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The Impacts of E-service Quality on Customers' Repurchase Intention in Platform Online Retailing: An Empirical Investigation

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Abstract: Online retailing has been an important channel or business model for many firms in China. How to win, satisfy and retain customers has become the urgent practical problem to solve in front of the online retailers. Based on the theory of reasoned action, an empirical study of factors influencing consumers' repurchase is conducted by using the questionnaire survey method. The results indicate that in the setting of platform online retail, consumer repurchase intention is significantly affected by consumer satisfaction, consumer satisfaction is positively and significantly affected by product quality and price, but not by website design, information quality, order fulfillment, and consumer service quality. So platform online retailers should reasonably allocate marketing resources accordingly, and pay attention to improve customer satisfaction by controlling product quality and enhance price advantage of product.

Keywords: repurchase intention, consumer satisfaction, e-service quality, platform website, internet retail

1. INTRODUCTION

Online retailing has been an important channel or business model for many firms in China. According to iResearch recently issued report, 2014 online shopping transactions reached 2.8 trillion Yuan, with annual growth rate of 48.7%. China's Singles Day has become one of the craziest day for online shopping akin to America's Cyber Monday. At the same time, the competition among them is fierce. Many shopping sites face the risk of losing customers, and have shifted their attention from inducing consumers to adopt their retailing website to motivating consumers to purchase repeatedly through them.^[1] Then, how to win, satisfy and retain customers has become the urgent practical problem to solve in front of the online retailers.

To date some studies have discussed the factors influencing the repurchase intention of online retail customer, which are mainly through lens of relationship quality^[2], Technology Acceptance Model, flow theory^[3], trust^[4], etc. Customer satisfaction, customer value, and service quality are the mainly discussed factors. These studies have great value for the understanding of the formation mechanism of repeated shopping behavior. However, consumer desires and expectations may change over time. Consumer experiences may vary under differ context of website type and culture. In China, there are two main B2C e-commerce modes: self-retailing model (eg: Jindong) and platform retailing (eg: Tianmao). Customer shopping behavior may differ between them. The heavily cited view that "Low price and web presence were initially thought to be the drivers of success, service quality issues soon became pivotal"^[5] is in need of further testing. Platform internet retailing as the dominant online retailing form is threatened by self-selling form in China. The marketing share gap is narrowing between them. The problem of customer repurchase faced by platform internet retailing is more serious.

Therefore, this paper attempts to respond to the need for further study of repurchase intention by offering an in-depth examination of the effect of the main antecedents such as service quality and attitude on behavioral intentions on China's platform online retailing context.

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2. RESEARCH MODEL AND HYPOTHESES

2.1 Repurchase intention and customer satisfaction

Repurchase intention refers to the subjective probability that a customer will continue to purchase a product from the same online seller ^[1]. According to Zeithaml et al. (1996), re-purchase intention is one dimension of behavioral intention. To examine consumers' behavioral patterns, it has been used to predict actual behavior (Ajzen and Fishbein, 1980).

Customer satisfaction has been the focus of marketing academic research since Cardozo's (1965) initial study of customer effort, expectations and satisfaction. It refers to “the summary psychological state resulting when the emotion surrounding disconfirmed expectations is coupled with the consumer's prior feelings about the consumption experience” according to Oliver. There are two types of satisfaction: transactional and overall (or cumulative) satisfaction. Transactional satisfaction considers a specific purchase occasion ^[6]. The overall satisfaction considering the accumulated experience reflects the customers' accumulated impressions for the product or service. Thus, it may be a better predictor of customer loyalty ^[7]. In this paper, customer satisfaction with platform online retailing is defined as the accumulated affective reaction of a customer resulted from comparing the actual performance of goods and services against the prior expectations with a given online retailing shop. Due to the existence of various types of expectations, the lack of discriminant validity between performance and expectations constructs, the measurement issues, and the convincing arguments for that the performance-based assessments are more accurate and explanatory than those based on explicit a prior expectation assessments ^[8], we chose to employ a direct performance based rather than an expectation-disconfirmation based conceptualization for the satisfaction construct.

