THE IMPLICATION OF INFORMATION SYSTEM (IS) SUCCESS MODEL ON CLOUD-BASED M-RETAIL ADOPTION INTENTION AMONG TEXTILE CYBERPRENEURS

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Abstract:

Nowadays, the uses of mobile phones in conducting business operations among entrepreneurs are not unusual. Varieties of apps have been developed in order to accommodate the needs of business owners in ensuring smooth business transactions regardless of location and time. One of the apps that could help entrepreneurs to perform selling and buying activities is the cloud-based m-retail application (CBMA). In Malaysia, Malaysian entrepreneurs such as textile cyberpreneurs are known to utilise this app but academic studies on this context were rarely done. From previous studies, quality traits of a system have been found to play significant roles in attracting users to utilise the system. Therefore, this study focuses on examining the influences of CBMA qualities towards textile cyberpreneurs' intention to adopt CBMA based on the Information System (IS) Success Model. 348 textile cyberpreneurs have participated in this study and the results have shown system quality, information quality and service quality have significant positive influences on CBMA adoption intention. Practical implications and future recommendations are also introduced for further reading comprehension.

Keywords:

Mobile Retail, Mobile Marketplace, Textile Cybepreneurship, Cloud-Based Services, Information System (IS) Success Model, Mobile Cloud Application

Introduction

Mobile commerce (m-commerce) technology is well-received by the current generation due to its benefits and functionalities. People are allowed to perform various commerce transactions just by using mobile devices at anytime and anywhere. Conducting shopping through the uses of mobile device can be coined as mobile shopping (m-shopping) (Lai, Debbarma, & Ulhas, 2012; Wong, Lee, Lim, Chua, & Tan, 2012). On the other hand, from the perspective of retailers or business owners, this activity can be described as mobile retailing (m-retailing) (Brewster, 2016; SJP Business Media, 2016; Pantano & Priporas, 2016; Chou, Chuang, & Shao, 2014). As the number of mobile phone users increases, the activities of m-shopping and m-retailing also increase and one of the most sought-after products in Malaysian context is the apparel.

Nowadays, fashion and textile industries in Malaysia are facing enormous challenges due to dynamic business environment and recently the Covid-19 pandemic. Entrepreneurs such as textile cyberpreneurs need to perform the right business strategies in order to survive. Competitors are likely to challenge and interfere with the process of business growth, hence these business owners must keep up with the latest trends and technology for performing business operations. Many mobile applications have been introduced in assisting entrepreneurs to manage their tasks and business activities. One of them is cloud-based m-retail application (CBMA).

CBMA is an innovative application that utilises cloud technology in allowing smooth transactions regarding the m-retail activities. It can be also coined as mobile marketplace app (Wee, 2015; Guo, 2016) and has gained popularity among mobile shoppers. Business owners should take this trend as an opportunity for their business development besides optimizing the uses of multiple business platforms. These mobile marketplace apps clearly have their own followers and potential customers, thus giving more engagement possibilities to the business owners.

Academic works on m-shopping and m-retail are increasing steadily from time to time. Nevertheless, in the academic context especially in Malaysia, only several researches have been conducted by seeing from the perspective of retailers for mobile marketing and digital marketing purposes (Musa, Li, Abas and Mohamad, 2016; Afifah, Najib, Sarma & Leong, 2018; Yap and Tan, 2017) instead of the specific m-retail context. Most of the m-shopping studies in Malaysia have investigated from the customer's point of view (Ghazali, Mutum, Chong & Nguyen, 2018; Lim, Yeo & Wong, 2020; Kaushik, Mohan & Kumar, 2020; Musa, Saidon, Harun, Adam, Dzahar, Haussain & Lokman, 2016; Wong et al., 2012; Wong, Tan, Ooi & Lin, 2015) and very little is known about the uses of CBMA among Malaysian textile cyberpreneurs. From another perspective, based on the evaluations of Information System (IS) Success model literatures, the quality characteristics of the application, in particular system quality, information quality and service quality have always been recognised as the strong predictor of technology adoption (DeLone & McLean, 2003; DeLone & McLean, 1992; Petter & McLean, 2009; Chen & Cheng; 2009; Ojo, 2017). In Malaysia, however, the applicability of the IS Success model in the context of m-commerce and cloud-based services is still under-researched.

