

THE ANTECEDENTS OF CUSTOMER SATISFACTION RELATING TO ATTITUDE AND LOYALTY TOWARDS ONLINE SHOPPING: A CASE STUDY IN GUANGZHOU, CHINA

Hui Zhang¹, Sawaros Srisutto²

^{1,2}School of Business, University of the Thai Chamber of Commerce, Thailand
126/1 Vibhavadee-Rangsit Rd., Dindang, Bangkok 10400, Thailand

¹zhanghuibkk@qq.com, ²ssrisutto@yahoo.com

Abstract

Online shopping has significantly increased throughout the worldwide in recent years. Customer satisfaction, customer attitude and loyalty are the primary factors that could affect the development of online shopping. The purpose of the study is aimed to understand the mediator role of customer satisfaction in the causal relationship among the antecedents of customer satisfaction, customer attitude and loyalty in the Chinese online shopping context. The data was collected from 399 persons who had ever done shopping online during the last 12 months in Guangzhou, China. The analysis of quantitative research was applied by using descriptive statistics and Structure Equation Model (SEM). The findings showed that the influences of technological factors, product factors, sales promotion towards customer attitude and loyalty were significantly mediated by customer satisfaction. In addition, the customer satisfaction had a direct significant effect on customer attitude and an indirect effect on loyalty, while customer attitude had a direct effect on loyalty in online shopping. The result of study would help to understand what and how importance of the factors affecting online consumers purchasing decisions and online retailers to develop the online market.

Keywords: Antecedents of customer satisfaction, Customer satisfaction, Attitude, Loyalty, Online shopping

Introduction

The development of technology changed the customers' shopping habits and made self-help shopping become a normal and easy routine. Over 600 million Internet users and an annual e-commerce revenue growth rate of 120% make China the fastest growing and soon to be the largest e-commerce market in the world (China Internet Watch Sponsor, July 23, 2014). With the rapid growth of online shopping in China, customer satisfaction would be the key factor to focus on when online retail marketers are designing marketing strategy.

In the online shopping, satisfaction would be the customers' level of feeling obtained after evaluating the experience of using or consuming certain product (Giese & Cote, 2002). In an online environment, improving the website performance is another the way to achieve customer satisfaction. Websites have various facets that need to be improved to meet customer satisfaction which directly influence on the purchase decisions (Dharmesti *et al.*, 2013). If customers are satisfied with their online shopping experiences, they will definitely repurchase the products from the same online shopping website (Li & Zhang, 2002).

Identifying customer satisfaction serves as a mediator in the relationship of technological factors such as website design, security, usability and privacy; shopping factors such as convenience, trust, and delivery; product factors such as product value, merchandising and product customization; and customer loyalty (Cheung & Lee, 2005) proposed in a new online store. Cheung and Lee (2005) studied the antecedents of

customer satisfaction (website design, security, usability, privacy, convenience, trust, delivery, product value, merchandising, and product customization), but they had not done their research on the consequences of customer satisfaction. Meanwhile, Szymanski and Hise (2000) had conducted a study on the consequences of customer satisfaction of an online store, however, the research had not proposed specific antecedent. Customer satisfaction has positive impact on customer loyalty (Chen, 2012). Customer attitude also can lead to customer loyalty (Yi & Jeon, 2003). Most previous researchers studied the antecedent factors affecting on customer satisfaction with online shopping, but there was a lack of research that studied the antecedent factors affecting customer satisfaction towards online shopping and the relationships among the customer attitude and customer loyalty.

The objectives of this study are (1) to study which antecedent factors affect customer satisfaction towards online shopping, (2) to study the relationship between customer satisfaction and customer attitude towards online shopping, (3) to study the relationship between customer satisfaction and customer loyalty towards online shopping, and (4) to study the relationship between customer attitude and customer loyalty towards online shopping.