According to the theory of reasoned action, attitudes behavior is influenced by behavioral intention. The research literature on satisfaction generally consider satisfaction a quasi- attitude construct, and often view it as synonymous with attitude. Thus, customer satisfaction is an important antecedents of customer re-purchase intention. The finding that electronic commerce services satisfaction has a positive impact on the users' continued using intention is empirical supported.

Under the platform online retail environment, with the platform internal trading evaluation system and external Web2.0 media information, improving customer satisfaction, is not only conducive to the formation of a good network reputation, but also to retain existing customers. Thus, we predict that

H1: Customer satisfaction positively affects customer repurchase intention in the context of platform online retailing.

2.2 Service quality

Since the late 1990s, with the development of online retail practices, the issues of online retail service quality have started to get academic attention. Online retail service quality is a multidimensional concept as well as traditional service quality. Its constituent elements are closely related to the specific application context. Adapting to different application environments to identify the service quality dimensions is the primary part of customer satisfaction management. Although there are a variety of approaches to identify the dimensions of service quality, such as focus group, survey, and content analysis, but the process-based approach provides richer diagnostic information and managerial implications for improving service quality ^[9]. Customers' online transaction process can be divided into a series of stages in general, and the satisfaction is the experience result of the various stages. Platform online retailing contains the entire process from customers' arriving to the completion of the transaction process. During the process, platform provides a unified public service of payment security, privacy protection, and system availability etc.; retailing shops provide customers the goods and online service to facilitate the purchase by high-quality content and website design, order fulfillment and online customer service during the entire transaction. Therefore, online shop design quality, information quality, order

fulfillment quality, online customer service quality and product quality are the main components of the service quality of platform online retailing shop.

Information quality of the online shop refers to the customer satisfaction degree for the information content provided by the online shop. In online context, consumers can't touch the products directly, their purchasing decisions rely mainly on the information describing of the online shop. High-quality information content can not only meet the needs of customers' purchasing decisions, but also avoid the information overload, which can greatly improve the efficiency of purchasing decision and the probability of buying satisfied goods. The characteristics of information quality such as completeness, accuracy and usefulness, etc. have a significant impact on customer satisfaction^[10]. Customers effectively utilize information on the online retailing shop without effective organization and presentation of information in the shop, namely online retailing shop design. Convenience and time savings are the important factors that make customer purchase online. The design quality of online shop is good, and the information is convenient for customer to access to and read; which can effectively reduce customers' time and energy when utilizing information, and increase shopping pleasure. Empirical studies find that merchandise information and website design are significant determinant of the customer satisfaction formation^[1]. Thus, we predict that

H2: Information quality positively affects customer satisfaction in the context of platform online retailing shop.

H3: Design quality has a positive effect on customer satisfaction in the context of platform online retailing shop.

Order fulfillment quality refers to customers perceived the extent to which the online shop's promises about order delivery speed, accuracy and reliability are fulfilled; it is the most important factor affecting customer satisfaction found by Wolfinbarger and Gilly^[11]. The more timely, accurately, safely, and reliably online shops deliver; the lower customers' waiting time and risk are; the better customers' shopping experience is. Online customer service quality refers the extent to which a retailing shop facilitates efficient and effective customer information consulting. Although using self-service technology website, customers can access to lots of information of goods and transaction, in the entire transaction process, the situations of online communication needs often have occurred. The faster online retailing shops respond, and the better service attitude they provide; the better service experience and the higher satisfaction the customers perceived. The perceived quality of a product is defined as the customers' judgment to the overall excellence or superiority of a product, in this article refers to customers perceived the extent to which the performance and reliability of a product meet their expectation or needs. Obviously, the higher the perceived quality of purchased products is, the higher the perceived satisfaction is. Thus, we predict that

H4: Order fulfillment quality positively affects customer satisfaction in the context of platform online retailing shop.

H5: Customer service quality has a positive effect on customer satisfaction in the context of platform online retailing shop.

H6: Product quality positively affects customer satisfaction in the context of platform online retailing shop.

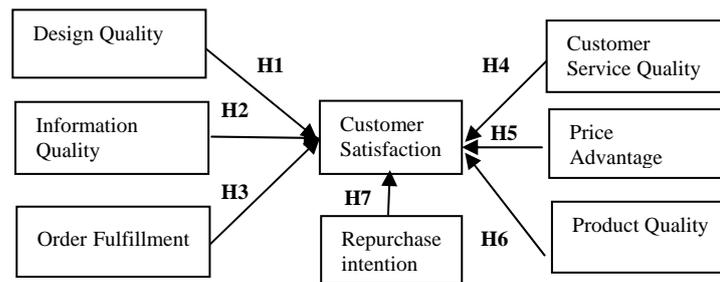


Fig.1. Research model in the Platform online retailing context.

