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Assessing the Adoption of M-commerce in SMEs in the Service Industry of Malaysia

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Abstract
The purpose of this paper is to examine the relationship between performance expectancy, and government support for m-commerce adoption among Small & Medium Enterprises (SMEs) in the service industry. The study was quantitative, and a self-administered questionnaire was used to collect primary data from 396 SMEs in Kuala Lumpur and Selangor, Malaysia. The data was analyzed using PLS-SEM, and findings discovered that the proposed model explained 58.4% of the variance in the dependent variable which is considered at a strong level. The findings show that there is a positive significant relationship between performance expectancy, and government support for m-commerce adoption.

Keywords: Performance Expectancy; Government Support; M-commerce Adoption; SMEs

1.0 Introduction

Mobile internet has transformed Southeast Asia as just back then, nearly four out of five Southeast Asians did not have access to the internet. However, today, mobile internet users in Southeast Asia number 360 million worldwide, making them the most engaged users. There are approximately 90% of the users, which means the vast majority of mobile internet users connect via their mobile phones. Mobile internet users also buy products, plan trips and order food online. These processes occur millions of times daily, proving that a vision that is impossible to imagine nowadays becomes routine phone activities. Powered by consumer behaviour trends, the internet economy hit $100 billion in 2019 and is forecast to hit $300 billion by 2025. Mobile internet has succeeded in transforming Southeast Asia because it makes the users' lives more convenient and productive than before by giving them unprecedented access to information and services.

The popularity of mobile commerce (m-commerce) is increasing around the world (Chau & Deng, 2018). The statistics indicate a significant increase in market profit from $50.92 billion in 2014 to $693,32 in 2019 (Chau & Deng, 2018; Yahaya, Abdul Hamid, & Mohd Nafi, 2022). M-commerce adoption is the trend of e-commerce transactions using mobile devices such as ultra-lightweight laptops, handheld computers, tablets or smartphones (Nayyar, 2015). Besides, there are several applications and services that contributed to the new wave of m-commerce technology adoption, such as location-based navigation, mobile banking, online media,

mobile file sharing, mobile shopping, and e-tickets (Nayyar, 2015). Hence, it is undeniable that the potential m-commerce adoption toward economic growth (Alduaij, 2018; Pankomera & Greunen, 2019) is in Malaysia.

However, creating employment opportunities in developing countries depends on the SMEs' contribution. This has been confirmed by Yahaya et al. (2022) that over 97% of all enterprises in the Asia-Pacific Economic Cooperation (APEC) region are SMEs. Further, SMEs contributed significantly to economic growth across APEC member economies, with their share of GDP ranging from 20% to 50%. In addition, according to the latest statistics from the Department of Statistics Malaysia, SME GDP grew by 6.2% in 2018 as opposed to the country's overall GDP of 4.7%. In turn, the benefit of SMEs to GDP increased to 38.3% from 37.8% in 2017 (Yahaya et al., 2022). Chairman of SME Corporation Malaysia, Dato' Sri Syed Hussein Al Habshee, has confirmed that these developments point to an ecosystem that is robust and healthy to enable SME growth and sustainability. The Council also endorsed eight measures to further boost SME economic growth, in line with the SME Masterplan 2012-2020 target of 40% GDP contribution from SMEs.

Conclusively, there is clear evidence that m-commerce adoption will accelerate economic growth, improve overall revenue and preserve the well-being of the people (Alduaij, 2018; Pankomera & Greunen, 2019). However, in Malaysia, m-commerce is still at an infant stage, and there are limited literature studies about the key factors that affect the adoption success of this technology. Unfortunately, Malaysia will be more vulnerable to the disruptions of the economy if it is unable to grab the opportunities offered by modern m-commerce technology adoption and, hence, lag behind to compete globally compared to other developed countries with more advanced technology. Therefore, it is very important and pertinent to conduct a study pertaining to factors that influence m-commerce adoption among SMEs in Malaysia. Henceforth, this study attempted to study factors of performance expectancy and government support that affect how people adopt mobile commerce SMEs in Malaysia.

