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The Study of E-Commerce on Trust, Satisfaction and Loyalty

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Abstract. Because of the popularization of the internet, online shopping has become one of the most popular shopping styles for consumers. On an e-commerce website, such as yahoo auction, if the rating of an online seller is high, it will have higher possibility for consumers to buy the products with trust. When consumers continuously get the good shopping experience from a seller, consumers' satisfaction is increased and then their repurchase intension and sellers' reputation are also promoted. Eventually, customers' loyalty is achieved based on the high satisfaction. Therefore, trust, satisfaction and loyalty were hypothesized to have the causal relationship with one another and a structure equation modeling is developed to test the hypotheses. Finally, the hypotheses are supported and the significant and positive relationships were found among trust, satisfaction and loyalty.

Keywords: Trust, Satisfaction, Loyalty, Structural Equation Modeling

1. Introduction

Because of the popularization of the internet, online shopping has become one of the most popular shopping styles for consumers. Sellers sell products on Internet not only eliminate the restriction of time and place, but also have lower cost and high profits. Keeney [1] indicated that internet shopping is cost saving since it saves not only the product cost but also the browsing cost. Alba et al. [2] also concluded that sellers can provide more products for consumers to choose because they have no inventory pressure as physical stores. That is the main reason why lots of sellers try to sell products on internet. However, high profits of online shopping market make swindlers to defraud the consumers. Recently, the swindlers frequently renew their deceitful tricks, decreasing the purchase willingness of customers and reducing the attempt of customers to buy products without internet shopping experience. Thus, from sellers' point of view, they have to construct a secure transaction process so that consumers' need can be satisfied and long time cooperation can be built up.

In general, most of the people decide whether to buy the products on internet depending on sellers' evaluation. Since most of the people considered that online shopping is not always safe, they may select the sellers in terms of their transaction histories and reputations. On an e-commerce website, such as yahoo auction, if a seller's evaluation is good, the purchase intention for the consumers will be higher because of the trust. When consumers continuously get the good shopping experience from a seller, consumers' satisfactions are increased and then their repurchase intensions and sellers' reputations are also promoted. Eventually, consumers' loyalty is established based on the high satisfaction.

The main purpose of this study was to investigate the causal relationship among trust, satisfaction and loyalty. Three hypotheses are included in this study: H1: Trust has a significant positive effect on satisfaction; H2: Trust has a significant positive effect on loyalty; H3: Satisfaction has a significant positive effect on loyalty.

2. Questionnaire Survey

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The factors which affected trust, satisfaction and loyalty were selected according to most consumers' shopping experience, literature review and brainstorming as follows. This study categorized trust into seller's evaluation, seller's the type of payment, stereotypes and seller's secure certificate. The factors affecting satisfaction are including quality, price, the consistency of goods and photos and delivery speed. The factors affecting loyalty are comprised of recommendation to others, repurchase intention and membership system.

This study designed a questionnaire with 32 items according to above factors. The subjects gave the evaluations according to Likert's nine point scale (1 = the worst image quality, 9 = perfect image quality). 120 survey questionnaires were distributed and 102 valid ones were collected.

2.1. Reliability and Communities

Reliability analysis indicated that the overall Cronbach's α is 0.911. According to past research, Cronbach's α must be greater than or equal to 0.7 [3]. This also implies that our questionnaire has the high reliability. In addition, the individual Cronbach's α in trust, satisfaction and loyalty were 0.688, 0.901, and 0.855, respectively.

However, after testing the Communities, eight out of 32 items were lower than or equal to 0.2 and thus should be deleted. After deleting the eight items, the total item number was from 32 to 24 and the factor "stereotypes" was also eliminated. Therefore, the overall Cronbach's α is increased to 0.926 and the Cronbach's α in trust was increased from 0.688 to 0.779. In addition, the 24 items are greater than or equal to 0.2 after testing the Communities again, representing the reliability of the overall items is promoted.

3. Structural Equation Modeling (SEM) construction

As shown in Fig. 1, a proposed SEM model was presented after the tests of reliability and communities. The proposed model concludes latent and observed variables. The three latent variables are including trust, satisfaction and loyalty. For trust, three observed variables are sell's evaluation, the seller's the type of payment and seller's secured certificate. For satisfaction, four observed variables are quality, price, consistency of goods and photos and delivery speed. With regard to loyalty, three observed variables are recommendation to others, repurchase intention and membership system.