During the transaction, the customers need to pay a certain amount of money namely price to attain the merchandise and service. Unlike product and service, it is a monetary sacrifice to customers, and is also an important factor impacting customer satisfaction [12]. At a given quality level of product and service, the more advantage of commodity prices namely fair, reasonable, and cost-effective the customer perceived, the less money scarification the customer perceived, the more satisfied with the transaction the customers are. Thus, we predict that

H7: Product price positively affects customer satisfaction in the context of platform online retailing shop.

In summary, the research model and assumptions are shown in Fig. 1.

3. METHODOLOGY

3.1 Survey instrument

The research model was tested using survey data. The survey questionnaire consisted of two parts. The first part contained the questions about respondent’s demographic variables such as gender, age, occupation, etc., and the questions about the most recently completed relative transaction in which the respondents conducted. The second part contained the measures of the eight latent variables involved in the research model. All measurements adapted to the current research had been validated in prior studies to ensure their validity. All survey items were reported on a seven-point Likert scale from “1” for strongly disagree, to “7” for strongly agree.

Given most of the measurement items were adapted from literatures written in English, we used back translation to ensure the quality of the translated survey. These measurement instruments were pretested. Following these pretests, the measurement instruments were shortened by removing items that loaded poorly on their postulated constructs. Moreover, the wording of the measurement instruments was refined to increase the clarity of the items and to remove any potential ambiguities. The resulting questionnaire then consisted of 24 items measuring the seven latent variables. The constructs and their measures are presented in Table 1.

Table 1. Measurement validity and reliability

Construct and Sources	Measurement and loadings
Design Quality (ξ_1) ^{[9][14]} ($\alpha=0.88$; CR=0.88; AVE=0.64)	X11: The platform retailing website is easy to browse. 0.79
	X12: The platform retailing website has a visual appeal. 0.82
	X13: Navigation of the platform retailing website is efficient. 0.80
	X14 The Design of the platform retailing website is professional 0.78
Information Quality(ξ_2) ^{[13][15][16]} ($\alpha=0.89$; CR=0.89; AVE=0.72)	X21: Information at this store is well organized. 0.84
	X22: The information provided about the store, product and services is complete. 0.90
	X23: The information in the platform online store is sufficiently detailed. 0.82
Order Fulfillment Quality(ξ_3) ^{[11][15]}	X31: It quickly deals with what I order. 0.81
	X32: My order is delivered by the date promised. 0.92

($\alpha=0.91$; CR=0.91; AVE=0.72)	X33: This site makes items available for delivery within a suitable time frame. 0.84 X34: It makes accurate promises about delivery of products. 0.82
Customer Service Quality(ξ_4) ^[11] [15] ($\alpha=0.94$; CR=0.94; AVE=0.76)	X41: It is convenient to contact with the online store. 0.83 X42: Inquiries are answered promptly. 0.91 X43: Inquires are answered friendly. 0.90 X44: Customer service personnel are willing to help you. 0.90 X45: When you have a problem, the website shows a sincere interest in solving it. 0.81
Price Advantage(ξ_5) ^[17] ($\alpha=0.91$; CR=0.90; AVE=0.81)	X51: The price is fair. 0.93 X52: The price is cost-effective. 0.90
Product Quality(ξ_6) ^[18] ($\alpha=0.94$; CR=0.94; AVE=0.85)	X61: The product fit my expectation. 0.91 X62: The product fit my requirement. 0.92 X63: The product quality is reliable. 0.93
Customer Satisfaction(η_1) ^[19] ($\alpha=0.94$; CR=0.94; AVE=0.85)	Y11: My choice to purchase from the store was a wise one. 0.88 Y12: I think that I did the right thing when I did the shopping. 0.93 Y13: I am satisfied with the shopping decision. 0.95
Repurchase intention ^[19] ($\alpha=0.919$ CR=0.917; AVE=0.787)	I will Bookmark this shop 0.85 I will continue to visit the shop 0.92 I would like to continue shopping at this online store 0.89

Note: α : Cronbach's alpha; CR: composite reliability; AVE: average variance extracted; FL: factor loading.

