of the key things opening the communication and perception of risk. Communication between small entrepreneurs will provide opportunities for sharing experiences on the risks and benefits between them. Increased knowledge will make them more open to new initiatives, from a simple concept or business model or to the complex initiatives. Cooperation between entrepreneurs will also open to all SME. It will minimise risk because the risk is shared. SMEs must continue to be encouraged to use information communication technology. The benefits derived from this technology need to continue to be shared between entrepreneurs and from educational institutions researching this matter. SMEs in ASEAN must move forward and actively respond to this problem. A key finding of the research is expected to contribute to the development of the Technology Acceptance Model theory (TAM)



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