What are the Factors Influencing the Information Technology Adoption in Asian Region? A Study of the B2C E-Commerce Systems Success

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Abstract

During this decade, large numbers of researchers investigate the success factors of B2C e-commerce systems. This may be due to the increased popularity of internet and its wide range of applications on personal as well as business use. However it is to be noted that majority of these studies were conceptual studies. Though some empirically validated studies were published on B2C e-commerce systems, very few focused on Asian consumers. The study aims to fill this gap by studying e-commerce success factors among Asian online consumers.

Another important objective of this study is to re-specify the updated DeLone and McLean model by including essential factors such as trust and perceived cost of transactions, perceived value and thereby form a new model for measuring e-Commerce success.

The research generated 7 inter related dimensions of e-commerce system success which are information quality, system quality, service quality, perceived cost, perceived value, online customer satisfaction and Repurchase Intention. Results show that the customer satisfaction and perceived value of the transactions are the two important factors primarily influencing Asian online users. Results show that online customer satisfaction is influenced by factors such as perceived value,

service quality, information quality and system quality. This study also found the significant negative relationship between perceived cost and perceived value of the transactions while shopping online.

Key Words: Online Shopping Model; B2C e-commerce; E-commerce Success Model; Repurchase Intention; Online Consumer Satisfaction

Introduction

Most of the previous literature related to IS adoption especially e-Commerce adoption were using theories such as Technology Acceptance Model (Davis, 1989; Davis et al., 1989), Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003) and their various extensions. However it is to be noted that both of these models were referring the IS adoption in an organizational level. While measuring the Individual user's intention to use various e-Commerce systems, the results would be more accurate if we choose a model that is more suitable for individual level analysis. Here comes the importance of DeLone and McLean model of IS success. The main advantage of this model is that it is equally suitable for measuring both individual benefits as well as net organizational benefits from IS use. This study therefore proposes to use DeLone and McLean model for measuring e-Commerce success among Asian consumers. DeLone and McLean (DeLone & McLean, 1992) proposed a framework and model for measuring the complex inter related dimensions of IS success. The six dimensions in the proposed taxonomy of DeLone and McLean model were System quality, Information quality, Use, Individual impact and Organizational impact. The original IS success model proposed by DeLone and McLean are given below (See Figure 1).

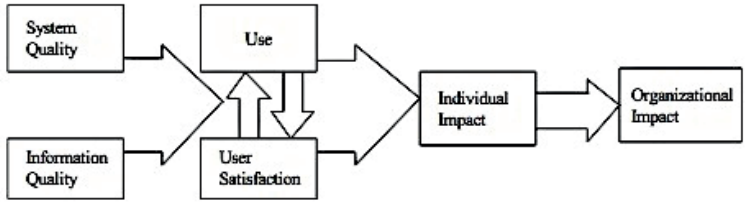

Figure 1 DeLone and McLean's IS Success model (1992)

In their paper however, authors didn't give any empirical validation of their model but invited other academicians to further modify and validate there IS success model. From 1992 onwards, many researchers (Floropoulos et al., 2010; Brown, 2008; Molla & Licker, 2001; Rai et al., 2002; Seddon, 1997; Y.-S. Wang, 2008) have studied, validated, extended, criticized and even respecified this model of IS success. Important contributions from a few of the researchers who continued to use DeLone and McLean model are given below.

Seddon (1997)

Seddon (1997) suggested that the DeLone and McLean model is too confusing. The Use construct in the DeLone and McLean model can be perceived three different ways according the users. Firstly, IS Use can act as a variable that substitute the benefits from use of the system. Secondly, IS use can be considered as a dependent variable in a variance model of future IS use. (Refer figure 1).Thirdly, IS Use can be perceived as an event that is leading to individual impacts and later organizational impacts. Seddon further criticized that the DeLone and McLean model is a combination of both variance model and process model and thus the value of the original model is diminished. Seddon (1992) proposed a re-specified and little bit extended version of DeLone and McLean model which introduced four new variables in to the IS success model. The variables proposed by Seddon are expectations, Consequences, Perceived Usefulness, and net benefits to the society.

