META-ANALYSIS OF E-COMMERCE ADOPTION BARRIERS FOR SMES

Tony Wijaya*
Andreas Mahendro Kuncoro**
Sutirman***

PURPOSE
This study aims to map the literature that discusses the factors that are antecedents of the barriers experienced by SMEs in adopting e-commerce. The research also aims to analyze the relationship between factors that have been mapped using meta-analysis.

Design/Methodology/Approach: This research adheres to the quantitative literature review. The research to be carried out is a systematic study using research results published in academic journal databases. The data analysis technique in this study uses meta-analysis in assessing secondary data obtained from the research results through error correction of artifacts in quantitative research in the form of sampling errors.

Findings: The results show that theoretically, internal and external factors become barriers to e-commerce adoption. There is a relationship between internal and external factors with e-commerce adoption in SMEs.

Research Limitations: The data have limitations in traces taken from 2000-2020. Data is limited only on the barrier factors in e-commerce adoption.

Managerial Implications: This research will also useful on the mapping of factors that need to be considered in policy makers.

Originality/Value: There has not been a similar study conducted in the study area.

Key Words: Adoption, Barrier, E-commerce, Meta-analysis, SMEs.

Introduction
Data from the Indonesian Central Statistics Agency shows that the amount of Gross Domestic Product created by SMEs during 2010 reached value 1,013.5 Trillion (56.7 percent of GDP). The number of SME business units reaches 42.4 million, while the number of workers working in this sector is recorded at 79 million workers. The economic sector's business units that absorb the most workers come from small companies compared to large companies (Riyanti, 2003). This matter shows that small and medium enterprises can be developed in Indonesia because they can restore the national economy.

SMEs have a significant contribution to various countries. The Asian Productivity Organization (2011) states that SMEs' contribution in various countries with more than 75% of national products. Some of

* Associate Professor, Management Department, Universitas Negeri Yogyakarta, Yogyakarta.
** Lecturer, Management Department, Universitas Negeri Yogyakarta, Yogyakarta.
*** Associate Professor, Official Administration Department, Universitas Negeri Yogyakarta, Yogyakarta.
the roles of SMEs in overcoming economic problems such as reducing unemployment and poverty rates can contribute to the Gross Domestic Product (GDP) aspect, which has implications for economic growth. SMEs also contribute to increasing exports and can expand investment (Heatubun, 2006). The real contribution of SMEs is shown by the increase in the number of workers in line with SMEs' growth. SMEs account for 51% of gross domestic product (GDP) (Zimmerer & Scarborough, 2005). The economic system based on SMEs has also encouraged new entrepreneurship-based businesses (Wijaya, 2008). SMEs are also considered an alternative to alleviate poverty and create jobs (Chiware & Dick, 2007). SMEs have a strong resilience when the country experiences an economic crisis (Niode, 2009) because they are on a scale that is independent of others. The SME sector has excellent potential to increase productivity, competitiveness, and national economic growth. The SME sector needs information to grow (Chiware & Dick, 2007).

Several studies have identified the importance of technology for support SMEs (Barry & Milner, 2002; Ifinedo, 2011; Mutula & Brakel, 2013). Aspects of technology knowledge and business information are also part of what is needed by SMEs to maintain their existence (Niode, 2009). SMEs' ability to adapt to information technology will determine their competitive ability (Mutula & Brakel, 2013). Dasanayaka et al., (2011) and Trianni & Cagno (2012) state the importance of the accessibility of information needed to develop a business. Lack of information about market opportunities and technological change is seen as being for SMEs (Kamalian et al., 2011). Several studies have succeeded in exploring the constraints faced by SME owners related to information technology. Musaroh and Wijaya (2015) found many complex and varied problems faced by SMEs in operating. Human resources are an obstacle in the adoption of information technology related to these findings. Nurhadi et al. (2016) also identified the limited use of information technology in SMEs. The lack of access to information, especially market information, is a weakness of SMEs. (Ishak, 2005). Information becomes an obstacle in marketing products which results in low market orientation and weak competitiveness.

