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The Barriers to E-Commerce Sustainability among Small and Medium Enterprises in Malaysia

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Abstract

In recent years, e-commerce has rapidly developed globally and has become an integral part of modern business. In Malaysia, many enterprises leverage e-commerce to expand their market share and market space. However, small and medium-sized enterprises (SMEs) face a digital divide that affects the sustainability of their e-commerce efforts. The purpose of this study is to investigate the obstacles affecting the sustainability of e-commerce among Malaysian SMEs based on a survey of entrepreneurs operating on e-commerce platforms. The study results confirm the importance of the TOE framework for Malaysian SMEs. Using quantitative methods, this study will focus on surveying SME entrepreneurs in the e-commerce field, asking them to fill out a questionnaire. The data will be analyzed using the Statistical Package for the Social Sciences (SPSS). These results may serve as a reference for identifying and addressing obstacles faced by Malaysian SMEs.

1. Introduction

Online shopping has exploded in popularity in the last several years, especially in Southeast Asia. Before the COVID-19 pandemic, Kuala Lumpur and the rest of Malaysia were popular tourist destinations for people from all over the world who wanted to go shopping. But in 2020, the government enacted the Movement Control Order (MCO), which affected consumer spending habits. During this period, the edict mandates that individuals isolate themselves, that businesses shut, and that only essential industries may continue to operate. A rise in online marketplaces has been a side effect of the quarantine that started with the spread of COVID-19. Those confined to their homes have no choice but to shop for basic needs on online marketplaces. As a consequence of this, the e-commerce scene in Malaysia underwent a spike, which provided Small and Medium-sized Enterprises (SMEs) with a chance to develop their operations, thereby increasing their competitiveness and earnings (Wong *et al*., 2023).

Online shopping has exploded in popularity in the last several years, especially in Southeast Asia. Before the COVID-19 pandemic, Kuala Lumpur and the rest of Malaysia were popular tourist destinations for people from all over the world who wanted to go shopping. But in 2020, the government enacted the Movement Control Order (MCO), which affected consumer spending habits. During this period, the edict mandates that individuals isolate themselves, that businesses shut, and that only essential industries may continue to operate. A rise in online marketplaces has been a side effect of the quarantine that started with the spread of COVID-19. Those confined to their homes have no choice but to shop for basic needs on online marketplaces. As a consequence of this, the e-

commerce scene in Malaysia underwent a spike, which provided Small and Medium-sized Enterprises (SMEs) with a chance to develop their operations, thereby increasing their competitiveness and earnings (Wong *et al*., 2023).

According to Nazir and Roomi (2021), Small and Medium-sized Enterprises (SMEs) are able to acquire a greater number of advantages and capabilities in proportion to the amount of attention they give to the adoption of E-commerce. The benefits that the organization has are proportional to the amount of money that it invests in technology and organizational skills and resources, such as financial, human, and technical resources. Other resources include financial resources. Although there are problems that are now being faced, such as infrastructural, organizational, environmental, and human concerns, this demonstrates that the future of E-commerce in many developing countries is quite bright. Accordingly, the results may be used to construct E-commerce policies and strategies to enhance the adoption of E-commerce among Small and Medium-sized Enterprises (SMEs) (Nazir & Roomi, 2021).