Molla and Licker (2001)

Molla and Licker (Molla & Licker, 2001) developed a model of e-commerce success based on the DeLone and McLean (1992) model. Molla and Licker in their paper proposed that trust, support and service quality constructs are also important in determining the e-commerce success. They introduced Customer E-commerce Satisfaction (CES) as the dependent variable and E-Commerce system quality, Content quality, Use, Trust, Support and Service as the independent variables in their proposed model. Authors through their paper suggested that it is the Customer E-Commerce Satisfaction that will ultimately lead to

e-Commerce success. The proposed e-Commerce success model from Molla and Licker (2001) is shown below (See Figure 2).

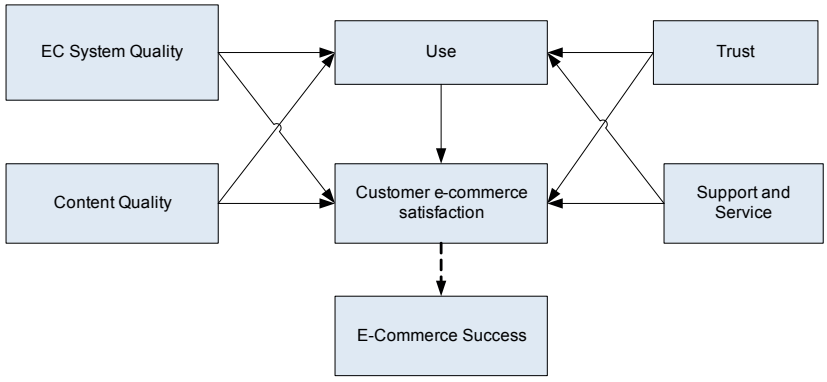

Figure 2 E-Commerce success model proposed by Molla and Licker (2001)

Updated DeLone and McLean Model of IS success

After ten years of their proposal of IS success model, DeLone and McLean proposed an updated version of the Information Systems Success framework in 2003 (DeLone & McLean, 2003). In addition to the two quality constructs of their previous model, the updated model included Service Quality as the third quality construct. Another important change in the new model was the inclusion of 'Net benefits' construct. DeLone and McLean reminded in their paper that "*Net benefits success measures are most important, but they cannot be analyzed and understood without 'system quality' and 'information quality' measurements."*

DeLone & McLean (2003) updated their framework for measuring the dependent variables in IS Success after analyzing the hundreds of research contributions regarding their original paper and changes happened in the role and management of Information systems in this ear. The updated DeLone and McLean model is given below.

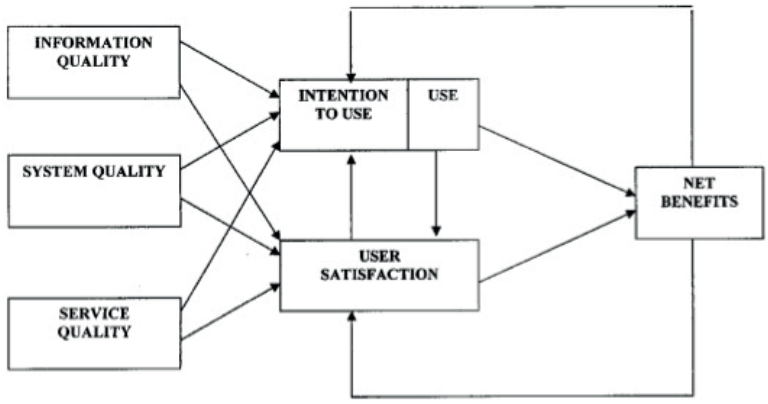

Figure 3 DeLone and McLean's (2003) updated IS success model

DeLone and McLean added service quality to be an important dimension of IS success after recognizing the importance of customer service and support especially in the fields of e-commerce. They recommended the factors such as assurance, empathy, and responsiveness of the IS service providers to be measured by the dimension Service quality.

Another important change in the updated model was the inclusion of Net benefits instead of individual and organizational impacts. Seddon (Seddon, 1997) suggested that net impacts of an IS success are not only to be measured under individual or organizational perspectives but also under societal perspectives. Seddon pointed out four different types of stakeholders that are individuals, group of individuals, management of organizations and society. Also he referred that success measures important to one type of stakeholders may not be important to others. Instead of complicating the model with more success measures, DeLone and McLean integrate all kind of impact measures into single benefit category called "net benefits". While measuring the Net benefit category, authors meant to measure factors such as cost savings, expanded markets, incremental additional sales, reduced search costs and time savings.