Online retailers will get the benefits from this study, because they could understand the factors affecting customer satisfaction that can help to formulate good marketing strategies and improve customer service in online shopping. And this study will be benefit for potential

online retailers to understand the online shopping customer behavior and attitude by approaching factors which affect customer satisfaction in online shopping, and provide theoretical guidance.

Literature review

Customer satisfaction

Customer satisfaction is the customer's perception of a pleasurable fulfillment in a service (Moon, 2013). Kärnä (2014) mentioned that customer satisfaction will be a function of perceived quality and confirmation judgment if the perceived quality matches repurchase expectations. Customers compare perceived performance products (services, goods) with the same standard. Customers are satisfied when the perceived performance is greater than the standard, when dissatisfaction occurs it means that performance was perceived to fall below the standard.

The antecedents of customer satisfaction towards online shopping

In this study, the antecedent factors influencing customer satisfaction on online shopping from previous researchers could be grouped into four categories. These categories are technological factors, service factors and product factors which are suggested by Cheung and Lee (2005), and the other category is sales promotion suggested by Yang and Sandow (2010).

Technological factors

The technological factors are the qualities of the website that ensure functionality of the site, including security, convenience, website design, and information quality. Technological factors are affected by a user's belief in the system, which includes the ease of use, perceived usefulness and information quality (Chen *et al.*, 2012). Park and Kim (2003) argued that an online store which provides a good website design and contains a high degree of information quality will reduce customers' cost. The more extensive and the higher quality of information is available in online, thus, the better buying decisions and the higher customer satisfaction. It seems that there is a relationship between technological factors and customer satisfaction. Therefore H1 is premised as:

H1: Technological factors will have a positive effect on customer satisfaction towards online shopping

Service factors

Adequate service is the ability to solve the customers' problems and concerns before they occur (Yoon, 2010). Service factors include customer service and delivery service. Parasuraman *et al.* (2005) mentioned that increasing service factors for customer satisfaction by giving advises with product selection, gift services, credit, returns, payment policies, information about shipping, and handling costs can make customer appreciate. The better the quality of service, the more customers will be satisfied and shared their service experiences. It appears that there is a relationship between service factors and customer satisfaction, therefore H2 is premised as:

H2: Service factors will have a significant positive effect on customer satisfaction towards online shopping.

Product factors

Product factors include product-related characteristics such as product variety, product value, and product customization (Park & Kim, 2003). Rich variety of product can increase the probability of customer-needs and meet the customer's satisfaction. Customers often rely on one offer which is the best value (Schaupp & Bélanger, 2005). Online shopping offers product customization for customers, the more convenient it is for customers to find the products they want, the more pleased with the experience of purchasing products is from this website (Chen *et al.*, 2012). Therefore, in order to test the relationship between product factors and customer satisfaction, H3 is proposed as:

H3: Product factors will have a significant positive impact on customer satisfaction towards online shopping.

Sales promotion

Sales promotion including discounts and incentive programs are important. It can attract customers' attention to the products, and to encourage the customer repurchase from the same website and to increase customer loyalty (Park & Lennon, 2009). Young Kim and Kim (2004) suggested that online marketers should create incentive programs to attract new customers and to retain existing customers on their shopping websites. From the retailer's point of view, online retailer spending decisions on customers and promotions are important as they affect their pricing and promotional policies, and then affect the

evolution of the customer satisfaction (Park & Lennon, 2009). In order to test the relationship between sales promotion and customer satisfaction, H4 is proposed as:

H4: Sales promotion will have a positive influence on customer satisfaction towards online shopping.

Customer attitude

Attitude is a customer's consistent evaluation and feeling towards an object or idea (Haque, Sadeghzadeh, & Khatibi, 2011). Wolfinbarger and Gilly (2003) noted that understanding customer attitude can help online retailers develop marketing strategy, technology of website, and website design. Customer having a good attitude can reduce the barrier of e-commerce applications (Hassanein & Head, 2007).