Malaysia, as a growing market, has done a lot to improve its digital infrastructure and encourage commercial E-commerce. A large portion of Malaysia's Gross Domestic Product (GDP) and workforce is employed by Small and Medium-sized Enterprises (SMEs), which play an essential role in the country's economic progress and 3 development. Internet shopping has many advantages, but Small and Medium-sized Enterprises (SMEs) in Malaysia are still wary about embracing it. The rapidly growing e-commerce sector in Malaysia is expected to bring in an additional $4.3 billion for the country by 2025 (Statista, 2021). An increase in the number of people using the internet, an improvement in digital infrastructure, and a middle class that has more discretionary income are the primary factors driving this development. The Malaysian government aggressively supports the use of E-commerce through a variety of programs, including the Malaysia Digital Economy Blueprint (MDEC, 2021), which intends to enable enterprises to embrace digitalization and expedite the country's transition to the digital economy. In this aspect, Malaysian SMEs represent the country's economic backbone, accounting for 38.9% of the GDP and 48.4% of the workforce by 2020 (Department of Statistics Malaysia, 2020). However, a fresh study suggests that the share of Malaysian SMEs engaged in Internet commerce remains much lower than that of neighbouring nations. Given the importance of SMEs in the Malaysian economy and the potential advantages of E-commerce, it is critical to explore the impediments to e-commerce sustainability among SMEs. The findings of this study will throw light on the challenges that Malaysian SMEs confront in achieving e-commerce sustainability (Song, 2022). The scope of this study is limited to Small and Medium Enterprises (SMEs) in Malaysia. An entrepreneur is someone who creates and manages a business, taking on most of the risks involved in starting and running. SME entrepreneurs who run businesses on e-commerce platforms were chosen as the survey subjects because they are directly involved in the industry and can provide more accurate insights and practical information about the current situation.

This study looks at the challenges to e-commerce sustainability among Malaysia's Small and Medium-sized Enterprises (SMEs). Understanding these constraints is critical for increasing the sustainability of E-commerce activities in the SME sector. E-commerce is a critical component of modern business operations, providing several advantages such as improved market reach, lower operational expenses, and more competitiveness. However, SMEs in Malaysia confront specific hurdles that limit their capacity to effectively utilize E-commerce. This study is crucial because it not only identifies the unique challenges faced by SMEs but also provides solutions to overcome them, therefore contributing to the general growth and sustainability of Malaysia's E-commerce sector. Finally, this research will contribute to a more supportive environment for SMEs, encouraging innovation, enhancing customer connections, and allowing small businesses to prosper in the digital economy.

2. Literature Review

2.1 Overview of E-Commerce

E-commerce, or electronic commerce, is the practice of doing online business and other currently available and future information and communication technologies. Included in this category are more established technologies like landline phones and fax machines; however, mobile phones, email, and other web-based services provide the most promise for small businesses when it comes to information and communication technology. Online shopping, meanwhile, requires more than just fancy gadgets. Purchasing of indirect operational expenses, like office supplies, as well as outward-facing processes that engage with suppliers, customers, and external partners are also a part of electronic commerce. These include sales, marketing, order-taking, delivery, customer service, and the acquisition of raw materials and production supplies (Hussin, 2018).

Research on small and medium-sized enterprises (SMEs) in Malaysia has not yet offered a comprehensive analysis of SMEs' expansion in several important domains, especially those about electronic activity. Among Malaysian SMEs, the use of information and communication technologies is still in its infancy, says the SME Association of Malaysia. The SME Association of Malaysia reports that out of 100,000 local SMEs, 90% use personal computers for basic operations including word processing, financial data entry, and basic bookkeeping. Just under a third of the Small and Medium-sized Enterprises (SMEs) in the area use technology daily and have a web

presence. According to this research, business potential on the Internet is being investigated by Small and Medium-sized Enterprises (SMEs) in Malaysia. Due to E-Commerce's global reach, Small and Medium-sized Enterprises (SMEs) in developed countries have begun to use it in their businesses (Rao & Metts, 2003); however, SMEs in Malaysia and many other developing countries continue to resist using information technology or E-Commerce in their daily business operations. To summarize, e-commerce in Malaysia is still in its early stages, but the future seems promising (Hussin, 2018). With government assistance in the form of incentives, grants, and development programs, SMEs should be able to advance in e-commerce technology. However, many SMEs are lagging in terms of E-Commerce concerns and knowledge of the value of E-Commerce technology in company promotion (Hussin, 2018).

2.2 E-commerce Sustainability

Several constraints threaten the long-term sustainability of e-commerce among Malaysian small and medium-sized firms (SMEs). A study by Amornkitvikai (2022), emphasizes the significance of the Technological, Organizational, and Environmental (TOE) framework in improving the sustainability of e-commerce. The result of the research has demonstrated that sustainable e-commerce practices may improve consumer happiness, loyalty, and trust, resulting in long-term advantages for online enterprises.

