

Technology Acceptance Model: Is It Trends in The Sustainability of SMEs?

Margo Purnomo¹, Erna Maulina², Aulia Rizki Wicaksono³, Muhamad Rizal⁴

^{1,2,3,4}Faculty of Social and Political Sciences, Business Administration, Padjajaran University, Indonesia
purnomo@unpad.ac.id

Abstract

The purpose of this research is to do a literature review related to the topic of Technology Acceptance Model on any SMEs. This research is a qualitative method using a systematic literature review method. The search was carried out on the Scopus electronic data base in the 2004-2019 publication years which was published in the form of a scientific journal with certain criteria. Based on the results of the study, it is known that the results of the publication of the Technology Acceptance Model began to increase significantly in 2014, and continued to increase until 2019 and were mostly carried out in America and Indonesia. Regarding the locus of research, the researcher concludes that research on Technology Acceptance Models in SMEs has been widely studied in Manufacturing SMEs. This type of research in the form of quantitative descriptive is the type of research that is most often used. However, the type or type of paper with the type of Validation Research using quantitative or qualitative methods can be used for further research. The results of this systematic literature review can provide an overview of opportunities to explore new topics in the Technology Acceptance Model for SMEs or exploit existing topics.

Keywords

technology acceptance model;
SMEs; systematic literature
review



I. Introduction

Small and medium enterprises (SMEs) have an important role in economic development and growth, not only in developing countries, but also in developed countries. In developed countries, SMEs are very important, because not only because these business sectors absorb the most labor compared to large businesses, as is the case in developing countries, but also their influence on the growth of gross domestic product (GDP) is greater than that of large enterprises with the contribution of big business. In developing countries, SMEs have a very important role, especially in terms of employment opportunities and sources of income for the poor, income distribution and poverty alleviation, as well as helping economic development. But when viewed from its contribution to GDP, especially manufactured products, and technological innovation and development, the role of SMEs in developing countries is relatively low, and this is actually the most visible difference with SMEs in developed countries (Tambunan, 2012). For this reason, SMEs need to use several strategies to increase their contribution, one of which is the adoption of information technology. However, in reality, SMEs face several limitations in adopting new information technology, such as: risk of expensive initiatives, complicated procedures, expatriate technical and customer service (Pires and Aisbett, 2001; Sudaryanto and Hanim, 2002; Davis and Vladica, 2006; Chong et. al., 2012) This is reinforced by several studies that have been conducted which reveal the fact that the adoption of Information technology in SMEs is still very low than expected (Pavic, et al., 2007; Yu, 2006). Development is a systematic and continuous effort made to realize

something that is aspired. Development is a change towards improvement. Changes towards improvement require the mobilization of all human resources and reason to realize what is aspired. In addition, development is also very dependent on the availability of natural resource wealth. The availability of natural resources is one of the keys to economic growth in an area. (Shah, M. et al. 2020)

There are several reasons for the slow and unsuccessful adoption and implementation of Information technology in SMEs. First, many SMEs (managers and staff) do not have a clear explanation of how to adopt information technology. Second, there are some misunderstandings in the adoption of Information technology. Lastly, human resources in SMEs usually lack business strategies and information technology, limited information technology skills and access to capital resources, management and maintenance costs of electronic systems, problems related to information technology security and regulatory uncertainty leading to minimum capabilities (Nguyen, 2009); Sugiharto, 2010). Several models have been built to explain the use and adoption of Information technology. The Technology Acceptance Model is a well-known one that explains the adoption and use of Information technology. This theory states that managerial capabilities and perceptions affect the adoption and use of information technology. This theory was first developed by Davis (1989). There have been a number of meta-analyses on the Technology Acceptance Model which have shown that the Technology Acceptance Model is a valid and robust model for predicting user acceptance (Bertrand and Bouchard, 2008). This theory also provides insight into the role of internet use (Caniëls et al., 2015). Analyzing the problem of information technology adoption in SMEs using the Technology Acceptance Model is important for solving information technology problems in SMEs (Dahnil et al., 2014). Likewise, several previous studies (Caniëls et al., 2015; Rahayu & Day, 2015, Rokhim, et.al., 2018) focused on empirically applying the Technology Acceptance Model in SMEs.

For this reason, this research focuses on how to form a background for further research and gain deeper insights about the Technology Acceptance Model in SMEs through a systematic literature review.