Customer loyalty

In online shopping, customer loyalty is a favorable attitude and commitment to an online operator that results in their repeating purchase behavior (Anderson & Srinivasan, 2003). Loyal customers are always interested in buying from the same website and unlikely to switch to another website (Flavián, Guinalíu, & Gurrea, 2006).

The relationship among customer satisfaction, customer attitude, and customer loyalty towards online shopping

Satisfied customers have a much more powerful repurchased intention and tend to recommend the product or service to others (Anderson & Fornell, 2000). Loyalty can be conceived with a good attitude and belief for a brand, manifested in the emotional attachment to the brand, or regular purchasing of a particular brand (Ron, garland & Philip, 2004). The good attitude may lead to customer loyalty (Yi & Jeon, 2003). Lee (2007) suggested that the customer attitude towards a product could be initiated from customers' expectations and satisfactions. To test the relationship

among customer satisfaction, customer attitude, and customer loyalty, H5, H6 and H7 are proposed as:

H5: Consumer satisfaction will positively influence on customer attitude towards online shopping.

H6: Consumer satisfaction will positively influence on customer loyalty towards online shopping.

H7: Consumer attitude will positively influence on customer loyalty towards online shopping.

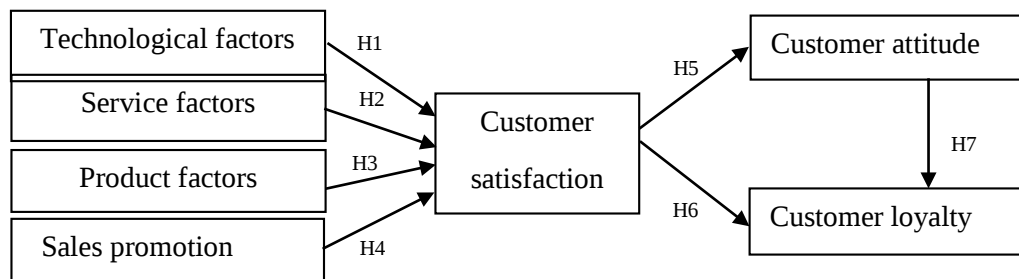


Figure 1 Conceptual framework

Methodology

Research design

This study used the quantitative methodology by using Chinese language questionnaires to collect the data. The customers who in the age group 18 to 50 years old were a major targeted group in online shopping (Iresearchchina, 2015), so the population were the customers who between 18-50 years old and had ever shopped online during last 12 months in Guangzhou, China.

The questionnaire contains 5 parts. Part1 is designed with screening questions in order to find the suitable respondents and know the basic situation of their online shopping experience. Part2 asked respondents about the antecedents of customer satisfaction including technological factors, service factors, product factors and sales promotion with customer shopping experiences. Part3 asked respondents about customer satisfaction in shopping experiences. Part4 asked customer attitude and customer loyalty towards online shopping. The measurements of part2 to

part4 asked respondents to rate on a Five-point Likert scale to measure the degree of agreement with the statement ranked from (1) strongly disagree to (5) strongly agree. Part5 asked about the demographic information of the respondents.

Population and sample size

This study chose a margin of error of 5% and a confidence level of 95% for this sample size, according to the formula of unknown population (Kotrlík & Higgins, 2001):

$$n = \frac{(t)^2 * (p)(q)}{(d)^2}$$

Where: t = value for selected alpha level of 0.025 in each tail= 1.96

$(p)(q)$ = estimate of variance=0.25

d = acceptable margin of error for proportion being estimated= 0.05

$$\begin{aligned}\text{So the sample size: } n &= \frac{(1.96)^2 * 0.25}{(0.05)^2} \\ &= 384.16\end{aligned}$$

Therefore, the sample size of this research was planned to collect data for 400 respondents.