2.0 Literature Review

As mentioned above, the importance of m-commerce adoption towards SMEs such as m-commerce is able to help SMEs extend market reach, increase revenue, reduce transaction costs and intermediaries, improve the service and create more productive staff (Khaskheli, Jun, & Ahmed Bhuiyan, 2017). However, according to Chau & Deng (2018), SMEs in several developing countries have not fully utilized the tremendous benefits of m-commerce activities. In this era of globalization, SMEs need to adopt and keep pace with m-commerce advancements to face the intense competition to gain their market share (Musa, 2017). For example, in terms of global comparison perspective in 2021, the penetration rates and transaction values in the mobile point-of-sale segment via smartphone show the highest value is reached in China at 39.5%, South Korea came in second at 29.9%, followed by Vietnam at 29.1%, Norway at 26.1%, and the UK 20.2% (Yahaya et al., 2022). Amer et al. (2020) state that there is a financial revolution globally, and it is necessary for SMEs in Malaysia to follow the trend to ensure their continued growth. Therefore, it is imperative to understand the variables that affect SMEs to adopt m-commerce in Malaysia.

However, when traversing the literature, there are several pieces of proof in the form of previous studies proving that SMEs are having issues with the adoption of technology (Rozmi, Bakar, Abdul Hadi, & Imran Nordin, 2019; Abu, Jabar, & Yunus, 2015; Owoseni & Twinomurinzi, 2018; Muriu, 2019). For instance, the finding from Rozmi et al. (2019) towards SMEs in Malaysia shows that SME owners could not relate the use of the most modern and sophisticated technology to their company's operations. At the same time, Abu, Jabar, & Yunus (2015) found that some Malaysian SMEs cannot adapt to globalization pressure and are unlikely to succeed in the current climate without improving their productivity and conforming to international standards. Besides, Chau, Deng, & Tay (2020) found that SMEs feel m-commerce adoption is not essential in their company other than to meet their business partner requirement. Therefore, it has been suggested that SMEs may adopt m-commerce because of its immense benefits and neglecting m-commerce may inhibit SMEs from participating and competing globally. Perhaps the adoption of m-commerce is the best solution able to significantly increase the productivity of Malaysian SMEs, which have lagged far behind their peers from more advanced economies.

Many retailers in Malaysia, including SMEs, still prefer to use cash instead of digital cash (Ariffin & Lim, 2020), such as through mobile, even though it speeds up the flow of services and boosts productivity performance improvement between 26.0% to 27.0%. However, there is a forecast that Malaysia will appear to become a cashless society in 2050 (Ariffin & Lim, 2020), including using the mobile channel. Hence, it is important to study the variables that affect SMEs to adopt m-commerce in Malaysia even though it is 27 years to reach 2050 from now.

Besides, many previous studies proved lack of governmental support will cause disruption among SMEs (Zamberi Ahmad & Xavier, 2011) in m-commerce transaction adoption. However, government support plays a positive, statistically significant role in SMEs' survival in terms of m-commerce adoption. This demonstrates that government help makes it possible for SMEs to feel motivated to recover from the economic crises. Therefore, this is the reason for the current study to investigate the factors influencing m-commerce adoption among SMEs in Malaysia.

In Yogyakarta, Indonesia, Gunawan, Sinaga, & Sigit Purnomo (2019) found that adoption and use behaviour are directly linked to the performance expectancy among Micro, Small and Medium Enterprises (MSME). According to a previous study, MSME owners feel that using e-money in their business operations will improve their performance. The Gunawan et al. (2019) study is supported by Prasarry, Astuti, & Suyadi (2015), who found that SMEs in Indonesia have high expectations for adopting m-commerce for helping tasks, finishing tasks, and improving performance. Alfahl, Sanzogni, & Houghton (2012) found proposed government support in the form of policy and legal environment as among the factors that impact the intention to adopt m-commerce in organizations. Similarly, Chau et al. (2020) found government support has a significant relationship with the intention to adopt m-commerce among SMEs. Besides, the study from Chau & Deng (2018) confirmed the extraction of government support variables from 172 SME managers for investigating the adoption of m-commerce in Vietnamese SMEs. In comparison, literature from previous studies proved that one of the

reasons serious harm is done to SMEs. It is a result of increased reliance on government and local authorities. In contradiction, the outcomes of Shaw and Sergueeva (2019) discovered that performance expectations do not directly impact adoption intentions. This suggests that previous research has provided contradictory results.

