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STRATEGIC EMPOWERMENT OF SMES FOR GLOBAL COMPETITIVENESS GROWTH THROUGH E-BUSINESS ADOPTION INTENTION

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***Keywords*: strategy, SMEs empowerment, global competitiveness, adoption of e-business**

Abstract

In the era of globalization and rapid development of information technology, companies have to adopt the internet-based business. The internal readiness factors of Small-and Medium-Sized Enterprises (SMEs) have a significant influence on the intention of adopting e-business in SMEs. Further, external readiness factors of Small-and Medium-Sized Enterprises (SMEs) also have a significant influence on the intention of adopting e-business in SMEs. The population of the study was SMEs producing textile products, handicrafts, and Moslem clothing in Cipadu Jaya, Larangan, Tangerang. The method of sampling was simple random sampling with 100 SMEs as samples. The study employed Structural Equation Modeling (SEM) with SmartPLS Software 3.0 for data analysis. The findings indicate that the adoption of e-business within SMEs was affected by technological mastery, business competition pressure, and business partners' readiness. The organizational readiness and customer readiness had no significant effect on e-business adoption intentions.

INTRODUCTION

The World Economic Forum (WEF) placed Indonesia on the 37th rank in 2015, and on the 41st rank in 2016 in terms of business competitiveness. According to WEF, Indonesia has done many efforts to improve its business climate, but it could not increase its competitiveness in the global market.

From more than 240 million people in Indonesia, only 0.24% are enterpreneurs, approximately 400,000 people work in SMEs. In 2011, SMEs contributed 61.9% to gross domestic product (GDP) through tax payment. Micro enterprises contributed 36.28% to GDP, small enterprises contributed 10.9%, and medium enterprises contributed 14.7% to GDP through tax payment.

It has been widely known that SMEs play an important role in economic development. That is why SMEs' competitiveness needs to be improved (Sandy, 2016). Internet through e-commerce opens an opportunity for SEMs to market and grow business networks. That is why SMEs is required to be part of the global community through e-commerce.

Business capability based on information technology will create limitless environment for business opportunities. According to the Ministry of Commerce of the Republic of Indonesia (2016), From 88.1 million internet users in Indonesia, which is the biggest number of internet users in ASEAN, 70 million are online buyers. With regard to e-commerce sales, 36% of SMEs in Indonesia are still offline, 37% have basic online ability, 18% have medium online ability, and only 9% have advanced ability (Deloitte, 2015).

Based on the data from Trade and Industry Office of Tangerang, export products which contributed significantly to GDP were textile products, handicrafts, and Moslem clothing. Cipadu Jaya was the biggest contributor producing featured products with the highest income per capita and export market orientation. The company also optimizes the use of raw materials in the local area and empowers local labors.

Research gap in this study excludes government regulations, compared to research by Bagale (2014) which concluded that e-commerce adoption by SMEs is impacted by organizational factors, technological factors, and government regulations factors. In consideration that each SME unable to change government regulations in intention to e-commerce adoption.

The purpose of this study is to identify a comprehensive set of potential factors influencing the adoption of e-commerce in SMEs. More specifically, the study constructs a model of e-commerce adoption and provides a better understanding of the adoption of e-commerce by SMEs.

The results will enrich the understanding of SME owners about the potential benefits of e-commerce and optimize the adoption of e-commerce model by SME owners. A greater understanding about this will increase their probability to allocate some resources towards adopting e-commerce. The results will propose a conceptual model based on previous research such as Tornatzky & Fleischer (1990); Zhu, Kraemer, and Xu (2002); Kuan and Chau (2001); also Chang & Shaw (2005) which is relevant to this study. The study will give empirical evidence of internal and external factors influencing the intention of adopting e-commerce in SMEs.

LITERATURE REVIEW

The intention of e-business adoption has been developed by Tornatzky & Fleischer (1990), Grover (1993), Crook and Kumar (1998), Zhu, et.al (2002), and Chang & Shaw, (2005). E-Business adoption intention measures how likely SMEs desire to implement online sales, online order of raw materials to suppliers, aggressively conduct internet advertising, and apply technology for information exchange (Kusmantini, 2011).