E-commerce sustainability refers to the process of ensuring that firms that engage in e-commerce continue to exist and prosper over time. To be successful in this competitive environment, companies need to address the concerns and problems that are prevalent within their sector by putting into action plans that include e-commerce. For e-commerce applications to be developed and maintained in 8 a sustainable manner, it is necessary to make investments in technical infrastructure, which includes both hardware and software (Baker El-Ebiary, 2021).

In summary, to succeed in a competitive market, Malaysian Small and Medium-sized Enterprises (SMEs) must successfully apply e-commerce concepts, overcome numerous barriers, and actively engage in the TOE framework to ensure e-commerce's sustainability and development (Nazir & Roomi, 2021).

2.3 Barriers on E-Commerce

Barriers to E-Commerce sustainability include various factors such as technical, organizational, and environmental challenges. Research utilizing the Technology, Organization, Environment (TOE) framework has identified different types of barriers to the adoption of e-commerce, in which organizational and external environmental contexts play a crucial role (Amornkitvikai, 2022).

2.3.1 Technological Barrier

“Technological barriers” refers to the difficulty or complexity of adopting an innovative technology (Shahadat, 2023). This may include understanding a specific technology and the challenges of using it in an organization. The technological context represents the pool of technologies that SMEs can adopt (Scupola, 2009), whether technologies are available on the market or the current ICT equipment of an organization. For example, the adoption of e-commerce technologies, ICT infrastructure, internal e-commerce infrastructure and online security systems).

2.3.2 Organizational Barrier

“Organizational barriers” refers to an organization’s internal issues, which influence the adoption and implementation of E-commerce (Shahadat, 2023). Organizational barriers may include factors such as organizational readiness, managerial support, and innovation. Previous studies indicate that organizational readiness is crucial for technology adoption as it involves the availability of organizational resources and the 10 abilities to effectively utilize opportunities (Shahadat, 2023). For example, the size and structure of the SME and the lack of an online adequate payment mechanism.

2.3.3 Environmental Barrier

“Environmental Barrier” refers to challenges related to external factors that may affect the success of a company's use of information and communication technologies for online business activities. For example, consumers’ confidence, payment methods, confidence in electronic payment, lack of regulation on e-commerce (Choshin & Ghaffari, 2017).

3. Research Methodology

3.1 Research Design

The research design used in the study is quantitative research design involves identifying barriers that hinder the E-commerce utilization of Small and Medium-sized Entrepreneurs in Malaysia based on the TOE framework, examining eighteen barrier items within the three main barriers (technological, organizational, and environmental barriers), and evaluating their influence on e-commerce sustainability using a Likert scale ranging from 1 to 5.

3.2 Research Population and Sample

According to the report by Malaysia Digital Economy Corporation (MDEC), there are 1.5 million SME entrepreneurs across Malaysia. Out of these, 200,000 entrepreneurs have joined e-commerce platforms. Utilizing the method developed by Krejcie and Morgan, the calculated sample size for this study is 384. Table 1 is a sample size selection table developed by Krejcie and Morgan (1970).

Table 1 *Determining sample size method Krejcie and Morgan (1970)*

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

3.3 Data Collection

The procedure of collecting, measuring, and evaluating correct insights is known as data collection. By using established approved procedures, researchers can evaluate their hypotheses based on the evidence gathered. Regardless of the research topic, data collection is usually the first and most significant phase in the research process. Depending on the information needed, different approaches to data collection are used in different fields of study. This study used primary data.

3.3.1 Primary Data

Primary data includes observations, interviews, and questionnaires. This is first-hand information from respondents. According to Kabir (2016), primary data is more credible and genuine because it has not been edited by humans. The researcher employed a questionnaire to obtain primary data from respondents in this study. To achieve the research objectives, the researcher designed a questionnaire with closed ended questions and distributed Google Forms to small and medium-sized entrepreneurs engaged in ecommerce in Malaysia. The research activity was also approved by supervisor.