The research findings with regard to the antecedents that affect the progress of e-commerce in SMEs present difficulties. Research results related to the adoption of information technology in SMEs have not provided complete results (Naranjo-Gil, 2009) because they are still partial. Research results vary widely from individual aspects (Lawrence, 1997; Quayle, 2002; Chau & Turner, 2002), organizational (Kabanda & Brown, 2015) to external factors outside the organization (Al-Hyari, et al., 2011) which cause difficulties in determining the factors that most play a role in related barriers to e-commerce adoption. Rehman & Alam (2016) try to categorize the factors that become barriers in adopting e-commerce, namely, organizational, financial, technical, regulatory, and behavioral barriers. However, the results of this study are only limited to the scope of Malaysian SMEs. The characteristics of samples from various countries and the number of samples used are also research artifacts, causing difficulties in concluding the factors that widely hinder the adoption of e-commerce in SMEs. There is no such study that comprehensively examines the barriers to the adoption of e-commerce in SMEs.

**Objectives of the Study**

The varied results were due to the presence of artifacts in the study, such as SMEs' characteristics, number of samples, geographical aspects, and measurement aspects. Artifacts are research imperfections such as sampling errors and variable measurement errors that often occur in primary research (Hunter & Schmidt, 1990). The research conducted aims to correct errors caused by artifacts in the study. The results of this study are expected to identify antecedent factors that hinder the widespread adoption of e-commerce in SMEs with a large sample combination from the results of previous studies. This study's general objective is to develop a practical design for measuring SMEs' adaptive selling behavior and their factors. The purpose of the research is to analyze the theoretical model of the study of antecedent factors that impede the adoption of e-commerce in small and medium enterprises and examine the antecedent factors that impede the adoption of e-commerce in small and medium enterprises in terms of errors.
Literature Review

In general, various problems arise and are faced by SME actors, including limited market access, access to information on raw materials, access to capital, and access to the training needs to improve SME sources skills (Musaroh & Wijaya, 2015). The role of information technology as a basis in the SME trading system has attracted researchers’ attention in various countries. Several studies discuss the barriers experienced by SME players in adopting e-commerce in a variety of ways.

Implementation costs (Riquelme, 2002), involvement (Quayle, 2002), low hardware technology (Lawrence, 1997), time (Walczuch et al., 2000), lack of information (Lawrence, 1997), awareness of benefits (Quayle, 2002), lack of technical skills (Quayle, 2002; Chau & Turner, 2002) hinder SMEs in IT adoption. Based on studies by Rehman & Alam (2016), Abualrob & Kang (2015), Love et al., (2001), Zaied (2012), Ndyali (2012), the factors that inhibit e-commerce adoption are categorised as external and internal barriers (2013).

Organizational responses to the application of the e-commerce system are classified as organizational barriers (Flynn & Purchase, 2001). According to Zaied (2012), several difficulties such as work procedures, management support, resistance to change, internet, and problems related to web are organizational obstacles. The technology applied in the trading system involves high implementation costs (Heung, 2003; Love et al., 2001; Zaied, 2012), so that it becomes an obstacle to the adoption process for SMEs. The factors that include the costs required for investment, maintenance, and the risk of implementing an e-commerce system are constraints on the financial aspects (Love et al., 2001). Also, the lack of financial infrastructure (Zaied, 2012), inability to develop returns on investment (Flynn & Purchase, 2001), uncertainty in payment methods will influence business decisions to implement e-commerce. Ignorance of appropriate techniques in evaluating the investment potential of e-commerce is a factor considered by SME owners. Lack of understanding of the benefits of e-commerce (Goode, 2002; Poon, 2000) is part of rejecting the decision to invest in information technology.

Companies that can carry out evaluations related to investment accompanied by complete and systematic information will get financial and non-financial benefits from e-commerce (Love et al., 2001). One of the primary sources of technical barriers is the suitability of the type of technology or software that is incompatible with current business needs (Love et al., 2001). The mismatch between technology and business will cause losses and increase operating costs. Organizations need to have external consultants who are good at technology to ensure that the technology applied is in line with their business needs. This issue occurs during the e-commerce adoption stage. Educational and knowledge factors (Darch & Lucas, 2002; Duan et al., 2002) have caused a crisis of confidence in the use of IT (Bode and Burn, 2002). Internet security factors are also part of the barrier to e-commerce applications. Therefore, trust and security are the most important things to overcome (Arendt, 2008). Recent surveys conducted within Brazil indicate low e-commerce adoption that is connected to government regulations that include privacy and security issues, lack of business laws to control e-commerce, lack of legal safeguards for Internet transactions and concerns over tax created. (Tigre & Dedrick, 2004). Likewise, in China, a weak rule of law is a significant barrier to e-commerce (Efendioglu & Yip, 2004). According to Munir & Yasin (2009), there are several laws that Malaysia has implemented, such as the Electronic Commerce Act (ECA), Electronic Government Activities Act (EGAA), and the Digital Signature Act (DSA) to facilitate and eliminate barriers to e-commerce adoption in SMEs.

