

The Study of SMEs' E-Commerce Adoption in Sabah and Sarawak

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Abstract

This study will focus on how e-commerce helps or contribute to Sabah and Sarawak's SMEs. In addition, the research will be conducted using the TOE (Technology–Organisation–Environment) framework. Not only that, this study will collect the questionnaire from the Sabah and Sarawak's SMEs. Due to the lack of study in Sabah and Sarawak, knowledge of e-commerce adoption could be limited. In a nutshell, this research would help better understand e-commerce uptake among SMEs in Sabah and Sarawak. Besides, the findings are helpful for interested parties, such as policymakers, to develop an appropriate mitigation plan to boost e-commerce adoption in Sabah and Sarawak.

Keywords: E-Commerce, TOE, SME, Sabah, Sarawak

Introduction

The internet has become increasingly significant in people's daily lives (Al-aaridhi, 2018). Meanwhile, COVID19 has resulted in a massive increase in internet usage (Brief Report Increased Addictive Internet and Substance Use Behavior During the COVID-19 Pandemic in China.Pdf, n.d.), and many brick-and-mortar shops turned to internet sales (Xie et al., 2021). Customers are pushed to utilise the internet and make it a habit in their everyday lives (Khan et al., 2020).

E-commerce is an electronic method of manufacturing, distribution, marketing, sale, and delivery of goods and services as defined by the World Trade Organization (1998). Meanwhile, Tolstoy et al. (Tolstoy et al., 2021) have described it as "Trading commodities or services across computer networks such as the internet." Previous studies (eg., Schu et al., 2016; Tolstoy et al., 2021) argued that e-commerce adoption could help SMEs grow by exploring new markets and accessing previously untapped client segments. In brief, the rules of the game of overseas expansion for small SMEs have altered in an era of fast changes towards digital and more automated commercial transactions, increasingly niched demand, and a service-based economy (OECD, 2017).

On the other hand, the role of SMEs in a country's economic growth is critical (Rahayu & Day, 2017a). Kurnia et al (2015) mention that SMEs generally contribute considerably to the national economy, particularly in developing nations. A study by Al-Alawi and Al-Ali (2015) shows that SMEs play a key role and are considered to be one of the primary driving factors in socio-economic development and job creation, even in times of economic crisis, in both established and developing nations (Burrone, 2005; Levy & Powell, 2005; OECD, 2010). According to the Department of Statistics Malaysia (DOSM), the total number of SMEs in Malaysia in 2020 was 1,151,339, accounting for 97.2% of all business enterprises (Malaysia Statistical Business Register, Department of Statistics, 2021). So, this statistic shows that SMEs are critical in Malaysia. Thus, SMEs are at an advantage by using e-commerce to ensure their long-term existence, necessitating digital sales research (Tolstoy et al., 2021).

Although there is much study regarding e-commerce adoption (Herzallah & Mukhtar, 2015; Kabanda & Brown, 2017; Lip-Sam & Hock-Eam, 2011; Mahroeian, 2012), some are still missing gaps that need to fill up. First, Ahmad et al (2015) say that there has been a scarcity of reliable empirical investigations to allow for the construction of models to identify the factors that may drive e-commerce adoption, especially Sabah (Bolongkikit et al., 2006) and Sarawak (Serojai et al., 2021). Second, there is a mixed result in each variable – perceived usefulness (Alraja & Aref, 2015; Caesar et al., 2019), perceived ease of use (Basarir-Ozel & Mardikyan, 2017; Mahroeian, 2012), top management support (Sila, 2013) and organisation readiness (Hajli et al., 2012; Ocloo et al., 2018). Third, Houache (2019) say that SMEs in developing countries lack a comprehensive theoretical framework that can explain contextual characteristics.

Hence, this study would like to provide a solid empirical and theoretical framework, show the relationship between variables, and contribute more data in developing countries, especially Sabah and Sarawak.