Data collection

Data was collected at the bus stations (Zhengjia Central and the Shiqiao Station) and the Guangzhou metro (Sports Central station of Line 1 and Panyu square station) in Guangzhou city as they have a lot of target sample group.

Data analysis

Based on the questionnaire design, the author used descriptive statistics to summarize the demographic characteristics and the measurement scale of items. Structure Equation Model (SEM) was used to explore the relationship between the variables and hypothesis. The author used Exploratory

factor analysis (EFA) to remove some low loading items. In term of multiple the linear regression where there are intermediate variables and indirect effects to each variable, the author used Path analysis to do the test.

Results

Reliability analysis

After the data collection, this study collected total of 400 questionnaires and there were 399 valid questionnaires. Author used Cronbach's Alpha (α) to estimate the reliability of data in research.

Table 1 The reliability of variables

Variables	No. of item	No.	Cronbach's Alpha
Technological factors	13	399	.964
Service factors	6	399	.964
Product factors	9	399	.965
Sales promotion	5	399	.965
Customer satisfaction	4	399	.964
Customer attitude	3	399	.964
Customer loyalty	3	399	.965

Result in **Table 1** had showed that, Cronbach's Alpha of technological factors ($\alpha=.964$), service factors ($\alpha=.964$), products factors ($\alpha=.965$), sales promotion ($\alpha=.965$), customer satisfaction ($\alpha=.964$), customer attitude ($\alpha=.964$) and loyalty ($\alpha=.965$) were higher than 0.80, suggesting that these 7 variables had relatively high internal consistency.

Descriptive analysis

The sample are female 71.4% and males 28.6%, and major age of respondents is 21-30 years old (69.67%), major education level of respondents is bachelor degree (49.5%), major occupation of respondents is general employee (23.3%), major monthly income is 2001-3000 CNY (22.6%), most respondents shopped on Taobao website more often (51.4%), most respondents shopped online more than 21 times (29.3%) during last 12 months, most respondents pay 101-200 CNY per time during last 12 months (34.5%), most respondents like to buy clothes online during the last 12 months (40.9%).

By doing variable description analysis to each variable, the result showed that the

mean of technological factors and service factors were 3.66 and 3.69, and the mean of product factors and sales promotion were 3.48 and 3.78, illustrates that respondents keep a agree attitude to these variables. Similarly, the respondents keep a agree attitude to customer satisfaction (Mean=3.57) and customer attitude (Mean=3.58); and keep a neutral attitude to customer loyalty (Mean=3.40).

Factor analysis

Factor analysis which was used for study involved a few of variables, items from questionnaires which can reduce to a smaller set to facilitate interpretations (Yong & Pearce, 2013). Prior to the extraction of the factors, several test should be used to assess the suitability of the respondent data for factor analysis. These tests include Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity (Williams, Brown & Onsman, 2012). The KMO index ranges from 0 to 1, with 0.50 considered being suitable for factors analysis; the Bartlett's Test of Sphericity should be significant ($p<0.05$) for factor analysis to be suitable (Williams *et al.*, 2012). Examples are shown in **Table 2**.