As a continuation from previous studies by the authors (Ghani, Khidzir, Tan & Ismail, 2017a; Ghani, Khidzir, Tan & Ismail, 2017b; Khidzir, Ghani & Daud, 2019), this paper intends to narrow down the gap by investigating the intention to adopt CBMA among textile cyberpreneurs by examining the influences of CBMA qualities that consists of system quality, information quality and service quality, derived from Information System (IS) Success Model.

Literature Review

There are two major subtopics of the literature review that will be discussed in this paper which are textile cyberpeneurship in Malaysia and Information System (IS) Success Model.

Textile Cyberpreneurship in Malaysia

Since the 1980's, textile industry in Malaysia has become one of the largest contributors of Malaysia's export trade (Malaysia External Trade Development Corporation, 2017; Malaysian Investment Development Authority, 2018). Malaysia has been a well-known supplier of high-end textile products and apparels to multiple luxury clothing brands in the world (Socio-economic & Environmental Research Institute, 2007; Malaysia External Trade Development Corporation, 2017; Malaysian Investment Development Authority, 2018). Besides that, as a multi-racial country, many traditional and heritage textiles are produced by various businesses and are popularised by numerous multi-racial local fashion designers. This vibrant industry has brought harsh competitions among the fashion brands whilst several famous brands have decided to quit contributing to the industry (Bernama, 2017a). Some of the apparel businesses have also declared for bankruptcy due to Covid-19 pandemic situation (Azman, 2020).

Meanwhile, Malaysian government is committed in encouraging digital entrepreneurship among younger generations through the introduction of several collaboration programs with Malaysia Digital Economy Malaysia (MDEC) and Companies Commission of Malaysia such as eUsahawan (Malaysia Digital Economy Corporation, 2017) and 'SKIM 1PELAJAR 1PENDAFTARAN PERNIAGAAN' (Bernama, 2017b). Malaysian youths are encouraged to become entrepreneurs and participate in the utilization of state-of-the-art technology for performing online business. The online entrepreneur can also be coined as "cyberpreneur" (Abdullah, 2011; Shah & Lan, 2013) or "cyber-enterpreneur" (Carrier, Raymond, & Eltaief, 2004). It has been acknowledged that apparels are among the most common items to be bought by Malaysian Internet shoppers (Lim, Heng, Ng & Cheah, 2016; Noorshella, Abdullah, Nursalihah, 2015). Hence, the number of textile cyberpreneurs grows in line with market demands.

In promoting the products and engaging with the customers, social medias have been actively utilised by Malaysian textile cyberpreneurs. For performing selling operations on the other hand, other platforms like websites and online marketplaces like Zalora, FashionValet, Shopee and Lazada are greatly exploited. These marketplace brands have introduced their own version of mobile apps for supporting their potential customers. Alternatively, some textile cyberpreneurs have specifically developed their own mobile marketplace app. These both types of mobile marketplace apps commonly use cloud technology in order to support enormous transactions while maintaining the performance of a user's mobile device.

Information System (IS) Success Model

In 1992, McLean and DeLone suggested the relationships of six constructs that could shape up a successful information system. They have developed a model that consists the constructs of