Some researchers have identified technology as a crucial factor for achieving successful information system adoption (DeLone & McLean 2003; Kuan & Chau, 2001) in Zhu, et al. (2002) and Chang & Shaw, 2005). Technological competence is measured by three indicators: (1) information technology infrastructure, (2) IT expertise, reflecting the knowledge of its employees in using the technology owned, and (3) E-business know-how,

executive / corporate leader's knowledge in managing sales and ordering of companies online.

Hong and Zhu (2006) and Zhu, Xu, Kraemer, and Dedrick. (2006) reported that the adoption of an e-business is also conditioned by the integration of new technologies adopted in the enterprise system already owned and run. Hsu and Lin (2008) reported a positive relationship between the company's technology infrastructure and the diffusion of e-business. Their findings are similar to those reported by Kowtha and Choon (2001), who noted that firms with more sophisticated technology resources may find themselves in a better position to apply the system effectively.

The availability of human capital with specific knowledge of e-business practices has an impact on their adoption. Learning factors such as expertise in technical and technological management have a significant impact on the adoption of innovation (Wang & Cheung, 2004; Kindström, Kowalkowski & Sandberg, 2013).

Grandon and Pearson (2004) concluded that managers with a positive attitude toward e-business as a tool that gives strategic values to companies can reinforce the tendency to adopt e-business in the company. According to Thong (2001), if top management can fully involve themselves in the implementation of new systems, the project is far more likely to be successful.

In addition to technological competence, internal factors that need to be prepared are factors of organizational capability (business governance). Kowtha and Choon (2001) and Hwang, Ku, Yen and Cheng (2004) report that large companies are the ones who largely adopt the technology because they have more resources. According to Thong (2001) and Antonelli (2014), large companies tend to hire more specialized employees in certain fields.

Zhu, et al (2002) identified indicators of a company's external environment aspects that may affect corporate intentions in the e-business adoption process, including customer readiness, business partners' readiness and industry competition levels. Consumer readiness is an important factor that should be considered by the company in making decisions for e-business adoption.

Indicators of consumer readiness are consumer willingness which reflects the consumer's positive acceptance of online purchases and internet penetration which reflects the level of Internet and computer diffusion in the community. Hsu and Lin (2008) argue that firms in e-business deployments tend to produce a better competition. So, it is expected that e-business will be implemented more successfully in highly competitive environments.

Trading Partner Readiness, according to Zhu, et al (2002) at the time of a company's decision to adopt e-business, there must be a belief that all business partners in the corporate value chain have also adopted a suitable electronic sales system and are able to provide service via internet inter-business. Simatupang, Wright and Sridharan (2002) argue that there is a relationship between trading partners of a different company, in the sense that a company sometimes makes decisions that affect them. Ranganathan, Dhaliwal and Teo (2004) consider the intensity of ICT activities in the industries in which firms operate, referring to the extent to which corporate partners, customers and suppliers adopt technology in their business operations and processes.

MATERIALS AND METHODS

A descriptive-associative approach was applied in this study where the questionnaire was developed to test the theoretical framework and hypotheses developed. The unit of analysis comprises SMEs producing textile products, handicrafts, and Moslem clothing in Cipadu Jaya, Larangan, Tangerang. This study collected data in cross sectional range of time, from in depth interviews and a questionnaire. The rationale for adopting this approach is that a survey conducted through the use of a designed questionnaire can give a list of questions to respondents in order to obtain responses. Further, upon extraction, it is also easier for interpretation as it involves standard collected data subjected to rigorous quantitative analysis (Sekaran, 2006). Probability sampling with simple random sampling was used to select the respondents. In depth interviews were conducted with Village Chief, Mr. Suryadi, SIP and Economic & Development Staff, Mr. Abdul Hadi, SIP, also the SMEs representative, Mr. Edi as Head of RT 4 RW 6 Kelurahan Cipadu Jaya and Mr. Poni from RT 03 RW 05 Kelurahan Cipadu Jaya. With a total number of 336 population, this study targeted 100 SMEs respondents in kelurahan Cipadu Jaya. This study employed Structural Equation Modeling (SEM) with SmartPLS Software 3.0 for data analysis. Partial least squares (PLS) analysis is an alternative to OLS regression, canonical correlation, or covariance-based structural equation modeling (SEM) of systems of independent and response variables. Structural Equation Modeling (SEM) is a second-generation multivariate data analysis method that is often used in marketing research because it can test theoretically supported linear and additive causal models.