Table 2 Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity

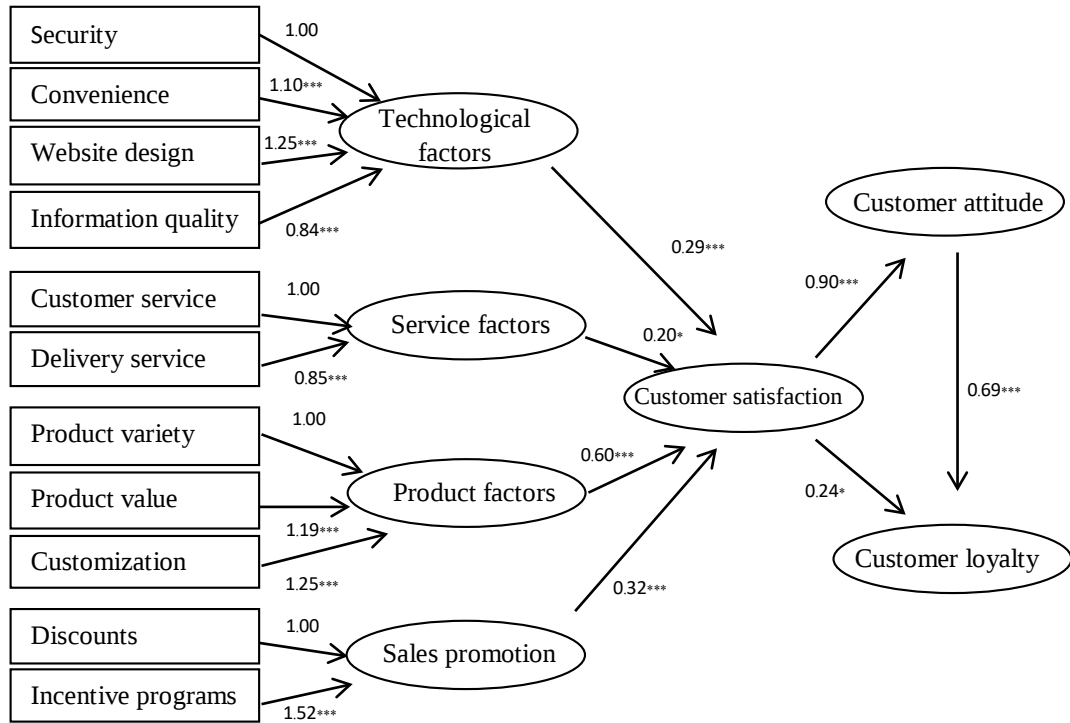
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.930
Bartlett's Test of Sphericity	Approx. Chi-Square	11744.027
	df	741
	Significant level	0.000

Exploratory factor analysis (EFA) is a type of factor analysis which is a statistical method used to identify the underlying relationships between measured variables which can be removed some low loading items (Hair, 2010). The factor loadings of all items of security, convenience, website design, information quality, customer service, delivery service, product variety, product value, product customization, discounts, incentive programs, customer satisfaction, customer attitude, and loyalty are higher than 0.50 except the 4 items ("I feel happy when I use the website", "I am pleased with the experience of purchasing products from this website", "I think I did the right thing in buying products from this website" and "I am satisfied with my decision to purchase at this website") have factor loadings less than 0.5 level. Therefore,

the 43 items removed 4 items, finally leave the 39 items used for Path analysis.

Path analysis

Path analysis is type of Structural Equation Modeling (SEM) which is a presentation tool from the results of multiple linear regression where there are intermediate variables and indirect effects (Hair, Black, Babin, Anderson & Tatham, 2006). This study involved with seven variables technological factors, service factors, product factors, sales promotion, customer satisfaction, customer attitude and loyalty. Variables are representing the existence and strength of a relationship between them. These arrows are referred to as "paths" and each path has a path coefficient (see **Figure 2**).



Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2 Summary of unstandardized regression coefficients model

The overall fit of the model was an important component as results of this testing. This is assessed using available fit indices such as Chi-Squared, DF ratio, the NFI, CFI, RMSEA etc. For a model to be called good fit, the relative Chi-

Squared should be less than 3, the NFI, CFI should be 0.90 or higher and the RMSEA value should be less than 0.05. The result of **Table 3** showed that the model's overall fitting effect is poor, and it is not satisfied.

Table 3 The fit indices of model

Goodness of fit result in default model	Threshold	
Chi-Squared value (CMIN)	2117.565	
Degrees of freedom (DF)	684	
relative Chi-Squared	3.096	<3
Normed fit index (NFI)	0.826	>0.9
Comparative fit index (CFI)	0.875	>0.9
Root mean square error of approximation (RMSEA)	0.073	<0.08

If the covariance is estimated by the model that does not adequately reproduce the sample covariance, hypothesis can be adjusted and the model can be retested. To adjust a model, new pathways are added or prior ones are removed (Stoelting, 2002). The modified

index between service factors and product factors is 129.680, which means if there is an increase the path of service factors to product factors, then the Chi-Squared value of the model will be reduced with 0.188 (see **Table 4**).