system quality, information quality, use, user satisfaction, individual impact and organisational impact (DeLone & McLean, 1992). A new variable from marketing context, service quality was added in their subsequent works in 2002 and 2003 for indicating the importance of service quality in the dynamic e-commerce environment (DeLone & McLean, 2003). The model illustrated the process flow and the association among the interrelated constructs as shown in Figure 1.
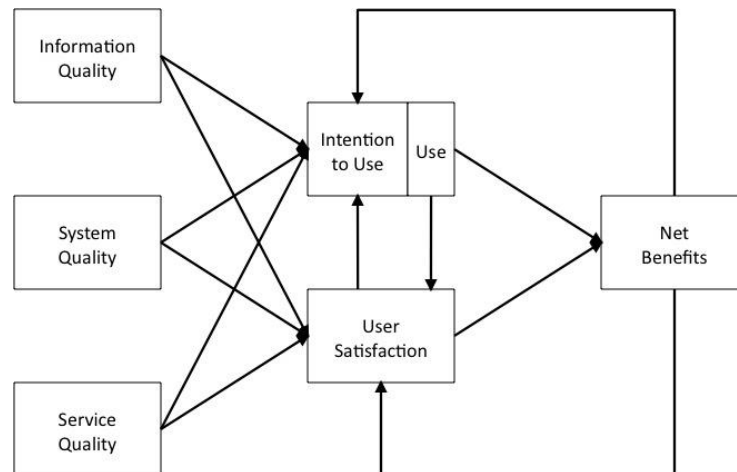

Figure 1: Updated DeLone and McLean IS Success Model

(Source: DeLone & McLean (2003))

From the model, DeLone and McLean (2003) emphasised on the significance of information quality, system quality and service quality constructs in motivating the user's intention to use an information system, then towards the actual use of the system. Besides that, these constructs also affect the user satisfaction that will also lead to user's intention and net benefits. The interrelation between these constructs are clearly described in the model. IS Success Model has shown its' usability in various technology acceptance studies. The significance of quality traits of an information system towards the usage intention and satisfaction of user in using several types of system was recognised in previous works by Chen & Cheng (2009) and Ojo (2017). In this study, only four constructs were selected to be examined, particularly system quality, service quality, information quality and intention to use for suiting with the context of the study.

According to DeLone and McLean (1992), system quality can be explained as the functional traits of an information system which includes criteria such as reliability, easy to use, response time, functionality and other related attributes. The quality of a system is expected to fulfil the requirements of users during the system operationalization and utilization. If the system is not functional or unable to perform well, the user may be frustrated thus leading towards rejection of the system.

Information quality depicts the content traits that are generated by the information system which can be examined through importance, relevance, usefulness, accuracy, timeliness, reliability and other relevant measurements (DeLone & McLean, 2003; DeLone & McLean, 1992; Urbach & Müller, 2012). It is essential for the system users to obtain accurate information especially for their tasks related to decision-making. The ability of a system to generate a quality content may influence the user's intention to use the system while later may also influence the performance of individuals and organisations.

Service quality involves the assistance received by the information system user in which could further motivate the utilization of the system. It can be measured via responsiveness, assurance, empathy and reliability (DeLone and McLean, 2003). If poor service quality is delivered, the user will most probably discontinue the system usage. This will also affect the satisfaction of user while using the system. Providing great service quality is very desirable to prolong the loyalty of the system users.

Research Model and Hypothesis

This research aims to examine the implication of IS Success Model towards intention to adopt CBMA among Malaysian textile cyberpreneurs. The focus would be the constructs of system quality, information quality, service quality and adoption intention from the DeLone and McLean's IS Success Model. Figure 2 illustrates the research model of this study.
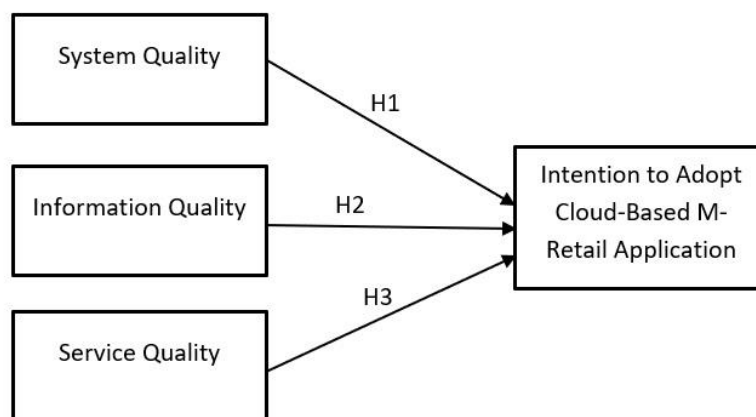