RESULTS AND DISCUSSIONS

Cipadu Jaya covers a total area of approximately 97.2 hectares. It has 58 neighborhood units (RT) and 8 hamlet units (RW). Cipadu Jaya is densely populated settlements, with some housing and many home industries. There is no more land area that can be used for agriculture, fishery and farming in Cipadu Jaya. The economic level of Cipadu Jaya is middle to upper. Therefore, Cipadu Jaya is not a village because it includes urban areas with advanced economic development. Most of the people in Cipadu Jaya work as public and private employees in Tangerang and Jakarta, local schoolteachers, entrepreneurs who own home industry (textile field) and traders. Home textile industry in Cipadu Jaya is very famous. Many people from outside Cipadu Jaya village come to buy and even open a textile shop there. The shops located in Cipadu Jaya belong to individuals, not owned by the government.

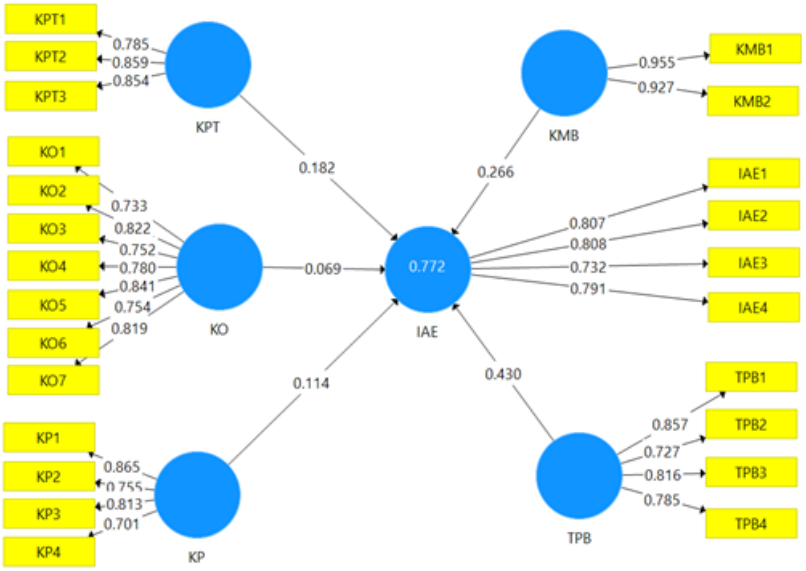
According to Mr. Abdul Hadi, SIP as the staff of Economy and Development of Cipadu Jaya Urban Village, Ciapdu Jaya shares northern land borders with Cipadu Urban Village, eastern land borders with DKI Jaya, western land borders with Larangan Selatan and southern land borders with Jurang Mangu, Tangerang Selatan. With a population of 16,751 people (on June 2017), the original population of Cipadu Jaya is only about 35% while the rest are migrants from outside Tangerang City. The most home industry activity (SMEs owners) of superior products are located at RW 5 consisting of 6 RT and RW 6 consisting of 5 RT near the market. Cipadu Jaya Urban Village is located in an area which is widely known as a clothing center

(textile) in Tangerang and surrounding areas. It is predominantly inhabited by indigenous Betawi people and migrants. Chief of Cipadu Jaya Village, Suryadi, said that the Tangerang City Government has disbursed around 250 billion rupiah in 2017 for road infrastructure development, road lighting (*Tangerang Terang*), house and toilet repairing, educational facilities improvement, slum area arrangement and etc. In order to realize *the City of Livable, Worth Investing, Worth Visiting, and Smart City with Technology* or known as Tangerang slogan LIVE (Lievable, Investable, Visitable & E-City). Cipadu Jaya Urban Village is also a benchmark of development in the sub-district of Larangan. So, it continuously improves various facilities, known as clothing or textile materials center.