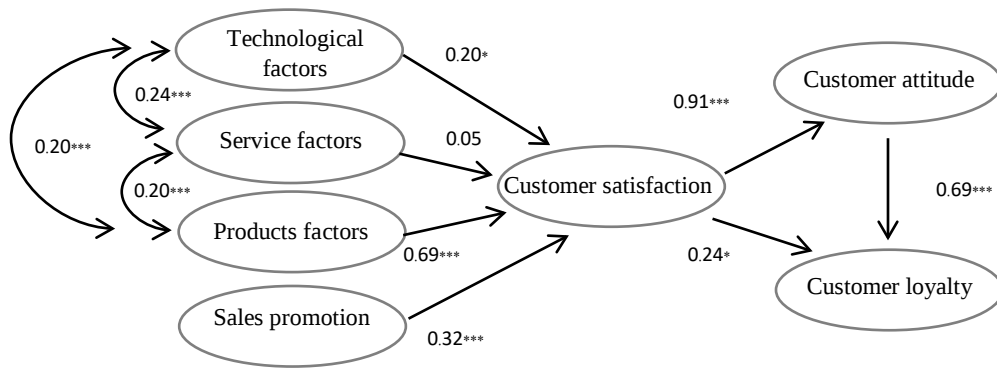
Table 4 Modification index

Covariances			M.I.	Par Change
Service factors	<-->	Product factors	129.680	0.188
Technological factors	<-->	Product factors	133.967	0.162
Technological factors	<-->	Service factors	137.854	0.223
Sales promotion	<-->	Product factors	46.651	0.083
Sales promotion	<-->	Service factors	83.172	0.152
Sales promotion	<-->	Technological factors	84.172	0.129

Note: M.I.= Modified index

Base on the information of modification index and combination with the literature review, this study consider adding the path of service factors and product factors, the path of technological factors

and product factors, the path of technological factors and service factors to be retested. So, the modification model was showed as **Figure 3**.



Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3 Summary of unstandardized regression modification model

The result of **Table 5** show the fitting indexes all within the acceptable level, such as NFI, CFI greater than threshold of 0.9; RMSEA is 0.061, relative to Chi-

Squared is 2.472. All paths in the model were tested by 0.05 significant levels, as a result representing statistical significance.

Table 5 The fit indices of modification model

Goodness of Fit Result in Modification model		Threshold
Chi-Squared value (CMIN)	1683.763	
Degrees of freedom (DF)	681	
relative Chi-Squared	2.472	<3
Normed Fit Index (NFI)	0.903	>0.9
Comparative fit index (CFI)	0.912	>0.9
Root mean square error of approximation (RMSEA)	0.061	<0.08

In the hypothesis testing, the result of this study: technological factors have a direct impact on customer satisfaction towards online shopping (H1: DE=0.204); service factors have a direct impact on satisfaction towards online shopping (H2: DE=0.054), but H2 is rejected with P value of 0.773 at 0.05 significant levels, so service factors have no effect

on customer satisfaction; product factors have a direct effect on customer satisfaction towards online shopping (H3: DE=0.691); sales promotion have a direct effect on customer satisfaction towards online shopping (H4: DE=0.320); consumer satisfaction have a direct impact on customer attitude (H5: DE=0.908); consumer satisfaction have a

indirect impact on customer loyalty (H6: IE=0.628, DE=0.240) consumer attitude have a direct effect on customer loyalty

towards online shopping (H7: DE=0.692) (see **Table 6**).