Behavioral barriers concentrate on reluctance to make changes in work habits, lack of awareness of perceived benefits, difficulties in use, and the degree of uncertainty that technology imparts in humans (Love et al., 2001). All of these factors cause barriers and resistance to business actors against change. Humans are naturally resistant to change and may need approaches to overcome fears of the unknown, especially technology-related. Arendt (2008) states that the owner’s concern that his employees will go and look for work in other companies after mastering technology is one of the obstacles in investing in technology.
Research Methods
The research conducted is a systematic review that synthesizes the results of similar studies. The research will be carried out through a literature review and previous research results and produce a theoretical model related to the studied research topic. Meta-analysis aims to verify the relationship between variables so that the result is an association or correlation between variables accompanied by a range of variants between variables (Wijaya, 2013).

This study uses secondary data collected through documentation of similar studies that discuss the antecedents of barriers to e-commerce adoption for SMEs through primary studies. The research results used are the results of primary studies that have been published in an international journal database. The data used as research data meet the criteria quantitatively or are the result of empirical research. The research population used as a sample source results from internationally published research that discusses quantitative antecedents of barriers to e-commerce adoption for SMEs. The sampling technique used purposive sampling technique and selected some research results that discuss quantitative antecedents of barriers to e-commerce adoption for SMEs. Articles were collected through a google scholar search in the 2000-August 2020 period, had a clear description of the number of samples (N), and presented data on one of the correlation values (r), t or F, the mean score and standard deviation. The data taken are internationally indexed articles such as Ebsco, Index Copernicus, and Scopus. The data analysis using meta-analysis. This method aims to examine the consistency of research results due to variations and verification of research, which increase the variety of research results. Meta-analyses in research focused on sampling errors and variable measurement errors that often occur in primary studies.

Analysis and Interpretation
Theoretical Model
Based on the collection of literature studies from google scholar with a limit of 2000-2020, 69 international journal articles discussed the antecedents of barriers to e-commerce adoption in SMEs. The articles were then selected based on the criteria for quantitative research articles and obtained 19 articles. Articles that meet specific criteria that have complete data regarding the number of samples and have a correlation value (r) between variable relationships are eight articles that meet the analysis criteria.

The articles used for analysis then identified the antecedent variables of e-commerce adoption. The identification results are then discussed and discussed in a research group involving academic researchers in the field of SMEs. The identification results are grouped based on research results from Rehman & Alam (2016), Abualrob & Kang (2015), Love et al., (2001), Zaied (2012), Ndyali (2013), which categorize the barriers to e-commerce adoption in the category of barriers external and internal.

Internal barriers that hinder the adoption of e-commerce in SMEs are factors that come from within the SME organization. The factor including the size and benefits of the organization, individuals or behavior from owners, financial aspects, aspects of IT personnel who can operate systems or support technology systems, operational processes, types of products, types of business requiring technology, technical knowledge related to use and benefits, difficult implementation, time and value that are perceived based on considerations of benefits and costs. External barriers that hinder the adoption of e-commerce in SMEs come from outside the SMEs organization. The factor is including rules or regulations, supporting infrastructure or other technical aspects, socio-political factors, external support, technology, logistics, economic factors, security considerations, broad aspects of the environment, openness of business transparency of government, conglomerate, industrial activities similar to companies, competition, market considerations, country context and supporting resources from outside the organization. The results of grouping the antecedent factors of barriers to e-commerce adoption in SMEs are tabulated as table no. 1.
### Table No. 1: Barriers to E-Commerce Adoption in MSMEs