3.4 Pilot Study

A pilot study is a preliminary research phase where researchers conduct a small-scale investigation to refine methodologies and assess feasibility before proceeding with a larger study. It allows testing of data collection methods, procedural protocols, and feasibility factors such as sample size and resource management. By identifying and addressing potential challenges early, pilot studies enhance the reliability and efficiency of the

main research project. They ensure that methodologies are effective, logistical arrangements are feasible, and any unforeseen issues are mitigated, ultimately contributing to the overall quality and validity of the study's findings and conclusions.

3.5 Data Analysis

The Researchers must organize and analyze all the data obtained through the data collection process to understand it. The purpose of data analysis is to determine research findings and assess whether the research objectives have been achieved. Data will be collected from primary sources through the distribution of questionnaires.

3.5.1 Descriptive Analysis

Descriptive analysis is divided into two categories: measurements of central tendency and measures of variability. Measures of central tendency (such as mean, median, and mode) are used to establish the data's central location, and measures of variability (such as range, standard deviation, and variance) are used to examine its dispersion. Measure of central tendency was used in this research.

3.5.2 Correlation Analysis

Correlation analysis is a tool used to examine the relationship between a dependent variable and multiple independent variables (Sentinathan, 2019). Commonly used types of correlation analysis in research include Pearson correlation and Spearman correlation. In this study, Spearman correlation will be used to understand the strength of association between two ranked variables. According to Dudovskiy (2018), Spearman rank correlation requires sorting the data and assigning specific ranks, with 1 representing the lowest value. The closer the coefficient is to zero, the weaker the association between the ranks. Table 2 shows the strength of Spearman's rho coefficients.

Table 2 *Correlation coefficient*

Correlation Coefficient	Strength Description
±0.81 – ±1.00	Strongest
±0.61 – ±0.80	Strong
±0.41 – ±0.60	Moderate
±0.21 – ±0.40	Weak
±0.00 – ±0.20	Weak to No Relationship

4. Results and Discussion

4.1 Response Rate

Table 3 shows the response rate of this survey. 500 questionnaires were distributed. Questionnaires collected and usable responses were 488. Since the sample size is 384 and the collected response is 488, the response rate is 97.60%. The survey response rate is summarized in Table 3 as follows.

Table 3 *Response Rate*

Population	Sample Size	Questionnaire Distribute	Questionnaire Returned	Percentage
200,000	384	500	488	97.60%

4.2 Reliability and Validity Analysis

Reliability refers to the extent to which a measurement is free from variable errors (Razali, 2020). It reflects the stability and consistency of test results, influenced by factors such as the selection of questions, raters, and the date and time of testing (Samuel A. Livingston, 2018). Cronbach's alpha (α) is the primary metric for assessing reliability analysis as shown in Table 4.

Table 4 *Reliability coefficient value*

Cronbach's Alpha (α)	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 \geq \alpha \geq 0.8$	Good

0.8 ≥ α ≥ 0.7	Acceptable
0.7 ≥ α ≥ 0.6	Be Disputed
0.6 ≥ α ≥ 0.5	Bad
0.5 ≥ α	Unacceptable

4.2.1 Reliability and Validity Analysis of Pilot Study

A total of 30 questionnaires have been used, which was randomly distributed from the sample size of the research to conduct this pilot test. The result as shown in Table 3, analyzed using SPSS software. The independent variables showed varying reliability: Technology Barriers (α = 0.700) and Environmental Barriers (α = 0.811) demonstrated good reliability, while Organizational Barriers (α = 0.673) showed acceptable reliability. The dependent variable, E-commerce Sustainability, recorded an acceptable reliability (α = 0.644).

Table 5 *Reliability test for pilot study*

No	Variables	Number of items	Cronbach's Alpha (α)
1.	Technological Barriers	4	0.700
2.	Organizational Barriers	4	0.673
3.	Environmental Barriers	7	0.811
4.	E-commerce sustainability	3	0.644

4.2.2 Reliability and Validity Analysis of Actual Study

Table 6 detailed the reliability test for the actual investigation. The independent variables showed varying reliability: Technology Barriers (α = 0.701) and Environmental Barriers (α = 0.799) demonstrated good reliability, while Organizational Barriers (α = 0.661) showed acceptable reliability. The dependent variable, E-commerce Sustainability, recorded an acceptable reliability (α = 0.649).