Internal Environmental Aspect (X1) consists of 2 dimensions: Technology Mastery Ability (KPT) and Organizational Readiness (KO). The construct of Technology Mastery Ability (KPT) is measured by using three indicators: information technology infrastructure (hardware and software aspects that support business process via the internet), employees' knowledge in using technology, and top management knowledge in managing online sales and supply chain. Organizational Readiness (KO) is measured by seven indicators: market coverage, distribution channels complexity, the capability to establish alliance with suppliers, customer relationships, current company processes/operations consistency, level of top management understanding for e-business adoption, and vision and strategy development for e-business.

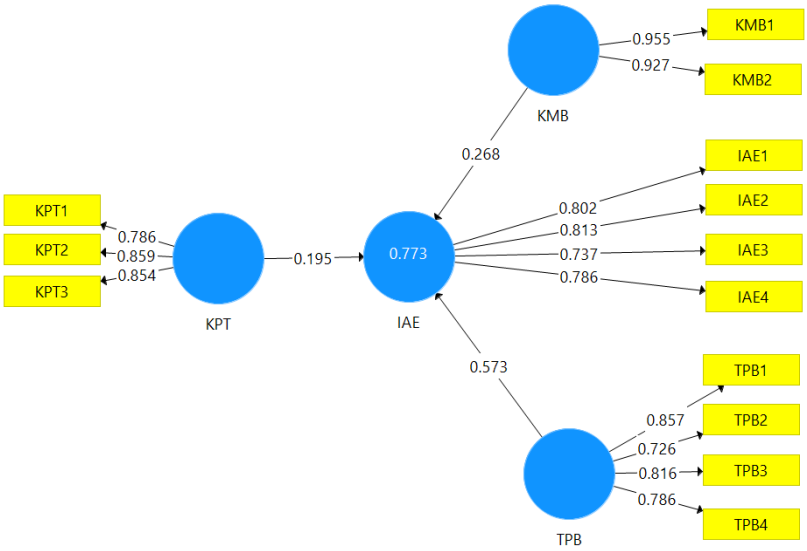
External Environmental Aspect (X2) consists of 3 dimensions: Customer Readiness (KP), Business Competition Pressure (TPB), and Business Partner Readiness (KMB). The constructs of Customer Readiness (KP) is measured by four indicators, which are: consumers' positive perceptions of online purchases, the ability of consumers to operate the internet, internet access availability, and consumer convenience for internet access. Business Competitiveness Pressure (TPB) is measured by four indicators: the competitive drive of the industry to adopt e-commerce, business partners who have used e-commerce, the improvement which drives work effectiveness, and social pressures such as social responsibility. Business Partner Readiness (KMB) is measured by two indicators: enterprise information systems compatible with partners and partners' investment capabilities that support compatible systems.

E-Business Adoption Intention (Y) in this study measures how likely SMEs desire to implement online sales, to order raw materials online to suppliers, to aggressively conduct internet advertising, and apply technology for information exchange. Internal Environmental Aspect (X1) is measured by Technology Mastery Ability and Organizational Readiness.



The path coefficients value and p-value show the effect, where the variables in the column are the latent variables of the predictor, and the variables that are lined up indicating the criteria. The value of effect sizes shows how much the contribution of each latent variable to the observed variable. Thus, the Organizational Readiness variable has a weak influence on the E-Business Adoption Intention. The Technology Mastery Ability has a sufficient influence on the E-Business Adoption Intention. Business Competition Pressure has considerable influence on the E-Business Adoption Intention. Business Partner Readiness has considerable influence on the E-Business Adoption Intentions. Customer Readiness has a weak influence on the E-Business Adoption Intentions.

Structural Model of Technology Mastery Skills, Business Competition Pressure and Business Partner Readiness that have a positive influence on the E-Business Adoption Intentions.



Organizational Readiness has no significant effect on the E-Business Adoption Intentions. Based on the interviews with SMEs owners in Cipadu Jaya Urban Village, the SMEs have limited capital. So, the ability to buy information technology equipment is also limited. In addition, some SMEs

were still reluctant to invest in technology and the limited human resources to apply them.

According to Roosdhani, Wibowo and Widiastuti (2012), the Industry and Trade Department has noted that problems in the implementation/development of science and technology in MSMEs can be grouped into two categories: internal (which can be influenced by entrepreneurs) and external problems. Internal problems include: 1. Awareness and willingness of employers to apply appropriate science and technology in the company which are still very limited; 2. Limited capital to make improvements in technology; 3. Lack of entrepreneurs' ability to exploit business opportunities; 4. Lack of access and limited information from certain sources of technology and knowledge.