| No. | Factor       | Variable                                | Researcher                                      |
|-----|--------------|-----------------------------------------|------------------------------------------------|
| 1   | Intern       | Organization                            | Mohamed Abou-Shouk and Mohammed I, Eraqi (2015) |
|     |              | Behaviour                               | Mohamed Abou-Shouk and Mohammed I, Eraqi (2015) |
|     |              | Finance                                 | Kannabiran & Dharmalingam (2012)               |
|     |              | IT sources                              | Kannabiran & Dharmalingam (2012)               |
|     |              | Operation                               | Kannabiran & Dharmalingam (2012)               |
|     |              | Finance                                 | Awa et al., (2015)                             |
|     |              | Size of company                         | Awa et al., (2015)                             |
|     |              | Product and service                      | MacGregor & Vrazalic (2008)                    |
|     |              | Type of business                         | MacGregor & Vrazalic (2008)                    |
|     |              | Benefit                                 | MacGregor & Vrazalic (2008)                    |
|     |              | Technical Knowledge                      | MacGregor & Vrazalic (2008)                    |
|     |              | Implementation                           | MacGregor & Vrazalic (2008)                    |
|     |              | Finance                                 | MacGregor & Vrazalic (2008)                    |
|     |              | Time                                    | MacGregor & Vrazalic (2008)                    |
|     |              | Individual Perception                    | Lim et al., (2018)                             |
|     |              | Organization                            | Lim et al., (2018)                             |
|     |              | Organization                            | Esmaeilpour et al., (2016)                     |
|     |              | Value                                   | Lama et al., (2018)                            |
| 2   | Extern       | Regulation                              | Mohamed Abou-Shouk and Mohammed I, Eraqi (2015) |
|     |              | Technical                               | Mohamed Abou-Shouk and Mohammed I, Eraqi (2015) |
|     |              | Culture                                 | Senarathna et al., (2014)                      |
|     |              | Infrastructure                          | Kannabiran & Dharmalingam (2012)               |
|     |              | Information security                     | Kannabiran & Dharmalingam (2012)               |
|     |              | Technical                               | Esmaeilpour et al., (2016)                     |
|     |              | Environment                             | Esmaeilpour et al., (2016)                     |
|     |              | Infrastructure                          | Awa et al., (2015)                             |
|     |              | Integration and business openness        | Awa et al., (2015)                             |
|     |              | Information                             | Awa et al., (2015)                             |
|     |              | Government transparency                  | Awa et al., (2015)                             |
|     |              | ICT Expert Conglomeration                | Awa et al., (2015)                             |
|     |              | Similarity to industrial activity        | Awa et al., (2015)                             |
|     |              | Safety                                  | MacGregor & Vrazalic (2008)                    |
|     |              | Competition                             | Lim et al., (2018)                             |
|     |              | Infrastructure                          | Lama et al., (2018)                            |
|     |              | Market                                  | Lama et al., (2018)                            |
|     |              | IT support                               | Lama et al., (2018)                            |
|     |              | Social culture                           | Lama et al., (2018)                            |
|     |              | Country context                         | Lama et al., (2018)                            |
|     |              | Sources                                 | Lama et al., (2018)                            |
|     |              | Safety                                  | Lama et al., (2018)                            |
Meta-Analysis

Meta-analysis techniques were used to find each factor’s correlation value based on the consideration of the existing sample from each study. According to the technical model developed in the previous study, the meta-analysis study was grouped into two groups, namely internal and external factors. The tabulation results for each of the adoption barrier factors are as follows:

Table No. 2: Internal Factor Variable Correlation

| Number | Variable            | Number of Samples | Correlation Coefficient |
|--------|---------------------|-------------------|-------------------------|
| 1      | Organization        | 411               | 0,140                   |
| 2      | Behaviour           | 411               | 0,190                   |
| 3      | Finance             | 118               | 0,443                   |
| 4      | IT sources          | 118               | 0,312                   |
| 5      | Operation           | 118               | 0,408                   |
| 6      | Finance             | 191               | 0,458                   |
| 7      | Size of company     | 191               | 0,432                   |
| 8      | Product/service     | 247               | 0,245                   |
| 9      | Type of business    | 247               | 0,200                   |
| 10     | Benefit             | 247               | 0,258                   |
| 11     | Technical knowledge | 247               | 0,192                   |
| 12     | Implementation      | 247               | 0,259                   |
| 13     | Finance             | 247               | 0,277                   |
| 14     | Time                | 247               | 0,239                   |
| 15     | Individual perception | 217             | 0,160                   |
| 16     | Organization        | 217               | 0,420                   |
| 17     | Organization        | 157               | 0,412                   |
| 18     | Value               | 198               | 0,889                   |