Table 6 Unstandardized total, Indirect and direct effects

Cause Effect	PF			SF			TF			SP			CS			CA			CL		
	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE
CS	0.691	0.691	0	0.054	0.054	0	0.204	0.204	0	0.320	0.32	0	0	0	0	0	0	0	0	0	0
CA	0.627	0	0.627	0.049	0	0.049	0.185	0	0.185	0.291	0	0.291	0.908	0.908	0	0	0	0	0	0	0
CL	0.600	0	0.600	0.047	0	0.047	0.177	0	0.177	0.278	0	0.278	0.868	0.240	0.628	0.692	0.692	0	0	0	0

Note: TE=Total effect, DE=Direct effect, IE=Indirect effect, PF=Product factors, SF=Service factors, TF=Technological factors, CS=Customer satisfaction, CA=Customer attitude, CL=Customer loyalty.

Conclusion

In this study, author used Path analysis to do the hypothesis testing. The result shows that, the hypotheses are supported, including H1 (technological factors have an effect on customer satisfaction), H3(service factors have an effect on customer satisfaction), H4 (sale promotion have an effect on customer

satisfaction), H5 (customer satisfaction has an effect on customer attitude), H6 (customer satisfaction has effect on customer loyalty) and H7 (customer attitude has effect on customer loyalty), however, the hypotheses 2 the service factors have no effect on customer customer satisfaction. The final model of the antecedents of customer satisfaction relating to attitude and loyalty towards online shopping is showed in **Figure 4**.

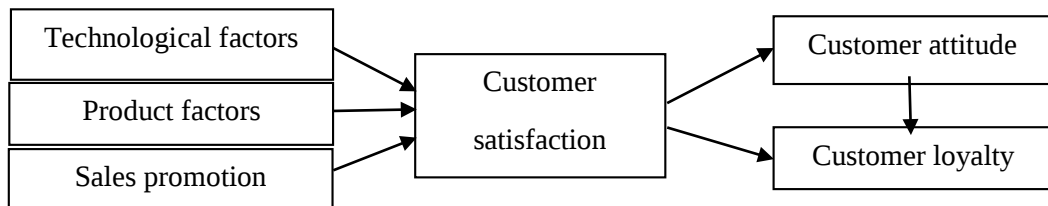


Figure 4 Modified conceptual frameworks

According to demographics, by doing descriptive analysis, this study finds that: firstly, female are the majority group to shop online and the main of respondents' age were from 21 to 30 years old, compare with male, female would be more loyal on useful, convenience in online stores' design; Secondly, people with high education (bachelor degree or higher) and more active on shopping in Taobao website and repurchasing on special online stores; Thirdly, most of the respondents' monthly income by average are more interested in the sales promotion and product quality in shopping websites, Finally, main respondents are likely to buy clothes from shopping websites.

Discussion

In the research of Park and Kim (2003) argued that an online store provides a good website design as well as information quality to reduce customers' searching cost, which looks more extensive and higher quality information. The results of hypothesis 1 supported that technological factors including security, convenience, website design and information quality towards customer attitude and loyalty were significantly mediated by customer satisfaction. As customers were pleased with the information quality providing by the online store, it was reasonable that they were satisfied.

In the proposed model, service factors was positive related to customer satisfaction, although the result was rejected this relationship in the hypothesis 2. It cannot directly be created customer satisfaction, however, the result indicated that, service factors were the

mediator between technological factors and products factors. Customer service and delivery service seems that lies dormant until a customer takes initiative to ask for help with their purchase in online shopping. But some customers need not any support services when they make a purchase because the online shopping is self-helping shopping, and service factors could be incorporated into technological factors and products factors in online shopping context.

The results of hypothesis 3 showed that there was positive effect between product factors and customer satisfaction. Launching good quality of products online can lead to quicker buying decisions and higher levels of satisfaction. And customers will choose products depending on the best value (Schaupp & Bélanger, 2005). Online shopping offered product customization for customers, thus, the more the customers got to select, the more pleased with the experience of purchasing products from this website (Chen *et al.*, 2012).