3.2 Data collection

The targeted respondents are the customers with recent platform online shopping experience. A Web-based online survey with prizes was employed. The link to the survey was distributed by forums, micro blog, e-mail, instant message tools, etc. A total of 242 responses were gathered from June 2014 to August 2014. Forty questionnaires containing obvious logic errors were deleted, yielding a final response rate of 84.5%. The final sample was comprised of 53.6% female and 46.4% male respondents. The results indicate that the respondents were relatively young, with 61.4% of respondents younger than 30 years old, and 60.4% being 20-25 years old. Most of them possessed a bachelor's degree or above (50.4%). The sample are all Tmall users. Most respondents were experts in online shopping, with 81.5% of respondents having more than one year of platform online shopping experience, and 82.2% having spent more than one hundred Yuan on relevant shopping recent 3 months. These demographics reflect the profile of online shopping users described in the 2012 China's online shopping market research report released by CNNIC, which shows that the sample is representative.

4. DATA ANALYSIS AND RESULTS

4.1 The measurement model

The measurement model was analyzed using structural equation modeling (SEM), supported by LISREL 8.7software. We first conducted a CFA, in which all five constructs of the model were included and allowed to freely correlate with one another. Following these procedures, the CFA achieved satisfactory model fit with $\chi^2/df=1.736$, RMSEA=0.061, SRMR=0.042, NNFI= 0.98, CFI=0.98 and IFI=0.98.

Table 2. Measurement validity and reliability

	η_1	η_2	ξ_1	ξ_2	ξ_3	ξ_4	ξ_5	ξ_6
η_1	0.92							
η_2	0.75	0.89						
ξ_1	0.40	0.3	0.80					
ξ_2	0.54	0.41	0.69	0.85				
ξ_3	0.47	0.35	0.41	0.54	0.85			
ξ_4	0.54	0.41	0.35	0.61	0.64	0.87		
ξ_5	0.62	0.46	0.38	0.49	0.55	0.59	0.90	
ξ_6	0.76	0.57	0.40	0.51	0.55	0.53	0.62	0.92

Note: Square root of average variance extracted (AVE) appears along diagonal.

Table 1 shows that the factor loading of all construct items ranges from 0.78 to 0.93, the composite reliability of the survey items intended to measure the same construct are higher than 0.7 for all constructs, and the average variance extracted (AVE) for all constructs are higher than 0.50. The square roots of the AVEs are greater in all cases than the off diagonal elements in their corresponding row and columns (see Table 2). These facts confirm the convergent and discriminant validity of the constructs and the measurement items used in the survey instrument ^[20].

Given that all data in this study were self-reported, we tested for the potentially bias from common method variance. We first conducted Harman's single factor test. The test results confirm that the common method bias is unlikely to be a serious problem in this study.

4.2 The structural model

The structural model estimation was performed using the maximum likelihood approach. The fit statistics for this model were adequate [$\chi^2/df=1.65$; IFI=0.98; NNFI=0.98; CFI=0.98; RMSEA= 0.059; SRMR=0.046]. Thus, we concluded that the structural model fit the data well, and that the specification and estimation of the structural model were plausible.

Table 3 shows the results of the structural model testing. Customer satisfaction positively impact repurchase intention ($\beta = 0.75$, $T=10.67$). Product quality ($\beta = 0.57$, $T=7.09$) and price advantage ($\beta = 0.18$, $T=2.31$) positively influenced customer satisfaction degree, but not the design quality, information quality, order fulfillment quality, and customer service quality. Product quality has a significant greater impact than price advantage.