Table No. 3: Estimated Correction of Internal Factor Variable Sampling Error

| Variable            | N  | ri   | Nri  | r     | ri-r  | (ri-r)² | N(ri-r)² |
|---------------------|----|------|------|-------|-------|---------|----------|
| Organization        | 411| 0,140| 57,54| 0,295 | -0,155| 0,024025| 9,874275 |
| Behaviour           | 411| 0,190| 78,09| 0,295 | -0,105| 0,011025| 4,531275 |
| Finance             | 118| 0,443| 52,274| 0,295 | 0,148 | 0,021904| 2,584672 |
| IT sources          | 118| 0,312| 36,816| 0,295 | 0,017 | 0,000289| 0,034102 |
| Operation           | 118| 0,408| 48,144| 0,295 | 0,113 | 0,012769| 1,506742 |
| Finance             | 191| 0,458| 87,478| 0,295 | 0,163 | 0,026569| 5,074679 |
| Size of company     | 191| 0,432| 82,512| 0,295 | 0,137 | 0,018769| 3,584879 |
| Product/service     | 247| 0,245| 60,515| 0,295 | -0,05 | 0,00025 | 0,6175    |
| Type of business    | 247| 0,200| 49,4  | 0,295 | -0,095| 0,009025| 2,229175 |
| Benefit             | 247| 0,258| 63,726| 0,295 | -0,037| 0,001369| 0,338143 |
| Technical knowledge | 247| 0,192| 47,424| 0,295 | -0,103| 0,010609| 2,620423 |
| Implementation      | 247| 0,259| 63,973| 0,295 | -0,036| 0,001296| 0,320112 |
| Finance             | 247| 0,277| 68,419| 0,295 | -0,018| 0,000324| 0,080028 |
Based on the data in table no. 3, it is known that the r value of the internal resistance factor group is 0.299 (Nri/N) with a standard deviation of 0.1667 based on (“113.526748/4076) so that it can be seen:

Lower limit value = 0.299 - (1.96 x 0.1667) = 0.027

The upper limit value = 0.299 + (1.96 x 0.1667) = 0.626

The variation in the value of the relationship between internal factors and barriers to e-commerce adoption is 0.299 with a value ranging from 0.027 to 0.626 at the 95% confidence level.

Table No. 4: External Factor Variable Correlation

| Number | Variable                              | Number of Samples | Correlation Coefficient |
|--------|---------------------------------------|-------------------|-------------------------|
| 1      | Regulation                            | 411               | 0.150                   |
| 2      | Technical                             | 411               | 0.270                   |
| 3      | Culture                               | 81                | 0.702                   |
| 4      | Infrastructure                        | 118               | 0.176                   |
| 5      | Information safety                    | 118               | 0.005                   |
| 6      | Technical                             | 157               | 0.201                   |
| 7      | Environment                           | 157               | 0.264                   |
| 8      | Infrastructure                        | 191               | 0.423                   |
| 9      | Integration and business openness      | 191               | 0.423                   |
| 10     | Information                           | 191               | 0.412                   |
| 11     | Government transparency               | 191               | 0.482                   |
| 12     | ICT Expert Conglomeration             | 191               | 0.463                   |
| 13     | Similarity to industrial activity     | 191               | 0.468                   |
| 14     | Safety                                | 247               | 0.200                   |
| 15     | Competition                           | 217               | 0.350                   |
| 16     | Infrastructure                        | 198               | 0.489                   |
| 17     | Market                                | 198               | 0.651                   |
| 18     | IT support                            | 198               | 0.411                   |
| 19     | Social culture                        | 198               | 0.029                   |
| 20     | Country context                       | 198               | 0.436                   |
| 21     | Sources                               | 198               | 0.997                   |
| 22     | Safety                                | 198               | 0.102                   |
Table No. 5: Estimated Correction of External Factor Variable Sampling Errorrr