Main Iimitations of Updated DeLone and McLean Model:

First limitation is about the very broad concept of Net benefits measures in the model. DeLone and McLean (2003) while proposing the updated model suggested in this regard "*the challenge for the researcher is to define clearly and carefully the stakeholders and context in which net benefits are to be measured"*.

Second limitation of the updated model is its inability to reconcile with perceived usefulness concept proposed by Seddon (1997) and later many other researchers (Rai et al., 2002; (Brown, 2008)) and Technology Acceptance Model (F. D. Davis et al., 1989). Hence further researches in this regard are needed to make the model richer in theoretical perspectives. Third, the updated model didn't mention about the trust (Molla & Licker, 2001), security and privacy issues which are very important in influencing consumers to use the e-commerce systems. Hence further researches in this regard are needed to modify the model by including trust factor while measuring the e-commerce systems success.

Finally it is necessary to empirically validate the updated model since the updated model was only a proposal. DeLone and McLean (2003) actually welcomed other researchers to test and validate the new model of IS success for various IS applications including e-commerce.

Though many researchers are using updated DeLone and McLean model for various IT adoption studies, an empirical validation of DeLone and McLean model for measuring e-Commerce success are very few. Among the available researches in this field, contribution from Wang (Wang, 2008) is significant.

Wang (2008)

Wang (2008) studied the updated DeLone and McLean model and proposed a new multidimensional model for evaluating e-Commerce success. His validated model consisted of six dimensions which are information quality, system quality, service quality, perceived value, user satisfaction, and intention to reuse. Author respecified the updated DeLone and McLean model by adding a new construct perceived value

into his model. This research paper states that perceived value is a more comprehensive and reliable measure of net benefits in an e-Commerce context. Author classified the six dimensions of his e-commerce success model into three classes of variables which are beliefs, attitudes and behaviors. Author classified variables such as Information quality, system quality, service quality and perceived value into belief construct while measures of user satisfaction into attitude construct and intention to reuse were classified as behavior construct. The re-specified e-Commerce model proposed by Wang (2008) is given below (See Figure 4)

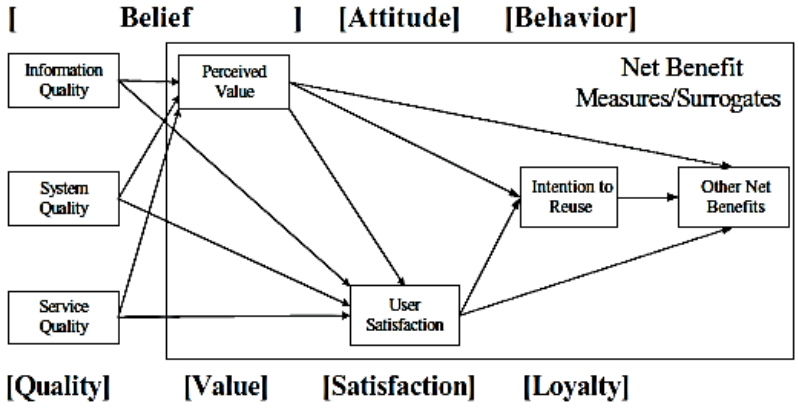

Figure 4 E-Commerce success Model adapted from Wang (2008)

One of the important limitations of this model pointed out by author (Wang, 2008, p.551) is about the measurement of perceived value concept. Monroe (Monroe, 1991) defined perceived value of a product for a customer is the ratio of perceived benefits from using the product to the perceived sacrifice for acquiring the product. Zeithaml (Zeithaml, 1988) also suggested that perceived value is determined by comparing perceived quality and perceived sacrifice. However in the paper, influence and role of perceived sacrifice on perceived value construct were ignored while measuring user satisfaction from e-commerce usage.

Trust is the second important construct missed in this e-commerce measurement model. Trust has been proved to be an important factor to be considered in online business especially in B2C e-Commerce by many of the previous researchers. Lack of consumers trust in online systems is a critical impediment to the success of e-Commerce.

This paper is trying to address both of the above limitations by developing a new conceptual model for measuring e-commerce success based on the theoretical works of DeLone and McLean and subsequent researchers.