Table 3. Results of the structural model testing

Hypothesis	Relationship path	Standardized path coefficient	T-value	Supported/Rejected
H1	$\eta_1 \rightarrow \eta_2$	0.75	10.67	Supported
H2	$\xi_1 \rightarrow \eta_1$	0.01	0.11	Rejected
H3	$\xi_2 \rightarrow \eta_1$	0.14	1.43	Rejected
H4	$\xi_3 \rightarrow \eta_1$	-0.09	-1.22	Rejected
H5	$\xi_4 \rightarrow \eta_1$	0.11	1.30	Rejected
H6	$\xi_5 \rightarrow \eta_1$	0.18	2.31	Supported
H7	$\xi_6 \rightarrow \eta_1$	0.57	7.09	Supported

5. DISCUSSION AND IMPLICATIONS

5.1 Discussion

The empirical studies show that customer satisfaction has significantly positive effect on customer repurchase intention under the platform online retail environment. Customer satisfaction is an important antecedent of customer repurchase intention. Compared with the self B2C retail sites, although the quantity of platform retail shop is as many as stars, it increases customer choice of space and convenient for customers to switch among different shops, and seems more difficult to form repurchase intention. Online transaction risks exist objectively due to information asymmetry. The much many platform shops not only bring more choices to the customer, but also make the customer more difficult to find the suitable sellers. Once consumers encounter a very satisfied retail shop, and more prone to collection and repurchase, in order to reduce search costs and transaction risks next time with similar shopping needs.

Product quality and price advantage are the principal components of online shopping utilitarian value [21], and have positive impact on customer satisfaction degree of platform online retailing store in the study. Thus, in the context of China platform online retailing, online shoppers are mostly task-oriented utilitarian. The creation of utilitarian value is still the essence of the information communication technology. The “2012 China’s online shopping market research report” released by China Internet Network Information Center also has pointed out that poor quality and too high price of products are the main reason for the customer churn of shopping sites. In addition, product quality of platform retailing store has greater influence on customer satisfaction than price advantage, which reflects that people value product quality nowadays, once the product quality is poor, even though it is cheap, it will be difficult to gain a foothold.

Platform online storefront design has no significant effect on customer satisfaction according our study, which is consistent with the empirical results in the context of China’s online shopping and B2C e-commerce, but different with scholars of Szymanski and Hise’s research conclusions in the context of the American online shopping. Thus, in China, not only platform online retailing shops, but also self-owner shopping website, their interface design has no significant impact on customer satisfaction.

Information quality, order fulfillment quality, and customer service quality have no significant effect on customer satisfaction in the context of this study, which differs from prior relevant research results in the context of B2C e-commerce. We argue that there may be two reasons for this by further investigation and interviews: on the one hand, in the platform online shopping environment, the platform websites provide unified information search tools, merchandise description template, false information punishment mechanism, online customer service tools and logistics outsourcing services; leaving the retailing store on which limited space for service innovation; thus the service characteristics of the retailing store are difficult to differentiate. On the other hand, with the booming of platform online retailing, outsourcing service market around the operation of platform online stores has been becoming more and more mature, the overall service quality of platform online stores has been greatly improved, and there is no significant difference of service level among them.

5.2 Implications

Based on the forgoing conclusions, two implications for platform online retailers to improve customer satisfaction degree are proposed as follows:

First, it should attach great importance to customer satisfaction in the roles of improving customer repurchase intention. Second, Platform online retailers should pay attention to the product quality and price advantage, and increase their customer satisfaction degree by creation of the utilitarian value. Product quality and price are the important incentive factors influencing customer satisfaction degree of platform online retailing store. Platform online retailers can increase customer satisfaction degree by strengthening quality management and risk control during the process of products procurement, storage and transportation; pricing the

products with competitive advantage, and combining with short-term price promotions.

Third, platform online retailers should properly control the resource inputs in the improvement of shop design quality, information quality, and order fulfillment quality. Shop design quality, information quality, order fulfillment quality and customer service quality are the “health factors” influencing customer satisfaction degree of platform online retailing store. Therefore, platform online retailers on the one hand should avoid excessive investment in these factors; on the other hand maintain the customer satisfaction degree at a proper level.

In addition, this study aims to provide references for platform online retailers engaging in online marketing, so has mainly analyzed the influencing factor within the controlling of the online retailers, and not considered mediating function of external factors, while these external factors such as security, credit, and service of platform may have impacts on customer shopping attitude, which can be incorporated into this model in future to improve the research conclusions. In addition, customer attitude and behavior in online shopping environment may change over time; therefore, a longitudinal study may be beneficial for a deeper understanding of the dynamics of trust transfers occurring in a social commerce environment.

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