| Variable                  | N | ri | Nri  | r  | ri-r | (ri-r)² | N(ri-r)² |
|---------------------------|---|----|------|----|------|---------|----------|
| Regulation                | 411| 0.150 | 61.65 | 0.4 | -0.25 | 0.0625  | 25.6875  |
| Technical                 | 411| 0.270 | 110.97| 0.4 | -0.13 | 0.0169  | 6.9459   |
| Culture                   | 81 | 0.702 | 56,862| 0.4 | 0.302 | 0.091204| 7.387524 |
| Infrastructure            | 118| 0.176 | 20,768| 0.4 | -0.224| 0.050176| 5.920768 |
| Information safety        | 118| 0.005 | 0.59  | 0.4 | -0.395| 0.156025| 18.41095 |
| Technical                 | 157| 0.201 | 31,557| 0.4 | -0.199| 0.039601| 6.217357 |
| Environment               | 157| 0.264 | 41,448| 0.4 | -0.136| 0.018496| 2.903872 |
| Infrastructure            | 191| 0.423 | 80,793| 0.4 | 0.023 | 0.000529| 0.101039 |
| Integration and business  | 191| 0.423 | 80,793| 0.4 | 0.023 | 0.000529| 0.101039 |
| Information transparency  | 191| 0.412 | 78,692| 0.4 | 0.012 | 0.000144| 0.027504 |
| ICT Expert Conglomeration | 191| 0.482 | 92,062| 0.4 | 0.082 | 0.006724| 1.284284 |
| Similarity to industrial  | 191| 0.468 | 89,388| 0.4 | 0.068 | 0.004624| 0.883184 |
| Safety                    | 247| 0.200 | 49.4  | 0.4 | -0.2  | 0.04    | 9.88     |
| Competition               | 217| 0.350 | 75,95  | 0.4 | -0.05 | 0.0025  | 0.5425   |
| Infrastructure            | 198| 0.489 | 96,822| 0.4 | 0.089 | 0.007921| 1.568358 |
| Market                    | 198| 0.651 | 128,898| 0.4 | 0.251 | 0.063001| 12.474198|
| IT support                | 198| 0.411 | 81,378| 0.4 | 0.011 | 0.000121| 0.023958 |
| Social culture            | 198| 0.029 | 5,742 | 0.4 | -0.371| 0.137641| 27.259218|
| Σ                          | 4449 | 1576,126| 216,779714 | 216,779714 |

Based on the data in table 5, it is known that the correlation value (r) of the external resistance group is 0.3542 (Nri/N) with a standard deviation of 0.2207 ("216,779 / 4449") so that it can be seen:

The lower bound value = 0.354 - (1.96 x 0.2207) = 0.0786

The upper limit value = 0.354 + (1.96 x 0.2207) = 0.7866

The variation in the value of the relationship between external factors and barriers to e-commerce adoption is 0.3542 with a value ranging from 0.0786 to 0.7866 at the 95% confidence level.

Based on a comprehensive meta-analysis study, it can be seen that there is a significant relationship between internal and external factors and barriers to e-commerce adoption in SMEs. Based on the study conducted, it can also be concluded that internal factors’ role is 0.0894 or 8.94% in explaining the barriers to e-commerce adoption in SMEs. The contribution of external factors is 0.1254 12.54% in explaining barriers to e-commerce adoption in SMEs. Based on these two factors, it can be seen that external factors are more dominant than internal factors.

Internally, the organizational barrier factor is how the organization responds to the e-commerce system’s application (Flynn & Purchase, 2001). Several organizational aspects are inhibiting factors
such as the absence of planning, and lack of organizational resources, including employee knowledge (MacGregor & Vrazalic, 2008), and the lack of need for e-commerce based on individual perceptions (Lim et al., 2018). Services the company offers and the goods it makes are reasons not to embrace e-commerce because they are incompatible with the e-commerce framework (MacGregor & Vrazalic, 2008). Barriers to indirect costs or financial restrictions, inability to quantify e-commerce benefits on the basis of benefits and costs, investment evaluation techniques, lack of strategic planning, unwillingness to develop alliances and general reluctance to change the way e-commerce is implemented by a company that has been run into a SME (Love et al., 2001). High development costs are involved in the technologies used in the trading system (Heung, 2003; Love et al., 2001; Zaied, 2012). Zaied (2012) notes that the variables of complexity in modifying current work processes, lack of support for management, organisational resistance to change, restricted use of the internet often discourage the adoption of e-commerce by an organisation. Financial barriers are costs needed for the introduction of an e-commerce system for investment, maintenance, and risk (Love et al., 2001), including the perceived value of the adoption of e-commerce (Lama et al., 2018).