Research Model and Hypotheses

The main purpose of this study is to respecify and validate a multidimensional interrelated conceptual model for measuring the e-commerce success in Asian region. Asian markets are found to be very lucrative and promising for most of the global firms in this period of time due to their rapid transition to business economies (Shao et al., 1999). Asian countries such as China, India, Taiwan, and South Korea are growing at a faster rate than any other Asian countries (Arnott et al., 2007; Kim et al., 2006; Schramm, 2006). Consumer's purchasing behavior and characteristics are different while comparing on the basis of the eastern and western cultural perspectives. Previous literatures give many evidences of these existing differences. Kacen & Lee (2002) found that attitude- behavior relationship is weaker in collectivist cultures than in individualist cultures. Kacen & Lee, (2002, pp. 168) suggested "*collectivists are less driven than individualists to act on their trait buying impulsiveness by making an impulse purchase*." Meng (Meng & Nasco, 2009) confirmed significant differences in consumer's price sensitivity, price consciousness and sales proneness while comparing Chinese and US consumers. Considering the significant differences between consumer's buying characteristics across eastern and western cultures, it would be interesting not only for academicians but also for the industrialists and practitioners to know more about the critical success factors of B2C e-Commerce among Asian online consumers. Therefore

this study would be justifiable even though similar studies have been conducted under different cultural perspectives.

The model is based on the framework of updated DeLone and McLean model (2003). The detailed objectives of this research paper were as follows:

a. Examine the relationships between various dimensions of DeLone and McLean model for assessing the e-commerce system's success in Asian region.

b. Respecify and validate the conceptual model by including the factors such as trust, perceived sacrifice, into the updated DeLone and McLean model of IS success

c. Contribute more knowledge to the body of Information System success research by providing empirical evidences for the validation of DeLone and McLean model of IS success.

After the evaluation of the previous literature mentioned above, this research paper proposes a more current and updated multidimensional and interrelated IS success model suitable for measuring e-commerce success. The model consists of seven interrelated constructs, which are Information quality, System quality, Service quality, Perceived sacrifice, Perceived value, online user satisfaction and Repurchase Intention. The proposed model (Figure 5) is given below.

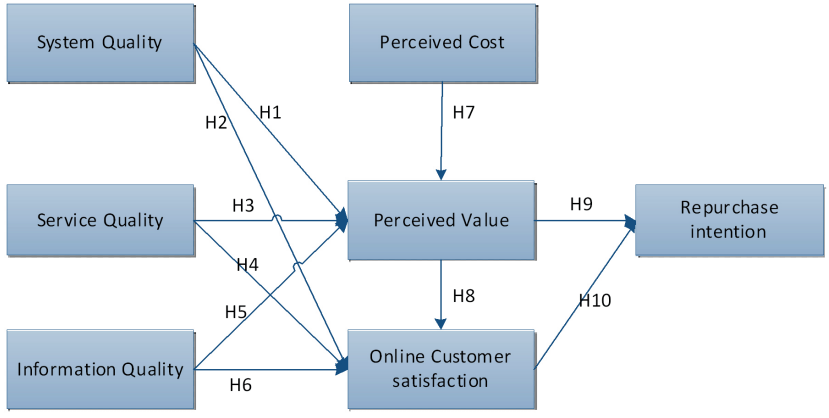

Figure 5 Proposed B2C e-commerce systems success model

All the eight dimensions of IS success model as well as the hypotheses related to these constructs are described below.

1. System Quality

System quality in an e-Commerce context refers to usability, reliability, adaptability, and fast response time of the system (DeLone & McLean, 2003). Seddon (Seddon, 1997, pp.246) suggested that system quality is mainly concerned with ease of use, presence or absence of 'bugs' in the system and consistency of the user interface.