Proposed Research Framework and methodology

Theory Foundation

This study will conduct a Technological, Organizational, and Environmental Framework (TOE) to assume a broad set of criteria to forecast e-commerce adoption and classify SMEs' e-commerce adoption factors (Awa et al., 2015). The reason for choosing TOE as a framework in this study is that the TOE framework considers the context of the environment (Alshamaila et al., 2013). Moreover, much previous research has used the TOE framework (Alshamaila et al., 2013; Awa et al., 2015), and it is theoretically solid and experimentally proven, which means that the TOE framework has been universally accepted as a well-established framework for studying e-commerce adoption (Ghobakhloo et al., 2011; Ramdani et al., 2013). Furthermore, the TOE framework is an integrative schema that incorporates technological traits, contingent organisational aspects, and macro-environmental elements (Ifinedo, 2011). Last but not least, the TOE framework is recognised as a model that adopts an interactive perspective that posits that changes in an organisation are influenced not only by the features of the organisation in which they operate but also by the characteristics of the organisation in which they operate (Rahayu & Day, 2015).

E-commerce Adoption

E-commerce is a transaction in which the internet is initially utilised as a platform to

establish the conditions of trade (e.g., price, availability, the order processing time to delivery) among the participants in a marketing channel (Saridakis et al., 2018). According to Al-Alawi and Al-Ali (2015), E-Commerce uses electronic means for the manufacture, distribution, marketing, sale, or delivery of products and services over the Internet and the World Wide Web (www).

However, e-commerce is more than just a matter of using new technology. In the worldwide marketplace, e-commerce provides a wide range of services and prospects for electronic trading. Information technology may assist businesses in improving their overall business processes and increase the efficacy of their interactions with their trading partners (Al-Alawi & Al-Ali, 2015).

The adoption of e-commerce has been widely addressed in several study fields, such as B2B e-commerce (Lip-Sam & Hock-Eam, 2011), e-commerce adoption in SME retail sector (Govinnage & Sachitra, 2019; Kurnia et al., 2015), e-commerce adoption in SME (Rahayu & Day, 2017b) and e-commerce adoption in developing country (Alam & Noor, 2009).

Perceived Usefulness (PU) and E-Commerce Adoption

Perceived usefulness is one of the beliefs in TAM (Davis, 1989). The degree to which one feels that employing technology would improve his or her performance is referred to as perceived usefulness (Basarir-Ozel & Mardikyan, 2017). Kanchanatane et al (2014) define perceived usefulness as an individual's level of belief that utilising technology would improve work performance.

Perceived usefulness is used in many previous studies such as B2B e-commerce (Hussein et al., 2019), e-commerce adoption in developed (Grandon & Pearson, 2004) and developing (Kurnia et al., 2015; Renewal et al., 2006) countries, e-learning system (Lin & Wang, 2012). According to previous research (Sarлак et al., 2010), perceived utility appears a more emotional criterion in successful e-commerce adoption. It has led SMEs authorities to objectively examine the perceived usefulness of conducting e-commerce due to more incredible speed in executing obligations, cheaper costs, and strong relationships with customers and suppliers.

According to Hussein et al (2019), perceived usefulness is the most crucial element in selecting whether or not to adopt technology in the workplace. The perceived usefulness of an e-commerce platform has a favourable impact on the desire to utilise it (Gantulga et al., 2021). According to Lee (2010), there is no question in the research that a technology's perceived utility determines its acceptability and utilisation. Therefore, this study proposed that:

H1: There is a positive relationship between perceived usefulness and e-commerce adoption

Perceived Ease of Use (PEOU) and E-commerce Adoption

Perceived ease of use is the second of the beliefs in TAM (Davis, 1989). Basarir-Ozel and Mardikyan (2017) described that perceived ease of use is the degree to which a person perceives that utilising a specific system is painless. Moreover, perceived ease of use indicates that a person's decision to use (or not use) a programme is based on their assumption that it

will help them perform better on a given job (Suryawirawan, 2021).

Perceived ease of use has been used in several studies such as online hotel booking (Abd et al., 2016), e-commerce (Alraja & Aref, 2015; Grandon & Pearson, 2004; Hoque et al., 2015; Suryawirawan, 2019), e-purchase (Moslehpour et al., 2018), e-marketing (El-Gohary, 2011; Kanchanatane et al., 2014), e-portfolios (Abdullah et al., 2016).