Barriers from individual or owner behavior also hinder the adoption of e-commerce, such as reluctance to make changes in work habits, lack of awareness of perceived benefits, difficulty in use, and the level of uncertainty that technology implants in humans (Love et al., 2001). These aspects cause barriers and individual resistance to change. Arendt (2008) emphasizes that business people's reluctance to invest in e-commerce training for employees is due to owner concerns about the uncertainty of conditions and commitment of employees to stay in the organization.

While the lack of external inappropriate or inadequate regulation of e-commerce is a constraining factor, the technical aspects of the network and the technical aspects of e-commerce are considered constraining factors (Shouk & Eraqi, 2015) (Shouk & Eraqi, 2015). This external factor is consistent with the findings of a recent survey conducted among Brazilian consumers showing the low adoption of e-commerce related to government regulations such as concerns about privacy and security, lack of business laws for regulating e-commerce, lack of legal protections for internet purchases, and concerns over taxes, which resulted (Tigre & Dedrick, 2004) (Tigre & Dedrick, 2004). The same is true in China where consumers do not trust the rule of law and see it as an obstruction to online transactions (Efendioglu & Yip, 2004). A study conducted by Munir and Yasin (2009) found that Malaysia has enacted laws to facilitate e-commerce adoption.

The inability to control e-commerce is a restricting factor, but the technological aspects of the network and the technical aspects of e-commerce are also constraining factors (Shouk & Eraqi, 2015). This external factor is consistent with the results of a recent survey conducted among Brazilian customers showing low adoption of government-related e-commerce regulations, such as privacy and security concerns, lack of e-commerce regulatory business rules, lack of legal safeguards for internet transactions, and tax concerns, which resulted in (Tigre & Dedrick, 2004). Similarly, customers in China do not trust the rule of law and see it as an obstacle to e-commerce (Efendioglu & Yip, 2004). Malaysia has enacted laws to promote e-commerce adoption, according to Munir and Yasin (2009).

Conclusion and Recommendations
Based on the literature study and meta-analysis, it can be concluded; theoretically, the factors that influence the adoption of e-commerce in SMEs are grouped into two main factors, namely internal and external. Internal barriers that hinder the adoption of e-commerce in SMEs are factors that come from within the SME organization, including the size and benefits of the organization, originating from individuals or behavior from owners, financial aspects, aspects of IT personnel who can operate systems or support technology systems, operational processes, types of products or services, types of business requiring technology, technical knowledge related to using and benefits, difficult implementation, time
and value that are perceived based on considerations of benefits and costs. External barriers that hinder the adoption of e-commerce in SMEs are factors that come from outside the SMEs organization, including rules or regulations, supporting infrastructure or other technical aspects, socio-political factors, external support or technology, logistics, economic factors, security considerations, broad aspects of the environment, related to integration or openness of business or transparency of government, aspects of conglomeration, related industrial activities similar to companies, competition, market considerations, country context and supporting resources from outside the organization.

A meta-analysis study with the consideration of sampling error correction shows a significant relationship between internal and external factors with barriers to e-commerce adoption in SMEs. Based on the study conducted, it can also be concluded that internal factors’ role is 0.0894 or 8.94% in explaining the barriers to e-commerce adoption in SMEs. The contribution of external factors is 0.1254 12.54% in explaining barriers to e-commerce adoption in SMEs. Based on these two factors, it can be concluded that external factors are more dominant than internal factors.

Based on the literature review findings, theoretically, factors that can be taken into account in assessing barriers to e-commerce adoption are internal and external factors. This theoretical model can be studied in an empirical model for future researchers. Practically, SME players can consider internal barrier factors that hinder the adoption of e-commerce in SMEs by minimizing these factors’ effects. External parties such as the government or local stakeholders need to consider external barrier factors that hinder the adoption of e-commerce in SMEs through efforts to minimize external factors such as reviewing regulations that support e-commerce implementation, preparing infrastructure, and ensuring network security systems.

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