Most of the previous literature measured system quality using perceived ease of use found positive relationship with the operationalization of the system use in a variety of systems at individual levels of analysis (Petter, Willam, & McLean, 2009; Wang, 2008; Rai et al., 2002). Halawi & McCarthy (2007) confirmed positive relationship of system quality with user's satisfaction and intention to use of the system. Brown (2008) found positive relationship between system quality and trust in an e-commerce system. Based on the above, this study tests the following propositions

H1: *System quality will positively affect perceived value of users in an e-commerce context*

H2: *System quality will positively affect online customer's satisfaction in an e-commerce context*

2. Service Quality

Service quality construct, in an e-commerce context can be defined as consumer's overall judgment of the excellence and quality of e-service offerings in the virtual market place (Kassim & Abdullah, 2010). Service quality is evaluated by a consumer might depend on many factors such as their perceived value, their trust in the service providers, and ultimately their satisfaction from the purchase and the quality of service offerings they received. Recently Brown (2008) identified the positive relationship of service quality and user satisfaction. Wang, (2008) found significant positive relationship between service quality and perceived value and also service quality and user satisfaction. This

study proposes following hypothesis for testing with regard to service quality construct.

H3: *Service quality will positively affect perceived value of users in an e-commerce context*

H4: *Service quality will positively affect online customer's satisfaction in an e-commerce context.*

3. Information Quality

Information quality is an essential dimension among the factors that lead to user satisfaction in a B2C e-commerce context. The term information quality refers the characteristics of the information system such as relevance of the data, understandability of the information, accuracy, completeness, conciseness of the information presented etc. Most of the previous literature (Maditinos & Theodoridis, 2010; Halawi & McCarthy, 2007; Chiu et al., 2007; Leclercq, 2007; Rai et al., 2002; Fang, C.-M. Chiu, & E. T. G. Wang., 2011)identified a positive relationship between information quality and user satisfaction.

Lim, Lee, Hur, & Koh (2009) proved that quality of information has a significant influence of customers trust. Information quality also positively influences perceived value of e-commerce systems among online users (Wang, 2008). Based on the above, following hypotheses are proposed with regard to information quality.

H5: *Information quality will positively affect perceived value of users in an e-commerce context*

H6: *Information quality will positively affect online customer's satisfaction in an e-commerce context*

4. Perceived Cost

K. B. Monroe (1991) & Zeithaml (1988) agreed that perceived value should be determined from perceived quality and perceived sacrifice. Wang and Yi-Shun (2008) noted that, "*Perceived sacrifice or perceived price in the re-specified model is an important issue in need of theoretical reasoning and systematical empirical approach"*. Perceived sacrifice refers to all the cost that a customer has incur in

order to acquire the product. Perceived sacrifice (Monroe, 1991; Ravald & Grönroos, 1996; Zeithaml, 1988) includes factors such as purchase price, post purchase price, acquisition costs, startup costs, transportation costs, insurance costs while transportation, transportation costs, risks of failures or poor performances etc. Monroe (1991) defined perceived value as the ratio between perceived benefits and perceived sacrifice. Wang (2008) suggested in his research that while measuring perceived value in information systems success, perceived sacrifice also need to be measured to give richness to the systematic empirical research model of IS success. Zeithaml (1988) suggested that economically rational customers see price as the most important financial cost component and most important component of perceived sacrifice. Based on the above literature, this study tests the following hypothesis

H7:*Perceived cost of the productwill negatively affect perceived value of users in an e-commerce context.*

5. Perceived Value

According to Zeithaml (1988, p.13), "*value is I what I get for what I paid".* This defenition of perceived value is consistent with Monroe (1991). Monroe (1991) defined perceived value as the ratio between perceived benefits and perceived sacrifice in a transaction. Many of the previous literature (Wang, 2008; Lin & Wang, 2006; Caruana & Fenech, 2005; Lam, et al., 2004) found positive relationship between perceived value and customer satisfaction. Yang & Peterson (2004) found that customer loyalty is highly depending on customer perceived value and customer satisfaction. He pointed out that to enhance customer loyalty in business; marketers should improve their products/service value and their customer satisfaction levels. Recently it is (Ha & Janda, 2008; Eakuru & Mat, 2008; Yang & Peterson, 2004) found that perceived value is directly influencing customer satisfaction because of their perception of utility they might receive while buying the product and it is also found (Ha & Janda, 2008) that perceived value is indirectly influencing the customer's intention to reuse the online shopping sites. Based on the above literature, this study tests the following hypotheses

H8: *Perceived value will positively influence online customer satisfaction in an e-commerce context*

H9: *Perceived value of the transaction will positively influence repurchase intention in an e-commerce context.*