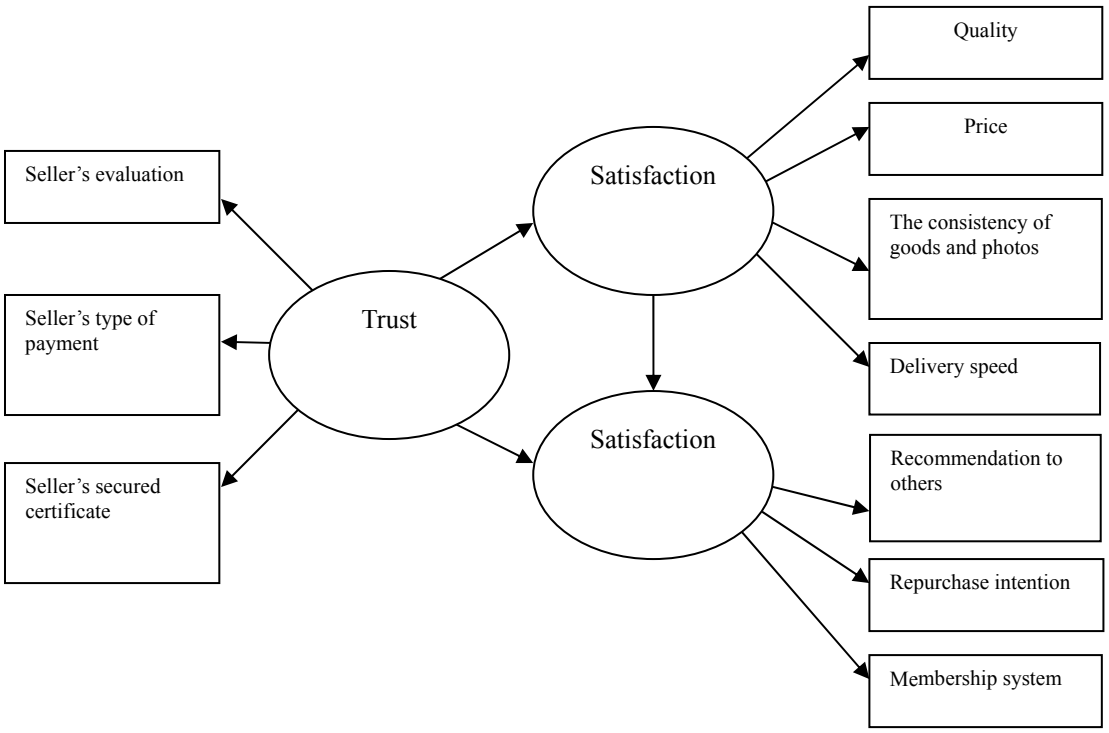

Figure 1. The proposed SEM architecture

3.1 Overall Model Fit

The fit criteria employed are presented in Table1. The x^2 statistics value is 39.034 (p=.183>.05). This implies that we accept the null hypothesis that there is no significant difference between observed data and the proposed model. In addition, the $\frac{x}{df}$ is to evaluate fit extent. When $\frac{x}{df}$ is smaller than 0.2, it implies that the model has an ideal fit [4]. In addition, GFI (0.93), NFI (0.925), IFI (0.986), CFI (0.985), RMR (0.135) are all within acceptable range [5], while RFI (0.895) and RMSEA (0.047) are almost within acceptable range.

Table 1. Overall model fit summary

Fit indices	Criteria	Results
X^2 (P)	p > 0.05	39.034 (P=0.183)
X^2 / df	> 0.9	1.220
RMR	< 0.05	0.135
RMSEA	0.05 ~ 0.10	0.047
GFI	> 0.9	0.930
NFI	> 0.9	0.925
RFI	> 0.9	0.895
IFI	> 0.9	0.986
CFI	> 0.9	0.985

3.2 Path analysis with latent and observed variables

The results indicated that the path coefficient from trust to satisfaction is 1.397 (p<0.001), path coefficient from trust to loyalty is 0.496 (p<0.05), path coefficient from satisfaction to loyalty is 0.426 (p<0.001), respectively. This implies that trust is significantly affected by satisfaction, trust is significantly affected by loyalty, and satisfaction is significantly affected by loyalty. It means that H1, H2 and H3 are supported in this study. In addition, the results also showed that seller's secure certificate has the highest value (1.704) in trust, the consistency of goods and photos has the highest value (1.188) in satisfaction and recommend to others has the highest value (1.586) in loyalty, respectively.

Table 2. The results of path analysis

Path	Coefficient	P value
Trust → Satisfaction	1.397	***
Trust → Loyalty	0.496	*
Satisfaction → Loyalty	0.426	***
Trust → Seller's evaluation (X1)	1.000	***
Trust → Seller's the type of payment (X2)	0.631	***
Trust → Seller's secure certificate (X3)	1.704	***
Satisfaction → Quality (Y1)	1.000	***
Satisfaction → Price (Y2)	0.716	***
Satisfaction → Consistency of goods and photos (Y3)	1.188	***
Satisfaction → Delivery Speed (Y4)	1.109	***

Loyalty → Recommendation to others (Y5)	1.586	***
Loyalty → Repurchase intension (Y6)	1.530	***
Loyalty → Membership system (Y7)	1.000	***

Note: *: p ≦0.05; **: p≦0.01; ***: p≦0.001

4. Results and discussion

The results indicated that seller's secure certificate has the highest value in trust. This implies consumers consider seller's secure certificate is the most important observed variable, the next is seller's evaluation, and the last is seller's the type of payment. The reason is that sellers have to undergo a lot of account protection mechanism to get the seller's secure certificate from the E-bay or Yahoo. Therefore seller with the certificate can protect consumers' right and avoid their accounts are stolen by the swindlers.

For satisfaction, the consumers' consider that consistency of goods and photos is the most important observed variable, the next is delivery Speed, and the last is price. This result is not in line with our expectation that price is the most essential variable subjects considered. The possible reason may be that the increasing cheating on internet. If the price on internet and store is almost the same, the consumers will pay more attention on consistency of goods and photos. The second place is delivery speed and it indicated that the convenience is also the important feature subjects considered. Wolfinbarger & Gillly [6] also think that internet shopping provides consumers a more comfortable and convenient shopping environment just like shopping at home.

For loyalty, the consumers' consider that recommendation to others is the most important observed variable, the next is repurchase intension, and the last is membership system. It is reasonable if you get high satisfaction from a seller, you will definitely recommend your friends to buy the goods from there. People usually share something with their friends if they trust this seller.

5. Conclusions

This study explores the causal relationship among trust, satisfaction and royalty. The resulted indicated that trust is significantly affected by satisfaction, trust is significantly affected by loyalty, and satisfaction is significantly affected by loyalty. The three hypothesizes were verified. Thus, we could conclude that there is the positive and significant relationship between trust, satisfaction and royalty.

6. References

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