Figure 2: Research Model

From the research model, it is suggested that behavioural intention of textile cyberpreneurs in adopting CBMA would be influenced by system quality, information quality and service quality. Therefore, the following Hypothesis 1, Hypothesis 2 and Hypothesis 3 are proposed:
H1: System quality positively affects intention to adopt CBMA
H2: Information quality positively affects intention to adopt CBMA
H3: Service quality positively affects intention to adopt CBMA

Research Methodology

Since this study employed the quantitative research design, the most appropriate instrument in measuring the studied variables were the questionnaires. Furthermore, relatable statistical analyses were performed right after the data collection phase. The research instruments and procedures are described in the following subtopics.

Instruments

Four constructs of IS Success Model are chosen to be examined in this study, in particular system quality, information quality, service quality and behavioural intention. Table 1 shows the previous studies that have been referred for preparing the questionnaire items for all four constructs in which all of the items were properly adapted with the study context. Reviews from experts have been performed with five experts in statistic, cloud services, e-commerce,

retail management and textile cyberpreneurship for ensuring the content validity of questionnaire items. In terms of languages, both English and Malay languages were used in the questionnaire. For confirming the accuracy of items' wordings, back-to-back translation has been applied. Meanwhile, five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree is used to successfully measure the questionnaire items.

Table 1: Questionnaire Items and Accompanying References

Constructs	Number of Items	References
System Quality	5	Chen (2013)
Information Quality	6	Chen (2013)
Service Quality	4	Chen (2013)
Intention to Adopt (INT)	5	Nor and Pearson (2008)

Procedures
For the questionnaire distribution in this study, printed and online approaches have been applied. The printed questionnaires were independently handed to Malaysian textile cyberpreneurs who took part in several events or festivals that were related to digital and internet entrepreneurship in Kelantan, Pahang and Terengganu. They were given two days to answer and return the questionnaires whilst the enumerators were hired to collect them.

As for the online version, e-mail invitations for answering the questionnaires were sent to the textile cyberpreneurs who have been listed in Perbadanan Usahawan Nasional Berhad (PUNB) directories. As a result, 411 questionnaires were returned from the total of 600 questionnaires. Nonetheless, 63 questionnaires were excluded from further analysis during the screening process because they were either identified as the outliers or contained the incomplete data. Finally, only 348 responses were included to be fully analysed with 58% of response rate.

Results and Findings
The results and findings of this study that consists of respondents' profile, factor analysis and scale reliability analysis and hypotheses testing are discussed in the following sub-sections.

Respondents' Profile
The demographic traits of the respondents are explained in Table 2. From the 348 respondents, 294 (84.5%) respondents are females while the remaining 15.5% are males. Malays (84.5%) are the majority race composition, followed by Chinese (6.9%), Indians (4.3%) and other races (4.3%). In terms of age, most of the respondents (33.9%) are from the category of between 21 to 25 years old. Clothes (89.7%) have been found to be the textile products that are primarily sold by respondents, while the remaining products (10.3%) include other than listed textile products, curtains, bedclothes, carpets and table spreads.

In performing online retailing, 314 (90.2%) respondents use smartphones, 135 (38.8%) use tablet computers and another 2.9% utilise other types of mobile device. 56.6% of respondents have been determined to own websites for their online business while another 43.4% do not. In understanding textile cyberpreneurs' knowledge on CBMA, 87.9% of respondents have heard about the technology but merely 47.1% have utilised it for conducting business. Additionally, only 56 (16.1%) respondents have their own CBMA, while the other 292 (83.9%) respondents do not. This result recognises the low adoption rate of the CBMA among the respondents.