6. Online Customer Satisfaction

Online customer satisfaction is considered to be the second most important success factor after Use/Intention to use while measuring the success of e-commerce systems. Online customer satisfaction refers to the evaluation of a customer's feelings towards various aspects of an e-commerce systems especially informational, transactional, service and support given by a firm to market and sell its products and services (Molla & Licker, 2001). Many researchers mentioned above have identified that user satisfaction has been indirectly affected by factors such as information quality, system quality, service quality and customer's trust in the websites. The strong positive relationship between customer's satisfaction and their intention to use or repurchase has been empirically proved by many previous researchers (Ha & Janda, 2008; Eakuru & Mat, 2008; Wang, 2008; Brown, 2008; Lin & Wang, 2006; Carpenter & Fairhurst, 2005; Lam et al., 2004; Anderson & Sullivan, 1993). Based on the above findings, this study tests the following hypothesis

H10: *Online customer satisfaction will positively influence customer's intention to reuse the system for repurchase in an e-commerce context.*

7. Repurchase Intention

Repurchase intention can be defined as the positive attitude of a customer towards a B2C e-commerce system, which may result, repeat use/purchase and ultimately lead to customer loyalty (Wang, 2008). Repurchase intention in a B2C e-commerce system can be considered conceptually similar to loyalty in the marketing literature. Anderson

(Anderson & Srinivasan, 2003) defined e-loyalty as "customer's favorable attitude toward an electronic business resulting in repeat buying behavior". Thus repurchase intention ultimately reflects the success of a B2C e-commerce system, which is in line with the net benefits proposed by DeLone and McLean (2003). The intention to reuse is similar to continuance intention proposed by Brown (2008). DeLone and McLean (2003) in their revised IS success model suggested that sometimes Intention to Use can be considered as a substitute for use in their model in order to simplify the multidimensional aspects of IS success.

Research Methods

1. Instrument Design

Instruments used to create the questionnaire are shown below as Table 1. All the items were selected from the previous empirically validated literature for ensuring the content validity and modified slightly to fit the e-commerce context. Likert scale ranging from 1-5 (strongly disagree to strongly agree) was used for all questions.

Table 1 Instruments used to measure B2C e-Commerce success

No	Measure	No. of items	Source
1	System Quality	4	Doll & Torkzadeh, 1988 Rai et al., 2002 Rivard et al., 1997
2	Service Quality	4	Tang & Wang, 2003
3	Information Quality	5	Rai*et al*., 2002
4	Perceived Sacrifice	3	Chu & Lu, 2007
5	Perceived value	3	W. B. Dodds, et al., 1991
6	Online customer satisfaction	3	Rai*et al*., 2002 Ha & Janda, 2008
7	Repurchase intention	3	Chu & Lu, 2007 Wang, 2008

2. Data Collection

Since this research is focused on identifying the significant factors that influence Asian consumer's intention to reuse online shopping portals, data were collected from online Asian consumers living in Bangkok metropolitan. Thais, Chinese and Indians are the three largest Asian communities living in Bangkok city. Due to the convenience in collecting the data in the limited time, quota sampling was used to obtain the desired responses (80 each) from Thais, Indians, and Chinese online consumers living in Bangkok metropolitan, Thailand. Respondents were asked to identify their most familiar e-commerce website and the questionnaire requested the respondents to assess the website attributes and ultimately their online satisfaction.

Analysis and Results

Initial descriptive analysis of the collected data shows that nearly half of the respondents were males. 58.3% of the respondents were having age in between 30 and 50 years. Other important results from the descriptive analysis of the sample are shown in Table 2.

Table 2 Sample characteristics

Respondent Profile	Respondent characteristics	Percentage (%)
Gender	Male	50.4
Age level	30-50 years old	58.3
Income	THB30,000-50,000	38.7
Education level	Master degree	73.9
Employment category	Office staff	39.1

Reliability analysis of the multi-item scales resulted favorable results. The Cronbach's Alpha values were calculated for each construct. All alpha values were higher than 0.8 indicate high overall internal consistency among the items under each of the construct. Exploratory factor analysis was conducted using verimax rotation with a minimum Eigen value of 1 used as cutoff value for extraction. Only those items with factor loadings greater than 0.5 were kept for further analysis.