Conclusively, there is empirical research that has investigated and analyzed the factors influencing m-commerce adoption, as discussed above. Despite the m-commerce adoption potential to accelerate economic growth (Pankomera & Greunen, 2019), Malaysia is still in the infant stage (Yahaya et al., 2022). Therefore, it is very important to carry out research on the determinants of the adoption of m-commerce adoption among SMEs in Malaysia. Specifically, to acquire a better comprehension of how SMEs use and adopt m-commerce, the study will focus on performance expectancy and government support.

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3.0 Methodology
Based on the literature review and research problem, this study has developed a framework. The research framework was derived to obtain the study objectives.
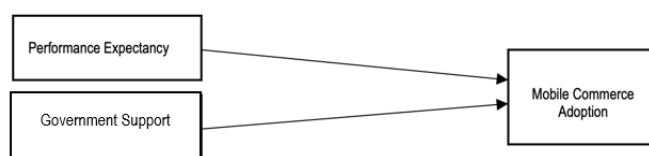

Figure 1. Research Framework

The organization was selected as the analysis unit for this study. Specifically, this research population focuses on SMEs in the service sectors in Selangor and Kuala Lumpur, Malaysia. SMEs in the service sectors are chosen since this industry contributes the most to the Malaysian economy's development (Arham, 2018) (see Table 1).

Table 1. Number of Establishment by Sector and Size

Sector	Number of SME Establishments				Share of SMEs (%)	Large Firms	Overall Establishments
	Micro	Small	Medium	Total SMEs			
Services	**830,728**	**187,274**	**10,401**	**1,028,403**	**89.2**	**26,153**	**1,054,556**
Construction	68,732	24,713	4,829	98,274	4.3	1,637	99,911
Manufacturing	44,215	24,473	2,924	71,612	5.3	2,778	74,390
Agriculture	17,223	5,337	1,073	23,633	1.1	1,501	25,134
Mining & Quarrying	3,597	743	232	4,572	0.1	200	4,772
Total	964,495	242,540	19,459	1,226,494	100.0	32,269	1,258,763

(Source: SME Annual Report 2021)

As shown in Table 1, there are currently **1,054,556** service sectors of SMEs in Malaysia. At the same time, Table 2 below shows the distribution of Malaysia SME companies based on states. Based on Table 2, the majority of Selangor **179,271 (19.8%)** and Kuala Lumpur **133,703 (14.75%),** which is the reason to be chosen as the population of the current study.

Table 2. Number of SMEs by State

State	No. of SMEs Companies	Percentage (%)
Selangor	**179,271**	**19.8**
WP Kuala Lumpur	**133,703**	**14.7**
Johor	98,190	10.8
Perak	75,140	8.3
Penang	66,921	7.4
Sarawak	61,036	6.7
Sabah	55,702	6.2
Kedah	48,894	5.4
Kelantan	46,618	5.1
Pahang	37,573	4.1
Negeri Sembilan	32,721	3.6
Melaka	31,361	3.5
Terengganu	29,324	3.2
Perlis	6,808	0.8
WP Labuan	2,567	0.3
WP Putrajaya	1,236	0.1

Total	907,065	100.0

(Source: SME Annual Report 2021)

Similarly, Selangor and Kuala Lumpur have dominated the total respondents in past studies. Hashim, Omar, Hamzah, & Umar (2018) studied SMEs in Malaysia. In addition, Hashim et al. (2018) state that Selangor and Kuala Lumpur are significant contributions to Malaysia's economy. Saleh and Ndubisi (2006) state that Selangor provides communication and transportation infrastructure to link Kuala Lumpur with other parts of Malaysia and the world, whereas Malaysia's capital is Kuala Lumpur.

