A Maturity Model for E-Commerce Adoption By Small And Medium Enterprises In Indonesia

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ABSTRACT

E-commerce provides several advantages for Small and Medium Enterprises (SMEs). E-commerce adoption by Indonesian SMEs is still very low. This study conducts a research to establish a maturity model of e-commerce adoption by Indonesia SMEs. It was carried out in two phases from 2014 until 2015. The result of the first phase recommends four levels of maturity model and 13 e-commerce benefits, 51 functionalities, and 9 non-functionalities that an e-commerce solution must have. The result of the second phase presents a maturity model of e-commerce adoption for SMEs in Indonesia.

KEYWORDS

E-Commerce Adoption, E-Commerce Benefit, Functionality, Maturity Model, Non-Functionality, Small and Medium Enterprises (SMEs)

INTRODUCTION

Small and medium enterprises (SMEs) are those business organizations that are considerably small in scale, often family-run companies, and lack of networking (Chang, Chang, Ho, Yen, & Chiang, 2011). SMEs are more adaptable and resilient compared to relatively larger firms when dealing with market changes or global economic turbulence. They are relatively faster in adopting opportunities for innovations and changes in market strategies.

E-commerce could not only introduce different opportunities to SMEs but also assist them in dealing with different technological and organizational inadequacy (Al-Qirim, 2007). E-commerce technologies are used by SMEs to interact with customers and suppliers, gather market investigation facts, advertise products, give extensive and user-oriented information about goods and services, and provide online transaction in addition to after-sales help and support (Al-Qirim, 2004). The use of e-commerce technologies allows SMEs to increase their competence in the marketplace. Santarelli and D’Altri (2003), McCole (2005), and Johnston et al., (2007) have found that e-commerce provides benefits for SMEs, such as increasing number of customers, allowing the penetration of new market, providing easier communication with customers, increasing competitive advantage, increasing cost saving, increasing profits, increasing sales, providing effective advertising, and increasing brand building.

A framework describing a possible stage of progression when adopting e-commerce will be a useful tool for SMEs to evaluate their current state of e-commerce. A maturity model is a framework for describing the characteristic enhancement patterns of organizational information system in general (Prananto, A., McKay, J., & Mashall, P., 2003). Implementation of technology in organization has
a sequential phase that usually starts from the simplest to the most advanced applications based on the complexity level (Mendo, F.A. & Fitzgerald, G., 2005).

The previous research by Rao and Metts (2003) provides a maturity model of e-commerce adoption based on the characteristic of the evolutionary nature of e-commerce. The model consists of four levels: presence, portal, transaction and enterprise integration. The research by Govindaraju and Chandra (2011) also proposes a maturity model of e-commerce adoption based on the Rao maturity model. This study includes a non-adopter level and introduces five e-commerce maturity levels: non-adopter, presence, portals, transaction integration, and enterprise integration.

The adoption of e-commerce by Indonesian SMEs is still very low (Wahid & Iswari, 2007). The previous researcher (Govindaraju & Chandra, 2011) found that the majority of SMEs currently still adopt e-commerce at the lower level. Some SMEs have failed in adopting e-commerce. They are less aware of the potential advantages or the benefits and opportunities that could be achieved using e-commerce. A framework for implementing e-commerce by SMEs in Indonesia is not available. An existing maturity model of e-commerce adoption has been developed from a technology-based perspective. However, this model is not appropriate for SMEs in Indonesia, since SMEs in Indonesia must give more focus on the benefits achieved for each stage when using e-commerce. Therefore, the objective of this study is to develop a maturity model that is capable of providing a guideline for Indonesian SMEs in adopting e-commerce. The study aims to answer four specific research questions. First, how to determine the number of levels of the stage model for determining the level of e-commerce adoption? Second, how to determine the unique benefits that SMEs acquire if it was at a certain level of e-commerce adoption? Third, how to define the functionalities and non-functionalities of e-commerce needed to be utilized in e-commerce application in order to obtain benefits? Finally, how to map benefits of e-commerce into each level maturity model?

LITERATURE REVIEW

Overview of SMEs in Indonesia

SMEs in Indonesia are characterized as independent and productive enterprises. SMEs are operated by individuals or companies that are not subsidiaries. SMEs are owned by, run by, or they become (both directly or indirectly) a part of a large enterprise (The Ministry of Law and Human Right, 2009). Based on Law #20 of 2008 (The Ministry of Law and Human Right, 2009), a small-sized business entity must fulfill the following criteria: (1) it’s asset is between 50 and 500 million (IDR), including land and building, and (2) it’s annual sales is between 300 and 2,500 million (IDR). A medium-sized business entity must fulfill the following criteria: (1) it’s asset is between 500 and 10,000 million (IDR), including land and building, and (2) it’s annual sales is between 2.5 and 50 billion (IDR). Furthermore, Indonesian statistics bureau characterizes SMEs based on the number of employees for which small enterprises employ 5–19 people, while medium enterprises employ 20–99 people.

The development of Internet penetration in Indonesia is very fast. The average Internet penetration growth from 2005 to 2014 is 3.25% annually. In 2014, the Internet penetration reached 34.9%. It shows that the market share of online commerce or e-commerce in Indonesia is becoming potential (APJII, 2014). This fact was supported by the statement of The Ministry of Trade estimates that buying and selling goods via the Internet (e-commerce) of Indonesia reach US $10.08 billion. The average value of online shopping transaction grew 40% annually. Thus, the previous research showed that the majority of Internet users in Indonesia are very active in both trade and services sectors. In 2014, the percentage of trading is equal to 31.5% (APJII, 2014).
Corporate Social Responsibility in the Dynamic Information Age of Inter-Systems Connectivity
www.igi-global.com/article/corporate-social-responsibility-dynamic-information/3523?camid=4v1a