In a previous study, perceived ease of use was employed, and it was found to have a positive link with e-commerce adoption (Awa et al., 2015; Basarir-Ozel & Mardikyan, 2017; Caesar et al., 2019; Mahroeian, 2012; Sarlak et al., 2010; Setyo Iriani & Lestari Andjarwati, 2020). Suryawirawan (2021) demonstrated that perceived ease of use and attitude toward e-commerce intention have a significant favourable impact. Therefore, this study proposed that:

H2: There is a positive relationship between perceived ease of use and e-commerce adoption.

Top Management Support and E-Commerce Adoption

Top management support is one-factor affecting e-commerce adoption because senior management is required to obtain a thorough awareness of the difficulties surrounding e-commerce and activate organisational stakeholders (Arshad et al., 2018). Meanwhile, Top management recognises the relevance of technology and will attempt to persuade peers throughout the organisation to adopt and use it (Chee et al., 2016). According to Abed (2020), top management support refers to the level of assistance gained from senior management in adopting innovative technology for business applications.

On the other hand, top management support has been applied in different studies such as e-marketing (Sheikh et al., 2017), green supply chain management (Ilyas et al., 2019), and social commerce (Abed, 2020). When it comes to the new technical, adoptions are usually implemented from the top down (Oliveira et al., 2019). In SMEs, the decision-maker is almost often a senior management team member, and their backing is critical for adoption to occur (Al-Alawi & Al-Ali, 2015; Ramdani et al., 2013). Therefore, top management support is essential in SMEs.

Top management support has been employed in a few studies, and it has been linked to increased e-commerce adoption. (Hamad et al., 2015; Ocloo et al., 2018, 2020; Renewal et al., 2006; Sujatha & Karthikeyan, 2021). Hence, this study proposes the following hypotheses:

H3: There is a positive relationship between top management support and e-commerce adoption

Organization Readiness and E-Commerce Adoption

In innovation adoption studies, organisational readiness was one of the most often explored determinants (Choochinprakarn, 2016). Organizational readiness is the link between people, processes, systems, and performance measurement. It necessitates synchronisation and coordination, as no implementation will be successful without them (Priambodo et al., 2021). Organisation readiness has been defined as the degree to which a company develops the resources needed to adopt e-commerce (Nguyen et al., 2022).

Organisation readiness has been used a lot in past studies such as e-commerce (Mahroeian, 2012; Ocloo et al., 2020; Priambodo et al., 2021), e-business (Omar et al., 2015), social media (Abed, 2020; Wang et al., 2016). Organisation readiness has been adopted in different studies because Organisational readiness aided e-commerce adoption significantly (Nurlinda & Muda, 2020).

Many studies suggest that e-commerce adoption requires organisational readiness (Abed, 2020; Effendi & Subroto, 2021; Ocloo et al., 2018; Omar et al., 2015). Furthermore, in a prior study, organisational readiness positively impacted e-commerce adoption (Hajli et al., 2012; Nurlinda & Muda, 2020; Ocloo et al., 2020; Yeni & Yasri, 2020). Thus, in this study, it is hypothesised that:

H4: There is a positive relationship between organisation readiness and e-commerce adoption.

Research Methodology

Based on the literature review discussion about e-commerce adoption, Figure 3.1 shows the proposed research framework of this study.