II. Review of Literature

The search of this research uses an electronic database to find articles that discuss the Technology Acceptance Model in SMEs using a systematic literature review. The most common reasons for undertaking a systematic literature review are firstly, in order to summarize the existing evidence on the topic; Second, to identify gaps in current research and provide suggestions for future investigations; third, to provide a background for positioning new research activities (Kitchenham, 2004). The application of systematic literature review is to identify, evaluate and interpret all available and relevant literature related to the research question or domain of interest (Kitchenham, 2007; Petersen et. al., 2008). A systematic literature review is also often needed to determine the research agenda, as part of a dissertation or thesis, and is a part that complements the application of research grants (Hariyati, 2010). In addition, systematic Literature Review is a term used to refer to a particular research methodology or research and development carried out to collect and evaluate research related to the focus of a particular topic (Lusiana and Suryani, 2014). Systematic literature review research is carried out for various purposes, including identifying, reviewing, evaluating, and interpreting all available research with topics of interesting phenomena, with certain relevant research questions (Barricelli, et.a.l., 2019; Razavian, et.al., 2019)

Overall, the researchers analyzed the search results from research journal articles that discussed the Technology Acceptance Model originating from the Scopus database with the main questions (Research Questions) in this study covering:

1. RQ1: What types of paper are widely used in journals related to the Technology Acceptance Model?
2. RQ2: What is the trend of publication in each country over time?
3. RQ3: What is the locus of research on the topic that has been researched?
4. RQ4: What is the research methodology used in the paper?

The results of this study provide a comprehensive research approach on the Technology Acceptance Model in SMEs as well as implications and guidelines for academics and other practitioners.

III. Research Method

This study used a qualitative research method with a systematic Literature Review (SLR). The author in the library search using the Scopus electronic data base. The keywords in the search are (tam OR "technology acceptance model") AND sme*, to search for scientific articles with the theme Technology Acceptance Model in SMEs. The search results on Scopus detected 166 publications related to the Technology Acceptance Model, then the author used a search filter with the category of journal, English and the subject area of Business, Management and Accounting.

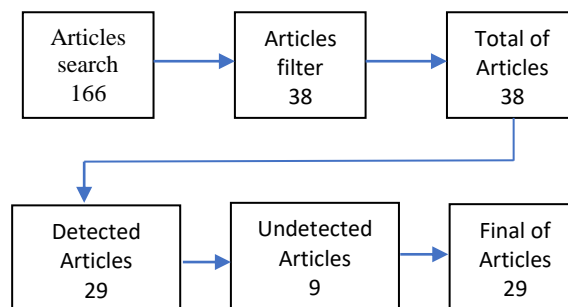


Figure 1. Process of research articles

IV. Result and Discussion

The results of a systematic literature review on the Technology Acceptance Model study in SMEs were obtained from the journal search process and found 29 articles. From the search results, we found research trends that were seen from year to year, and from the topic or research focus studied in the Technology Acceptance Model study in SMEs. Based on the results of systematic mapping, the type of article that is most often used is empirical research (validation research) with a total of 26 (90%) articles. The type of article and the least is the type of evaluation article as much as 3 (10%).

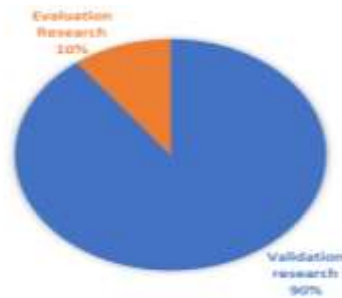


Figure 2. Type of Paper

The trend of studies on Technology Acceptance Models in SMEs starting from 2004 to 2019. The results of the publication of Technology Acceptance Models began to increase significantly in 2014, and continued to increase until 2019. Based on the search, the researchers found that this research has been carried out since 16 years ago.