Meanwhile, the external problems are: 1. Most of the existing R & D results are not needed by SMEs; 2. The process of technology transfer to SMEs has not been optimal, including limited personnel in the field; 3. The lack of publication of R & D results and the distribution has not reached SMEs in all regions; 4. Financing scheme for the development of science and technology including the purchase of new machines for SMEs is limited; for example, leasing system and rent of machinery or equipments are still limited. It has not been exploited by SMEs because it is not competitive yet.

E-business adoption intentions can be enhanced by improving the skills of SME practitioners through training and mentoring. The role of government and educational institutions is necessary to raise the awareness of SMEs. SME practitioners perceive that the implementation of e-commerce to support the company's operation is quite useful, especially in such processes as marketing products, handling product inventory, manufacturing processes, and procurement of materials. Although the implementation of e-commerce can support the development of marketing of SME products, in practices, the implementations do not always run smoothly. Users find a number of constraints, such as internet access taking a long time, difficult to switch to transaction-based technology, and companies which preferred to manage the business traditionally. Generally, SMEs are difficult to change from traditional purchasing, which is transactions done physically, into technology-based purchasing. They considered it as the highest constraint to e-commerce adoption.

Organizational readiness is not significant with e-commerce adoption. According to Nurrohmah and Alfanur (2016), e-commerce adoption is influenced by firm size in two ways. Large companies often have enough business, human and technological resources to invest in e-commerce. Small businesses should find a way to stay operating in a way that is easy and does not cost a lot. The simple and easy way that can be used in promoting is to adopt e-commerce. The low level of e-commerce adoption by SMEs in Indonesia might be related to several reasons (Rahayu, & Day, 2016). Firstly, it is because the scope of business of Indonesian SMEs is not too broad, and the business activities are not too complex. Therefore, they do not require IT specialists. Secondly, many SMEs cannot afford their own IT specialists. So, they outsource, or hire temporary IT staff, or purchase IT solutions. Thirdly, many IT solutions are relatively user friendly and intuitive to learn, so that non IT specialists are able to deliver them.

Customer readiness has no significant influence on the intention of e-business adoption because the SME practitioners often take a long time to respond or does not respond or does not give feedback to customers' desire and requirements. Based on interviews with the SME practitioners, the time has been spent for serving the customer face to face. In addition, the data received by customers are less up to date. According to Kusmantini (2011), it can be used as a reason why SMEs have the perception that customer readiness is less considered as the transactions via the internet are relatively low, because the company is responding to many emails received. However, there has been no feedback from customers. Secondly, most transactions with overseas buyers still use the trading services So, there is lack of direct communication with buyers.

In addition, the rampant fraud in e-business and no guarantee in transactions lower the level of customer confidence. They need a solution to increase customer trust to conduct transactions through online marketing by using e-marketplace model. An e-marketplace model allows for joint accounts and third party guarantees for successful transactions. The concern about fraud and undeliverable goods from consumers will be eliminated. From the seller side, the payment trust increses because of the bank account facilities. Trust plays a crucial role in e-commerce adoption. When the adopter believes that customers distrust an e-commerce solution, it influences the perceived usefulness of adopter to e-commerce.

Good quality information from a website such as information on the site, information about transaction processing, and information about the product can influence a person's decision to buy via e-commerce. Most reasons for consumers to buy from an online store are time saving/convenience, lower prices, broader selections, and customer services. A consumer would certainly prefer to do shopping online compared to physically coming into the store where consumers feel that shopping online provides benefits for him. Consumers trust is important for e-commerce sites because it can encourage consumers to purchase through e-commerce sites.

The adoption of e-business requires government support through policies that support the development of e-business, no deregulation of information technology systems especially the Internet as the backbone of e-business development, and the improvement in customs system and deregulation in export and import goods. One of the main obstacles is the lack of existing and uneven infrastructure development in Indonesia. It takes the government seriousness to gradually build a good infrastructure and a well- structured program. The society needs to be introduced to the Internet usability as one result of the information technology development with cheap and affordable costs.