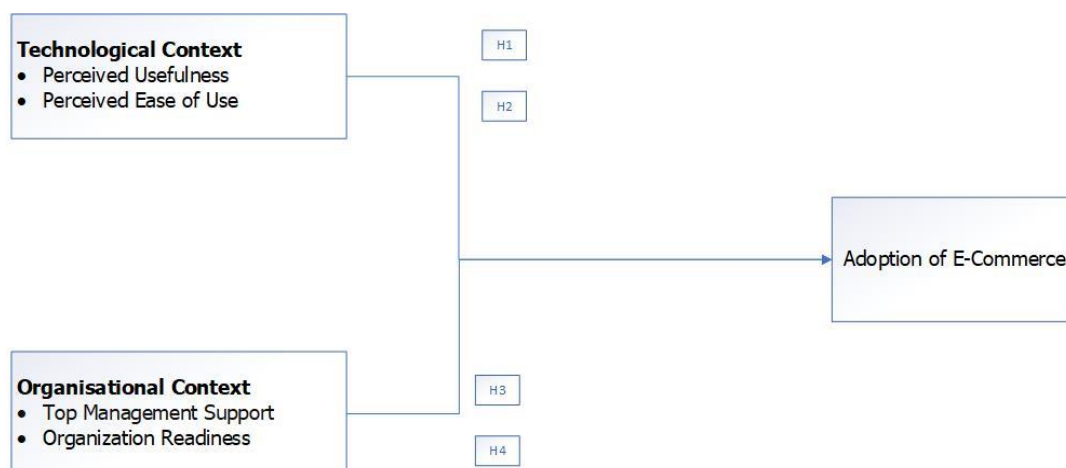


Figure 0.1: Research framework of the study

Research Design

This study employs a quantitative approach, which entails empirical research to determine the relationship between perceived usefulness, ease of use, top management support, organisational readiness, and government support. Furthermore, because of the nature of this research, hypothesis testing was required to explain the relationship between the research variables.

A questionnaire collected the core data for this study, and the unit of analysis was the small or medium-sized firm, with each enterprise representing one respondent.

Population and Sample Selection

According to Shukla (2020), the population is the set or group of all the units to which the research findings will be applied. Population refers to the targeted community or group

of people who participated in or were chosen by the researcher for his examination, according to the definition.

The study's target respondents were SMEs from Sabah and Sarawak. In this study, SMEs are defined as businesses with annual sales of less than RM50 million and fewer than 200 full-time workers in the manufacturing sector or businesses with less than RM20 million and fewer than 75 full-time employees in the services other sectors. According to the annual report of SME Corporation Malaysia, Sabah has 55,702 SMEs, while Sarawak has 61,036 SMEs (National Entrepreneur and SME Development Council, 2020). Consequently, the total population for this research in Sabah and Sarawak would be 116,738 SMEs. However, the study's target respondents are only SMEs who use e-commerce.

As a result, the study employs the purposive sampling approach to choose a "representative" sample that meets the study's requirements. Respondents must answer yes or no to the following question: "Do SMEs utilise e-commerce in their business?". Then, based on the response, filter out the appropriate responders until the sample size requirement is met.

Data Analysis Methods

Partially least squares structural equation modelling (PLS-SEM), which uses a principal component-based technique to estimate, is used to analyse the data. The hypotheses were tested using the SmartPLS software tool (Ifinedo, 2011; Ocloo et al., 2020).

Partially least squares (PLS), a structural equation modelling method, are used to analyse the data (Lim et al., 2018). Furthermore, the PLS-SEM technique is advantageous when investigating the crucial sources of explanation for a particular target construct. When the assumptions regarding the normality of data distribution in covariance-based structural equation modelling are violated, it is considered an excellent methodological alternative to theory testing (Ocloo et al., 2020). The PLS analysis includes the measurement model and the structural model assessment (Ifinedo, 2011).

PLS is an analytical approach that requires few assumptions, such as that data is evenly distributed and that the sample size is modest. To do causal predictive analysis, PLS is used (Mahliza, 2020). Not only that, PLS (Chin, 2010; Henseler et al., 2016) is a variance-based technique for estimating route models with latent variables that have recently gained popularity in a variety of domains, including information systems (Benitez-Amado et al., 2015; Ocloo et al., 2020). It also does not necessitate the use of a multivariate normal distribution or large sample sizes. PLS's theoretical structural model and the measuring model (relationships between questions and constructs) may be evaluated simultaneously (relationships among constructs). When there is minimal theoretical information available, this approach is best utilised for causal-predictive analysis, and it is best employed in the early stages of theory creation (Alam et al., 2011).

Conclusion

This study aims to fill up the gaps, such as the lack of empirical research (Ahmad et al., 2015) and lack of a theoretical framework (Houache et al., 2019) covering the e-commerce adoption by SMEs in developing countries. Furthermore, using the TOE framework to

investigate factors influencing e-commerce adoption will contribute to the current knowledge on integrating internal and external e-commerce adoption factors among the SMEs in Sabah and Sarawak. Besides, the study will also uncover the important of government's support to moderate the adoption of e-commerce among the SMEs.

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