In addition, sales promotions were considered an important marketing tool for e-retailers in terms of influencing consumers' purchase decisions (Park & Lennon, 2009). Online retailers may need to use effective sales promotions to provide loyal consumers, if the sales promotion has high value, the customer satisfaction value will increase (Park & Lennon, 2009). Therefore, the results of the hypothesis 4 the results supported the prior literature.

The results of hypothesis 5 showed that there was positive effect between customer satisfaction and customer attitude. Customers who adored a product tended to be satisfied as

customers were likely to buy a product with a positive attitude and the satisfaction represented a useful effective measure of the customer attitude in online shopping. Positive satisfaction could significantly affect attitude (East, Gendall, Hammond & Lomax, 2005).

The results of the hypothesis 6 supported that there was positive effect between customer satisfaction and loyalty. Satisfied online customers have more power on the repurchase intentions and tended to recommend the product or service of this website to others (Anderson & Fornell, 2000).

The results of hypothesis 7 supported that there was a positive relationship between the customer attitude and customer loyalty. Sivadas and Baker-Prewitt (2000) introduced that relative attitude was provided better theoretical. It supported the loyalty construct, and suggested that loyalty was proved by more favorable attitude towards a brand compared with other alternative and repeat purchase.

Implication of the study

According to the findings of this study, the customers considered the technological factors as an important key; especially security, website design, convenience and information quality. Online retailers should ensure that online website appearance was neat, easy to move around and available the service they promise accurately and on time.

Online management needed to develop not only high quality technology system but also products quality, a variety of

products and fair price. Additionally, online websites have to offer discounts showing sales promotion for specific products because these could encourage customers to buy a product.

In addition, online retailers should provide security and protection of personal information as well as the transactions. Moreover, managers must take a close look at the accurate function of the website and its ability to speed delivery consistently. Finally, managers should deal with problems promptly and effectively.

The results of this study indicated that customer satisfaction showed great impact on customer attitude. The existence of customer loyalty emerged from customer's good experience. The good attitude that was gained during the first transaction increases the possibility of purchasing in the same online store again. Therefore, the online retailers should focus on the online shopping experience. Customers may tend to stay on the online shopping if they satisfied the service provider because online shopping does not allow customers to receive the goods before they purchase.

Limitation of the study

The limitation in this study especially data collection, the sample of customers who had shopped online in Guangzhou, China, and it cannot be assumed that the sample is representative of the worldwide e-population. Another limitation is questionnaire that was translated from English to Chinese language, due to literature review of this study, some questions may not be suitable for real situations of Chinese customers. So Chinese customers might

face some other problems and cannot present in this questionnaire.

Recommendation for the future research

First, past research has found that culture plays a significant role in consumer behaviors (Lin, Wu & Chang, 2011), future research should replicate this study and test this conceptual model in a different country or culture. So this finding could explore the differences in response towards the investigated variables among different groups of people of varied backgrounds and would help online retailers adjust the way they service different customers.

Second, the respondents in this study frequently bought books, cloths, skin care, or movies. The results of this study cannot represent the customers who buy high cost items online, such as motorcycle, jewelry, or cars. Future research may target the buyers of high cost items and explore the factors influencing their satisfaction, attitude, loyalty.

Last, this research data collecting only used questionnaires, future research should consider gathering qualitative and quantitative method, it may get the better model. If study can conduct some deep interview, it may get some more antecedents of customer satisfaction towards online shopping.

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would be helpful to understand in GHRM phenomenon completely.

Management and researcher in Management Research Unit of Mahasarakham Business School, Mahasarakham University. She would like to thank Mahasarakham Business School, Mahasarakham University for funding this research.

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Sumittra Jirawuttinunt is currently assistant professor and lecturer in

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