Table 2: Respondents' Demographic Traits

Characteristics		Frequency	Percentage
Gender	Male	54	15.5
	Female	294	84.5
Ethnicity	Malay	294	84.5
	Chinese	24	6.9
	Indian	15	4.3
	Others	15	4.3
Age	20 or less	45	12.9
	21 – 25	118	33.9
	26 – 30	73	21.0
	31 – 35	54	15.5
	36 – 40	39	11.2
	41 and above	19	5.5
Type of textile products	Clothes	312	89.7
	Carpets	17	4.9
	Curtains	18	5.2
	Bedclothes	17	4.9
	Table spreads	15	4.3
	Others	25	7.2
Type of mobile device for online business activities	Smartphone	314	90.2
	Tablet Computer	135	38.8
	Others	10	2.9
Online business website	Yes	197	56.6
	No	151	43.4
Knowledge on CBMA	Heard about it	306	87.9
	Use it	164	47.1
Acquire own version of CBMA	Yes	56	16.1
	No	292	83.9

Factor Analysis and Scale Reliability

Since this study emphasises on the influential factors towards the adoption of CBMA among textile cyberpreneurs, it is important to verify the sufficiency and reliability of questionnaire items before proceeding to multiple regression analysis. The deployment of exploratory factor analysis (EFA) with principal component analysis and varimax rotation was done for checking the ability of questionnaire items to represent each variable or factor. Four factors were found to obtain the eigenvalue that is more than 1, thus is similar to the number of constructs in this study. Meanwhile, the values of Bartlett's test of Sphericity (BTOS) and Measure of Sampling Adequacy (MSA) through Kaiser-Meyer-Olkin (KMO) were also observed. In this study, the BTOS has obtained a significant value of <.000 whereas the obtained MSA value based on KMO was 0.859. Therefore, the data was concluded to be fitting for factor analysis. From the EFA report, 88.757% of variance was successfully explained. On the other hand, the loadings of factor for all variable items are ranging from 0.846 to 0.951.

The scale reliability was also examined to the questionnaire items whereby the value of Cronbach's alpha for each variable was analysed. It has been identified that all variables have surpassed the value 0.90, which are showing good reliability (Hair et al., 2010; Nunnally &

Bernstein, 1994). The results of factor analysis and scale reliability analysis are shown in Table 3.

Table 3: Factor Analysis and Scale Reliability Analysis Results

Constructs	Items	Factor Loadings	Cronbach's Alpha
System Quality	5	0.899 – 0.924	0.962
Information Quality	6	0.917 – 0.951	0.978
Service Quality	4	0.904 – 0.925	0.970
Intention to Use (INT)	5	0.846 – 0.875	0.956

Hypotheses Testing

For examining the hypotheses, SPSS version 21 was utilised in performing multiple regression analysis (MRA). According to Hair et al. (2010), MRA has been proven to be helpful in assessing the relationship between one dependent variable and many independent variables at the same time.. The results of hypothesis testing through MRA are described and tabulated in Table 4.

From the findings of this study, it is observed that three variables from IS Success Model are capable to predict the behavioural intention of textile cyberpreneurs towards adopting CBMA in their business, particularly the system quality (SYQ), information quality (INQ) and service quality (SEQ). The model that consists of these three variables was able to explain 36.0% of the variance of behavioural intention (INT). By referring to the value $F = 64.467$ and $p < 0.001$, the model is proven to be highly significant. All three independent variables were acknowledged to be the influential factors for the prediction of textile cyberpreneurs' intention to adopt CBMA. Positive relationships have been determined between SYQ and INT ($\beta = 0.139$, $p < 0.001$), INQ and INT ($\beta = 0.189$, $p < 0.001$) and SEQ and INT ($\beta = 0.281$, $p < 0.001$), whereas SEQ was found to be the most influential factor towards INT prediction. Based on these results, it can be concluded that all H1, H2 and H3 were supported.

Table 4: Multiple Regression Analysis (MRA) Result

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
	1.857	0.176		10.541	0.000		
SYQ	0.139	0.034	0.186	4.123	0.000	0.918	1.089
INQ	0.189	0.029	0.290	6.562	0.000	0.951	1.052
SEQ	0.281	0.034	0.379	8.353	0.000	0.903	1.107
R-Square	0.360						
Adjusted R-Square	0.354						
F-value	64.467						
P-value	0.000						
Dependent Variable: INT							

Notes: SYQ = System Quality, INQ = Information Quality, SEQ = Service Quality, INT = Intention to Adopt

Discussion

The results of this study have notified the ability of IS Success Model factors, specifically system quality, information quality and service quality in predicting the intention to adopt CBMA among textile cyberpreneurs. It has been identified that service quality has the strongest influence, followed by information quality and system quality.