The adoption of e-business needs human resources readiness both technical as well as non-technical such as banking system, trade traffic, and supporting legal system. It also needs the availability of information and education center for the development of e-business expertise. The adoption of e-business also needs the support from banks and insurance institutions as well as a good working electronic banking system, while Indonesia's banking is facing a difficult situation to conduct different currency transactions, especially in the small amount of value and the absence of third parties such as an online transaction guarantor located in Indonesia.

CONCLUSIONS

The findings of this study contribute to the body of literature in a number of ways. This study provides an understanding of the adoption of e-commerce by SMEs. Internal readiness factors of SMEs such as technological mastery have a significant influence on the intention of adopting e-business in SMEs. External readiness factors of SMEs such as business competition pressure and business partners' readiness have a significant influence on the intention of adopting e-business in SMEs.

The results of this study indicate that government needs to increase their efforts by promoting effective programs and initiatives to encourage the level of e-commerce adoption by SMEs. Owners and managers of SMEs have an important role in encouraging the growth of innovation because they are familiar with the organizational system and the characteristics of SMEs. Managers must realize that they can have a positive influence on the adoption of technology by training their employees, and also trust technologies advantages. SMEs have an important role in global economic and it is the reason why government policy needs to improve human and technology capability, give information about market opportunity, improve internet accessibility, facilitate funding access, and facilitate information system among SMEs. This result could enrich the understanding of SME owners regarding the potential benefits of e-commerce. A greater understanding of the issue will increase their probability to allocate some resources towards adopting e-commerce. SMEs have to prepare the resources such as technology and organization in e-commerce adoption by considering customer readiness, high level competition, and business partners readiness.

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APPENDIX

QUESTIONNAIRE

General Information

1. Gender
a. Male b. Female
2. Level of education
a. Primary school
b. Junior high school
c. Senior high school
d. Bachelor
e. Master
f. Other, _____
3. Sales turnover per year
a. Less than 100 million
b. 100 - 500 million
c. 500 million - 1 billion
d. 1 billion - 2.5 billion
4. Age
a. <30 years
b. 30 - 40 years
c. 41 - 50 years
d. > 50 years
5. Number of computer ownership
a. 1 to 3 computers
b. 4 to d 6 computers
c. More than 7 computers
6. Purpose of computer usage
a. Bookkeeping
b. Payroll system
c. Other, _____
7. The purpose of internet usage
a. Communication
b. Searching for information
c. Marketing / promotion
d. Other, _____

Mark (X) or circle every statement below with assessment:
5 = Strongly Agree
4 = Agree
3 = Not Sure
2 = Disagree
1 = Strongly Disagree

Internal Environmental Aspect							
Dimension	No	Statement	Respondent Assessment				
			5	4	3	2	1
Technology Mastery Ability	1	Information technology infrastructure (hardware and software aspects that support business process via internet)					
	2	Employee's knowledge in using technology					
	3	Top management knowledge in managing online sales and supply chain					
Organizational Readiness	1	Market coverage					
	2	Distribution channels complexity					
	3	Alliance capabilities with suppliers					
	4	Customer relationships					
	5	Current company processes/operations consistency					
	6	Level of top management understanding for e-business adoption					
	7	Vision and strategy development for e-business					

External Environmental Aspect							
Dimension	No	Statement	Respondent Assessment				
			5	4	3	2	1
Customer Readiness	1	Consumers' positive perceptions of online purchases					
	2	The ability of consumers to operate the internet					
	3	Internet access availability					
	4	Consumer convenience for internet access					
Business Competition Pressure	1	The competitive drive the industry to adopt e-commerce					
	2	Business partners who have used e-commerce					
	3	The improvement drive work effectiveness					
	4	Pressures such as social responsibility					
Business Partner Readiness	1	Enterprise information systems compatible with partners					
	2	Partners' investment capabilities that support compatible systems					
E-Business Adoption Intention Variable							
Dimension	No	Statement	Respondent Assessment				

			5	4	3	2	1
E-Business Adoption Intention	1	SMEs desire to implement online sales					
	2	Online order raw materials to suppliers					
	3	Aggressively conducting internet advertising					
	4	Applying technology for information exchange					