The study uses a quantitative research approach. A self-administered questionnaire for a survey was used in the data collection process. The study was a cross-sectional study with the organization as a unit of analysis. The target respondents for the study are SMEs in Kuala Lumpur and Selangor. A non-probability sampling was used. A sample size of 396 respondents was collected. A self-administered questionnaire, distributed online, was used in this study because it is more convenient and offers greater anonymity. Upon completion of the data collection, the data was coded and processed using SmartPLS 4.0.

4.0 Findings
The findings using PLS-SEM, the measurement model evaluation showed sufficient construct reliability and validity and structural models' results to determine whether the variables are directly related. Specifically, the findings included the results of the Reliability Test, Normality Test, Discriminant Validity, Structural Model Evaluation and the fit index standardized root mean square residual (SRMR), which proved the perfect model fit (Hair, Risher, Sarstedt, & Ringle, 2018).

4.1 Reliability Test
Reliability testing was used to assess the degree of consistency of a particular measurement, and a test is considered highly reliable if the Alpha value of a variable exceeds 0.60 (Hair et al., 2018; Yahaya et al., 2022). In this study, the reliability testing result is indicated in Table 3 below.

Table 3. Reliability Testing

Constructs	Cronbach's Alpha (r)	No. of Items
Performance Expectancy	0.855	5
Government Support	0.850	5
M-commerce Adoption	0.814	4

4.2 Normality Test
A normality test was conducted to assess the skewness and kurtosis of variables. Skewness and kurtosis are regarded as standard if they are between -2 and +2 and -7 and +7, respectively. (Hair et al., 2018). The variables in the study are evenly distributed with skewness values ranging from (0.843) to (0.949), which shows a normal distribution and is considered acceptable. The distribution is acceptable and normal when the value of kurtosis is between (0.380) and (0.975). Table 4 depicts the results of the normality test.

Table 4. Normality Test

Constructs	Skewness	Kurtosis
Performance Expectancy	0.843	0.975
Government Support	0.934	0.882
M-commerce Adoption	0.949	0.380

4.3 Discriminant Validity
This study established discriminant validity using the Fornell-Larcker Criterion and Heterotrait-Monotrait (HTMT) ratio. The Fornell-Larcker criterion contrasts the correlations between constructs (the off-diagonal entries) with the square root of (Average Variance Extracted) AVEs (the diagonal entries). (Fornell & Larcker, 1981; Roldan & Sanchez-Franco, 2012). In fact, sufficiently good discriminant validity is achieved if, in the corresponding rows and columns, the diagonal items are much larger than the off-diagonal elements. (Roldan & Sanchez-Franco, 2012) As shown in Table 5. Based on Table 5 below, adequate discriminant validity has been achieved in the current study because the square root of AVEs is greater than the correlations between the constructs (Roldan & Sanchez-Franco, 2012). To reconfirm the discriminant validity, the HTMT ratio, as shown in Table 6 below, was computed because, according to Henseler, Ringle, & Sarstedt (2015), it is deemed more trustworthy than the Fornell-Larker criterion with a suggested value of 0.90.

To calculate the correlation between constructions, a ratio (HTMT) has been created. (Henseler et al., 2015). There is the strongest correlation between performance expectancy and m-commerce adoption in Table 6; this demonstrates that discriminant

validity is attained. 0.883, which is within the conventional yardstick of 0.90 (Henseler et al., 2015). As a result, the measurement model's findings show that all the constructs had enough reliability and validity. Hence, the next section shows the evaluation of the structural model.

Table 5. Discriminant Validity - (Fornell-Larcker Criterion)

	Government Support	M-commerce Adoption	Performance Expectancy
Government Support	0.791		
M-commerce Adoption	0.643	0.801	
Performance Expectancy	0.679	0.740	0.796

Table 6. Discriminant Validity - (HTMT Ratio)

	Government Support	M-commerce Adoption	Performance Expectancy
Government Support			
M-commerce Adoption	0.770		
Performance Expectancy	0.797	0.883	

4.4 Structural Model Evaluation

The purpose of the structural model is to assess the prognostic accuracy and the pathways (interrelations) between the latent constructs and recommend the fit index standardized root mean square residual (SRMR) (Hair et al., 2018). The research model generated SRMR values of 0.059, which provides a sufficient fit and suggests a perfect model fit (Henseler et al., 2016). Further, Figure 1 presents the structural model graph. Figure 1 shows the direct impact model's capabilities and the structural connections between the variables.