Table 6 *Reliability test for actual study*

No	Variables	Number of items	Cronbach's Alpha (α)
1.	Technological Barriers	4	0.701
2.	Organizational Barriers	4	0.661
3.	Environmental Barriers	7	0.799
4.	E-commerce sustainability	3	0.649

4.3 Demographic Analysis

Table 7 shows the questions designed in Part A, which are related to the demographic of respondents. These questions cover various aspects, such as age, gender, education level, and business sector. The data collected from the complete questionnaires have been analyzed, and the results are summarized in tables and pie charts, showing frequencies and percentages for each demographic category.

Table 7 *Summary of demographic analysis*

Demographic	Classification	Frequency (N)	Percentage (%)
Gender	Male	255	52.30
	Female	233	47.70
Position of the respondent in company	CEO	112	23.00
	COO	247	50.60
	CFO	127	26.00
	Staff	2	0.04
In which sector/subsector is your company classified	Food	70	14.30
	Beverage	154	31.60
	Food and Beverage	166	34.00
	Retail	96	19.70
	Electrical appliances	1	0.20
	Home appliances	1	0.20
The number of employees	Less than 5	124	25.40
	6 – 75	248	50.80
	76 – 200	116	23.80

What is the highest education level completed by the company owner?	UPSR	92	18.90
	PMR	168	34.40
	SPM	154	31.60
	Degree	74	15.20
Do you use the internet in your business process?	Yes	410	84.00
	No	78	16.00

4.4 Descriptive Analysis

Descriptive analysis involves examining individual variables' characteristics. Thus, the researcher would use data obtained in this study to describe mean and the central tendency of the studied variables was to use means as measurement at the same time. In addition, this analysis is the efficient way by differentiating for each part in mean distribution based on Likert Scale to measure the barriers of ecommerce sustainability among SME in Malaysia. All the average means above 3.68 have a high central tendency level. Table 8 shows the independent variables, and dependent variable means and standard deviation.

Table 8 *Summary analysis of average mean*

Item	Mean	Standard Deviation
Technological Barriers	3.83	1.17
Organizational Barriers	3.86	1.17
Environmental Barriers	3.84	1.16
E-commerce Sustainability	3.79	1.16

4.5 Correlation Analysis

Correlation analysis is a statistical tool used to determine whether a relationship exists between two variables. It helps to identify the strength of the relationship between the variables. There are two types of correlation coefficients commonly used to test the linear relationship between an independent and a dependent variable: Pearson and Spearman (Aggarwal & Ranganathan, 2016). The correlation results are shown in Figure 1,2 and 3.

			Technological Barriers	E-commerce Sustainability
Spearman's rho	Technological Barriers	Correlation Coefficient	1.000	.772**
		Sig. (2-tailed)	.	<.001
		N	488	488
	E-commerce Sustainability	Correlation Coefficient	.772**	1.000
		Sig. (2-tailed)	<.001	.
		N	488	488
**. Correlation is significant at the 0.01 level (2-tailed).				

Fig. 1 *Correlations between Technological Barriers and E-commerce Sustainability*

			Organizational Barriers	E-commerce Sustainability
Spearman's rho	Organizational Barriers	Correlation Coefficient	1.000	.780**
		Sig. (2-tailed)	.	<.001
		N	488	488
	E-commerce Sustainability	Correlation Coefficient	.780**	1.000
		Sig. (2-tailed)	<.001	.
		N	488	488
**. Correlation is significant at the 0.01 level (2-tailed).				

Fig. 2 *Correlations between Organizational Barriers and E-commerce Sustainability*

			Environmental Barriers	E-commerce Sustainability
Spearman's rho	Environmental Barriers	Correlation Coefficient	1.000	.820**
		Sig. (2-tailed)	.	<.001
		N	488	488
	E-commerce Sustainability	Correlation Coefficient	.820**	1.000
		Sig. (2-tailed)	<.001	.
		N	488	488
**. Correlation is significant at the 0.01 level (2-tailed).				