1. Measurement Model

A measurement model is developed (Figure 6) to verify that 25 measurement variables reflect the eight unobserved variables in a reliable manner. The overall fit of the measurement model, adequacy of the factor loadings, explained variances of the measurement model were determined by the Confirmatory factor analysis (CFA) using AMOS version 18. The results of the CFA (χ^2 = 519.189, df= 349, p=0.00, NFI=0.893, RFI=0.876, IFI=0.962, TLI=0.956, CFI=0.962) showed the measurement model a good fit to the data collected. The average variance extracted (AVE) was computed for all the measures and the values varied from 0.66 to a maximum of 0.90, thus suggesting adequate convergent validity. After comparing the AVE for any two constructs with the square of the correlation estimate between those constructs, it is found that variance extracted is always greater than the squared correlation estimate, thus suggesting adequate discriminant validity. Overall the measurement model exhibited sufficient reliability, convergent validity and discriminant validity.

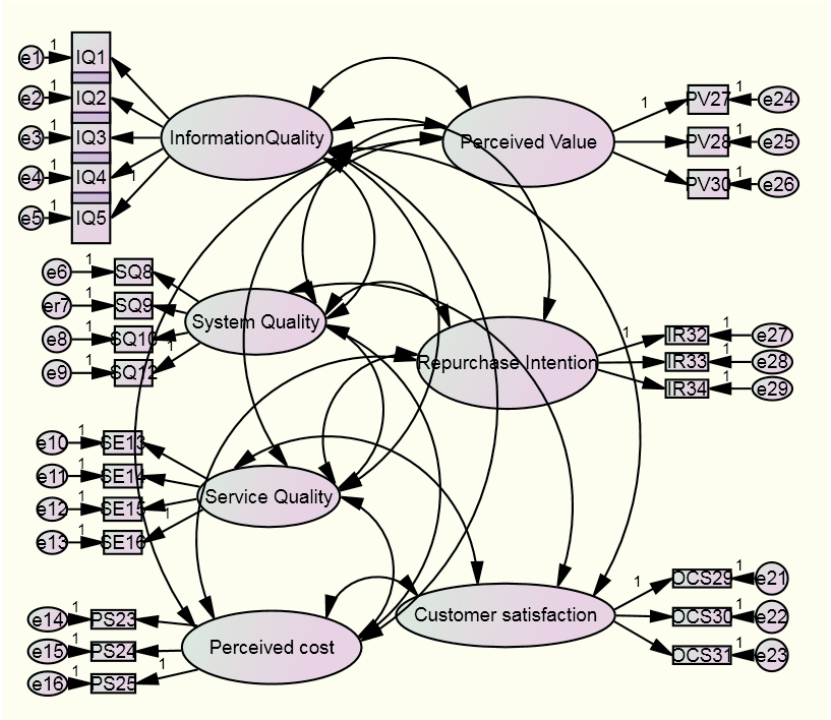

Figure 6. Measurement Model

2. Structural Model

Further analysis utilized the structural equation modeling (SEM) techniques via AMOS 18 program. Once the fit of the measurement model has been confirmed, the fit of the structural path were evaluated. The SEM helped to identify the efficacy of the model and proposed hypothesis. Results showed a fairly good fit (χ^2 = 39.849, df= 8, p=0.00, NFI=0.0.947, RFI=0.816, IFI=0.958, CFI=0.956) of the structural model. Overall the structural equation parameter estimates provide empirical support for all the hypotheses proposed (See Table 3 for details).

Table 3 Structural equation modeling results

Hypothesis	Dependent variable	Independent variable	Path coefficient	P (<0.05)	Hypothesis supported
H1	Perceived Value	System Quality	0.161	0.003	YES
H2	Online Customer satisfaction	System Quality	0.175	0.000	YES
H3	Perceived Value	Service Quality	0.223	0.000	YES
H4	Online Customer satisfaction	Service Quality	0.189	0.000	YES
H5	Perceived Value	Information Quality	0.132	0.013	YES
H6	Online Customer satisfaction	Information Quality	0.157	0.001	YES
H7	Perceived Value	Perceived cost	-0.112	0.002	YES
H8	Online customer satisfaction	Perceived Value	0.255	0.000	YES
H9	Repurchase intention	Perceived Value	0.236	0.000	YES
H10	Repurchase intention	Online Customer satisfaction	0.64	0.000	YES

As expected, online customer satisfaction and perceived value were found to be the most important predictors of Intention to reuse of an e-commerce system. However online customer satisfaction exerts a better positive influence on repurchase intention of the online users. Results also indicate that perceived sacrifice is negatively related to perceived value. Perceived value positively influences customer satisfaction. Further results show that system quality, service quality and

the information quality are the predictors of perceived value and online customer satisfaction. Figure 7 indicates the re-specified e-commerce success model.