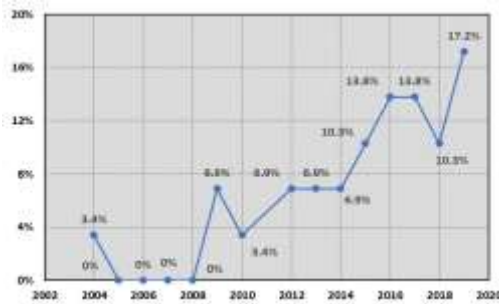


Figure 3. Trends of Research Years

By grouping articles by country, it is known that Technology Acceptance Model research on SMEs is generally dominated by scientific publications originating from Asia, namely Indonesia, Iran, Korea, Malaysia, Oman, Taiwan and the UAE. Previous research articles with a comparison of the distribution of articles around the world. These conditions indicate that research on the Technology Acceptance Model in SMEs is a research theme that has received a lot of attention from academics and practitioners in the Asian continent. In order to find the development of existing research in Indonesia, the researchers separated the findings from the Asian category. There are 17.2% of previous research articles on the Technology Acceptance Model for SMEs in Indonesia.



Figure 4. Trends of Research Country

The grouping of articles based on research loci shows that Technology Acceptance Model research on SMEs has been carried out on SMEs of Bioenergy, SMEs of Chemical industry, SMEs of Construction & Services, SMEs of distributors, SMEs of Electrical industry, SMEs of farms, SMEs of Finance, SMEs of Fish processing industry, SMEs of Fisheries, SMEs of Forestry, SMEs of Metal industry, SMEs of Mining industry, SMEs of Plantation, SMEs of private healthcares, SMEs of Telecommunications, SMEs of Tourism, SMEs of Wholesale, SMEs of Food industry, SMEs of Travel Agencies, SMEs of Education, SMEs of Reetailing, SMEs of Trading, SMEs of Service industries, SMEs of e-commerce and SMEs of Manufacturing. And there are 2 articles that the researcher could not find, because the related article is a literature review article. The most common research is in the form of research with a quantitative approach that is validation and philosophical research which seeks to investigate, experiment and also see the causal effect of the results of the research conducted.



Figure 5. Research Loci

Furthermore, previous research mapping is classified based on research methods that refer to opinions (Kitchenham, 2007; Petersen et al., 2008; Wieringa, Maiden, Mead, & Rolland, 2006). The research method approach used in this systematic mapping is a quantitative, qualitative and mixed-method approach. Based on the total accumulation of findings from 29 articles from reputable journal Scopus, it is known that most of the approaches used in this study are quantitative (90%).

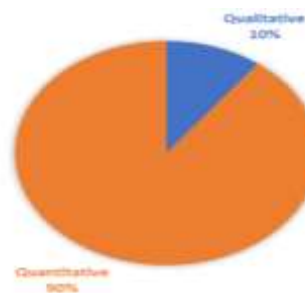


Figure 6. Research Method

From the research results, it is known that the Systematic literature method provides a comprehensive picture of the Technology Acceptance Model in SMEs. Researchers from academics and practitioners can use this research as a preliminary research. In this systematic mapping, researchers have searched 166 research articles from the Scopus electronic database. After doing the mapping, 29 relevant articles were found and then a

classification scheme was developed which categorizes the articles by country, year of research, research locus, type of paper and research method. Based on the results of the study, it is known that the results of the publication of the Technology Acceptance Model began to increase significantly in 2014, and continued to increase until 2019 and were mostly carried out in America and Indonesia. Regarding the locus of research, the researcher concludes that research on Technology Acceptance Models in SMEs has been widely studied in Manufacturing SMEs. This type of research in the form of quantitative descriptive is the type of research that is most often used. However, the type or type of paper with the type of Validation Research using quantitative or qualitative methods can be used for further research. In this systematic mapping process, there are several limitations, including the search for journals only from 1 scientific database, namely Scopus, so it cannot cover all existing journal and conference databases. In addition, the researcher only took the category of articles in English, international journals, Research Papers and did not include books and magazines.

V. Conclusion

Technology Acceptance Model in SMEs is a well-known method that explains the adoption and use of information technology. This study reviews the existing Technology Acceptance Model literature on SMEs by searching for articles from the scientific literature database. This is done to provide an overview of the existing literature on the Technology Acceptance Model in SMEs for further research so that it is easy to find a state-of-art Technology Acceptance Model in SMEs.

From the results of 29 research articles that have been systematically reviewed, researchers classify research articles based on the research method approach, namely the type of quantitative descriptive form with the type or type of paper, namely the type of Validation Research using quantitative or qualitative methods and mostly carried out in America and Indonesia. Regarding the locus of research, the researcher concludes that research on Technology Acceptance Models in SMEs has been widely studied in Manufacturing SMEs. The results of this study can provide guidance in helping researchers to plan future research through finding research gaps.

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