Service quality is deemed important for encouraging the usage of CBMA among textile cyberpreneurs. In CBMA utilisation, some textile cyberpreneurs may require additional help from the customer support staffs, especially in helping them to understand the working flow of the app. The staffs are expected to deliver great quality of services by answering their questions and understanding their difficulties. Textile cyberpreneurs will be more likely to adopt CBMA if the service quality is delivered by the service provider. The positive relationship result between service quality and behavioural intention was also found in other mobile technologies studies by Zulganef et al. (2015), Wang & Chen (2011), Park & Kim (2014) and Chen (2011).

As for the second strongest influence, information quality might be crucial for textile cyberpreneurs to obtain accurate information especially for their tasks related to decision-making. The CBMA is expected to provide not only the information content that meets the requirements of textile cyberpreneurs but also the information that is useful, accurate, up-to-date, reliable, and complete. These criteria are very important in ensuring the efficiency of business operations while assisting them to make valuable judgment. Hence, the quality of information delivered by CBMA may influence the textile cyberpreneur's intention to use the app. The positive relationship between information quality and behavioural intention is also supported in the studies by Wang & Chen (2011) and Chen (2011) in the acceptance of some mobile technologies.

Finally, based on the findings of this study, system quality has been determined to be the least influential factor. System quality in this study refers to the functional traits of CBMA which includes criteria such as easy to use, convenient access, acceptable response time, secure enough to conduct online business and stable functions. Therefore, it can be assumed that textile cyberpreneurs' decision in adopting CBMA in their business is somehow affected by system quality. Although this factor has been identified to be the least influential, it is still essential for service providers to provide the best functional app to the users. The result of this study is in line with previous mobile technologies studies by Wang & Chen (2011), Park & Kim (2014) and Chen (2011).

Conclusion and Future Recommendations

The usage of a specific mobile application that allows mobile retail transactions such as CBMA is getting popular nowadays. It enables business owners and customers to conduct selling and buying regardless of time and location, which are convenient to both parties. Most of previous studies that are related to mobile shopping or mobile retail in Malaysian context had concentrated more on the buyer's point of view (Ghazali et al., 2018; Lim et al., 2020; Kaushik et al., 2020; Musa et al., 2016; Wong et al., 2012; 2015) rather than of seller's. This research has contributed in studying m-retail adoption among Malaysian entrepreneurs as the continuance from earlier studies (Ghani et al., 2017a; Ghani et al., 2017b; Khidzir et al., 2019)

The findings of the study have shown that factors of IS Success Model play significant roles in influencing the intention to adopt CBMA among Malaysian textile cyberpreneurs. System

quality, information quality and service quality have been identified to have direct positive influences on textile cyberpreneur's intention in adopting CBMA for their business operations. Service quality has been found to be the most influential factor, followed by information quality and system quality. These demonstrate the significance of quality traits that are offered in CBMA which can further encourage the usage of CBMA among Malaysian textile cyberpreneurs. This study might be useful for service providers to acknowledge the needs to provide the best functionalities of CBMA that are in line with the quality attributes looked by entrepreneurs. CBMA is expected to assist them in performing m-retail activities efficiently, thus the quality traits are anticipated to be delivered.

However, this study has several constraints regarding the sample size. The sample size is suggested to be expanded for lessening the distinctive disparities among textile cyberpreneurs' race composition and also among those who sell other textile products instead of apparels. Furthermore, future works can be done by adding another two or three constructs of IS Success Model for a more complete analysis, particularly User Satisfaction, Use and Net Benefits which were not used in this study. As a conclusion, this study has made knowledge contributions to the context of mobile shopping or mobile retail acceptance among entrepreneurs in Malaysia through the use of IS Success Model.

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