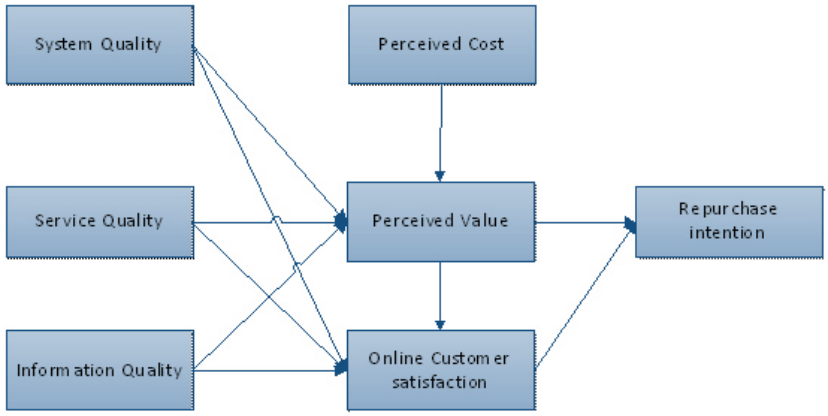

Figure 7. E-Commerce success model

Discussion

Results of this study provide empirical evidences to the relationship between online consumers repurchase intention and its key antecedents. Figure 7 indicates the re-specified e-commerce success model for an individual level. For an organizational level (not in the scope of this research), success of the e-commerce system may be derived from the net benefits (DeLone & McLean, 2003) of the firm which can be realized by the repeated purchases from the customers. Therefore online re-purchase intention is an important factor in determining the success of e-commerce systems either in individual level and organization level. Perceived value and online user satisfaction are found to be the most significant factors influencing the repurchase intention of an online consumer. Wang (2008) considered perceived value as an intervening e-commerce success measure which will mediate the effects of service quality, information quality and system quality on customer satisfaction

and intention to use an e-commerce system. This research gives more richness to the meaning of perceived value by including perceived cost into the model following the suggestions from Monroe (1991) and Zeithaml (1988). In this paper, perceived value is measured in terms of both what consumers gain from the online transaction as well as their sacrifice in terms of their cost of purchase. As Zeithaml & Dodds (Dodds et al., 1991; Zeithaml, 1988) proposed, this study proved that perceived cost is significantly influencing perceived value. Therefore the inclusion of perceived cost into the traditional IS success model (DeLone & McLean, 2003) significantly alters the nature of relationships between success factors of an e-commerce success system and hence a re-specified model is developed by including factors such as perceived cost, perceived value into the DeLone and McLean model of IS success.

This study also validates and provide empirical evidence pertaining to the relationship between three quality dimensions proposed by DeLone and McLean (DeLone & McLean, 2003), and repurchase intention. Service quality is found to be the most important quality dimension that influences repurchase intention through perceived value and consumer satisfaction. Therefore, the e-commerce managers should give more importance to the development of customer loyalty by increasing the quality of services offered.

Limitations and Suggestions for Future Research

This study has a few limitations which can be addressed and avoided in the future research.

Firstly, Confirmatory Factor Analysis results showed that repurchase intention and online customer satisfaction were loaded on the same factor. This may be due to the strong interrelations between customer satisfaction and loyalty. However to ensure better discriminant validity, the repurchase intention instrument may be revised in the future, given that customer satisfaction instrument has been validated in a wide variety of ways in the future.

Secondly, this study and findings entirely depend on the data collected from only Asian online consumers currently residing in Thailand. Therefore the generalization of the results is limited to Asian consumer groups. Hence it is important to validate the proposed model with different user communities' mainly from individualist culture countries and with different contexts.

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