The study found there is a positive relationship between performance expectancy and m-commerce adoption (beta value= 0.578; t = 8.440; p < 0.05), and there is a positive relationship between government support and m-commerce adoption (beta value= 0.282; t = 4.049; p < 0.05).
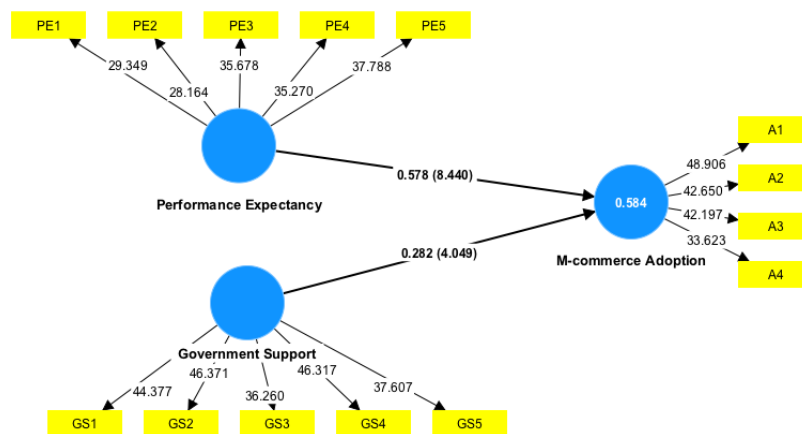

Figure 1 Structural Model Graph

5.0 Discussion

The first objective was to examine the significant relationship between performance expectancy and m-commerce adoption among SMEs. The result showed that performance expectancy had a positive and significant impact on m-commerce adoption. Therefore, m-commerce adoption among SMEs is dependent on performance expectancy. Similarly, previous studies have shown a significant relationship between performance expectations, including the research by (Gunawan et al., 2019) and (Prasarry et al., 2015), which supported that there is a significant positive relationship between performance expectancy and m-commerce adoption. Hence, this outcome is consistent with the researcher's past findings. Therefore, it is essential to offer m-commerce in a high-performance, efficient and effective environment because this study proved that SMEs believe that using m-commerce would enhance his or her task performance.

The second objective was to examine the relationship between government support and m-commerce adoption. Findings from the study discovered that there was a positive and significant influence on m-commerce adoption among SMEs. The findings were consistent with Chau & Deng (2018), which indicated a significant relationship between government support and m-commerce adoption among SMEs. Furthermore, government support is considered among the most important factors. This is because

government assistance for m-commerce, the national strategic plan, which embodies actual commitment, predicts that adoption will progress gradually. Therefore, the government needs to provide specific incentives, which are mostly economic, adopting IT infrastructure, creating a skilled workforce and instituting relevant laws towards m-commerce adoption, as proven in the current study.

6.0 Conclusion & Recommendations

The objective of this study is to examine the relationship between performance expectancy and government support towards m-commerce adoption among SMEs in Malaysia. The findings obtained from this study unearth that performance expectancy and government support are positively and significantly related to m-commerce adoption. Findings from this study can benefit other academics with a greater comprehension of the m-commerce adoption among SMEs in Malaysia and continue in the tradition of contributing to the stream of research in commercial, retail, or service environments. In addition, this study helps financial sectors to better function based on the driving elements towards m-commerce adoption and sponsor and stakeholders, as it will provide introductory information to develop workable policy frameworks that support the retail industry. The limitations of this study provide an opportunity for future research in the area represented by the study's sample. They were gathered from two states in Malaysia only, which are Kuala Lumpur and Selangor. Arising from this limitation, it is recommended that future studies should extend or replicate this study in other states that are not covered by this study. Therefore, the findings of this study can be generalized to all the SMEs in Malaysia.

Acknowledgement

Paper Contribution to Related Field of Study

This paper contributes to the related field of study, such as the Commercial/ Retail/ Services Environment.

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