Fig. 3 *Correlations between Environmental Barriers and E-commerce Sustainability*

5. Conclusion

Based on the findings, the major factors of barriers on e-commerce sustainability among Small and Medium-sized Enterprises are based on technological barriers, organizational barriers and environmental barriers. From the previous chapter, among the 488 respondents, 410 respondents use the internet in their business process and 78 respondents do not use the internet in their business process.

Based on the descriptive analysis in previous chapter, the mean of E-commerce sustainability is 3.79. This represents the level of e-commerce sustainability is high according to the result. This suggests that while SMEs in Malaysia have made considerable progress in adopting sustainable e-commerce practices, there is still room for improvement. Practical implications of these findings suggest that SMEs should focus on maintaining and enhancing these practices by adopting innovative strategies to ensure long-term sustainability. For example, integrating efficient resource management and embracing advanced technologies could further boost their ecommerce sustainability.

The survey results indicate that the mean of Technological Barriers is 3.83, which is a high level of range. Based on Spearman's rho correlation analysis, Technological Barriers exhibited a strong positive correlation with E-commerce Sustainability ($\rho = 0.772$, $p < 0.001$). This supports Hypothesis 1: There is a relationship between technological barriers related to e-commerce sustainability. This represents that technological barriers, such as inadequate infrastructure or insufficient security measures, directly influence the sustainability of e-commerce.

For SMEs, these findings highlight the critical need to invest in robust technological infrastructure and advanced cybersecurity measures. By addressing these barriers, SMEs can improve the efficiency of their e-commerce operations, thereby ensuring long-term sustainability.

The survey results indicate that the mean of Organizational Barriers is 3.86, which is a high level of range. Based on Spearman's rho correlation analysis, Organizational Barriers exhibited a strong positive correlation with E-commerce Sustainability ($\rho = 0.780$, $p < 0.001$). This is supporting Hypothesis 2: There is a relationship between organizational barriers related to e-commerce sustainability. This finding suggests that internal challenges, such as resource constraints or a lack of technical expertise, significantly affect e-commerce sustainability. To mitigate these barriers, SMEs should prioritize improving internal processes, offering staff training programs, and reallocating resources effectively. By fostering a culture of innovation and adaptability, SMEs can overcome these barriers and enhance their overall sustainability in the competitive e-commerce landscape

The survey results indicate that the mean of Environmental Barriers is 3.84, which is a high level of range. Based on Spearman's rho correlation analysis, Encironmental Barriers exhibited a strong positive correlation with E-commerce Sustainability ($\rho = 0.820$, $p < 0.001$).This is supporting Hypothesis 3: There is a relationship between environmental barriers related to e-commerce sustainability. This suggests that external factors, such as inadequate logistics infrastructure or insufficient government incentives, play a significant role in shaping e-commerce sustainability. SMEs should advocate for improved infrastructure and seek partnerships with government and private sectors to address these challenges. Additionally, leveraging third-party logistics providers or adopting digital payment solutions could help mitigate environmental barriers, allowing SMEs to build a more sustainable e-commerce framework.

In the modern era of technology, internet shopping has become a frequent part of people's everyday life. Online purchasing makes it easier for merchants and customers to complete deals. The purpose of this research is to examine the challenges to ecommerce sustainability among Malaysia's small and medium-sized firms (SMEs). In conclusion, our research established a link between two variables: TOE obstacles and e-commerce sustainability. The study discovered that the three independent variable; technological hurdles, organizational barriers, and environmental barriers, have a strong relationship with e-commerce sustainability. Future researchers should perform comparable studies in many areas to better investigate this problem and give worldwide perspectives.

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Conflict of Interest

Authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Ng Chiu Yin, Norasmiha Mohd Nor and Hilyati Sabtu;* ***data collection:*** *Ng Chiu Yin;* ***analysis and interpretation of results:*** *Ng Chiu Yin;* ***draft manuscript preparation:*** *Ng Chiu Yin and Hilyati Sabtu. All authors reviewed the results and approved the final version of the manuscript.*

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