

CRITICAL SUCCESS FACTORS OF INTERNET SHOPPING IN JAPAN: CUSTOMER-CENTRIC AND WEBSITE-CENTRIC PERSPECTIVES

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Abstract: The results from a study conducted on the effect of factors on the customers' attitude toward using Internet shopping in Japan are presented in this paper. The research model was an extended version of the consumers' acceptance of virtual stores model with the addition of a new factor, need specificity, grouping critical success factors based on their customer-centric and website-centric perspectives sources, and examining how the differences in customer characteristics affect the actual use of Internet shopping. The results of an online questionnaire filled out by 1,215 Japanese online customers pointed out that gender, education level, innovativeness, net-orientation, and need specificity, factors of customer-centric perspective, have positive impacts on the actual use of Internet shopping. The implication also shows that Japanese online customers do not consider the service quality of Internet shopping, a factor of the website-centric perspective, as significantly as offline customers do.

1 INTRODUCTION

Internet shopping has been introduced as an electronic commerce (EC) application since the early 1990s (Turban et al, 2002). The long-term forecast of worldwide EC spending done by the research firm International Data Corporation (IDC) is expected to reach \$7,127 billion by 2007 (International Data Corporation, 2004). The actual amount of worldwide EC spending has feverishly increased by 349.81 percent from 2000 to 2003. However, in Japan, the growth rate in EC spending has decreased from 39.26% in 2001 to 30.26% in 2003 (IDC, 2004). Two possible reasons for this phenomenon are that the number of new online customers and a number of returning online customers are decreasing. These raised two questions, what makes online customers purchase from the Internet and what keeps online customers repurchasing through the Internet. However, a better understanding of the factors affecting the purchase decision can provide a crucial grasp of the consumer behavior in cyberspace (Limayem et al., 2000).

Since the purchasing decision process certainly happens before the repurchasing process, we need to investigate it first. Moreover, the Japanese market characteristics are a mystery to most foreign observers and the consumption behavior of Japanese customers is notably different from other societies (Synodinos, 2001). This study, thus, focuses on these factors and the online customers' characteristics influencing Internet shopping in Japan.

The objectives of this study were to investigate the factors influencing the actual use of Internet shopping by using the consumers' acceptance model and to explore how differences in customer characteristics affect the actual use of Internet shopping by using a statistical analysis. This paper is one of the first studies to examine the key factors underlying customers' purchasing intentions through the Internet in Japan, by grouping them into two views of their sources, customer and website (Atcharyachanvanich and Okada, 2006a). This paper is set up as follows. Section 2 presents an overview of Internet shopping in Japan, its relevant theories and factors, as well as develops the

hypotheses. Section 3 discusses the research method. In Section 4, the empirical data will be analyzed and discussed. Section 5 concludes with the findings and implications for research and practice.

2 LITERATURE REVIEW

2.1 Internet Shopping and Consumer Behaviour in Japan

Regarding a preliminary online survey of the factors affecting each online shopping process in Japan, the consumer behavior of online customers of the goo Research of NTT Resonant Inc. in Japan showed that price is the dominant factor that makes goo online customers shop online (Atcharyachanvanich and Okada, 2006b). This is because it is difficult to buy a product at a low price from traditional shops in Tokyo where living expenses are the highest in the world. Moreover, Internet shopping offers the customers products that are not available at traditional shops. Internet shopping is thus a way for customers in high-cost-of-living countries like Japan to seek cheap and rare products. This survey called for further study on what else makes Japanese customers purchase through the Internet and what characteristics of Japanese customers affect their use of Internet shopping.

2.2 Critical Success Factors

Recently, several researchers have investigated the predictors of what makes customers purchase through the Internet (Limayem et al., 2000; Chen et al., 2004; Blake et al., 2003; Pavlou, 2003; Verhoef and Langerak, 2001; Chen et al., 2002). The model frequently employed to conduct this investigation is the technology acceptance model (TAM) (Kwong et al., 2002). Chen et al. (2004) conducted one of the more outstanding studies that developed the consumers' acceptance of virtual stores theoretical model. Their study not only proposed the consumers' acceptance of virtual stores model based on the technology acceptance model (TAM) and the innovation diffusion theory (IDT), but also unified the five critical success factors (CSF) that include product offerings, information richness, usability of storefront, perceived service quality, and perceived trust. With the strengths of Chen et al.'s study including the theoretical model and CSFs for virtual stores, it was used as a based model to develop the research model of this study. However, these CSFs are a combination of customer and website factors. In the EC market, there are three entities interact

with each others, EC company, EC website, and EC customer (Atcharyachanvanich and Okada, 2006a). Each entity consists of several factors that are further classified as critical success factors. CSFs can be managed and/or built by the EC company in order to achieve the business's goals. The CSF classification of each entity is thus important in helping the EC company enhance its EC website and serve its EC customers. Thus, this study groups these CSFs into two categories based on their entity.

2.2.1 Customer-Centric Perspective

Customer-centric perspective is defined as a subjective factor that occurs to customers themselves and affects the actual use of Internet shopping, such as customer characteristics, trust in the Internet shopping, compatibility of Internet shopping, and customer's need.

Customer characteristics: A consumers' personality characteristics influence their Internet shopping behavior (Cao and Mokhtarian, 2005).

Age is found to have an influence on their Internet shopping behavior, that is the higher a customer's age, the more likely that person will buy online (Bellman et al., 2000; Bhatnagar and Sanjoy, 2004). In addition, older people would find Internet shopping more attractive because their lives are generally more time-constrained (Bhatnagar and Sanjoy, 2004). Thus, we propose:

H1: The older the customer, the higher the level of actual Internet shopping use.

Gender is a significant predictor of a customer's purchasing intentions through the Internet (Slyke et al., 2002; Koyuncu and Bhattacharya, 2004). It was found that male respondents were more likely than female respondents to purchase products and/or services through the Internet. Therefore, we hypothesize that:

H2: Male customers have higher levels of actual Internet shopping use than female customers.

Marital status is insignificantly found to influence an Internet shopping behavior (Raijas and Tuunainen, 2001). Thus, we propose:

H3: Marital status influences a customer's actual Internet shopping use.

Income is a determinant of purchasing power. The higher a person's income, the more likely that person will buy online, and the higher a person's income, the more online transactions that person is likely to make (Bellman et al., 2000). Thus, we propose:

H4: The higher the income level, the higher the level of actual Internet shopping use.

Education level also influenced consumer behavior. The higher a customer's education is, the more likely they will purchase through the Internet (Bellman et al., 2000). Thus, we propose:

H5: The higher the education level, the higher the level of actual Internet shopping use.

Innovativeness is often identified as a personality construct, and has been employed to predict a customer's innovative tendencies to adopt a variety of technological innovations (Yang, 2005). Innovativeness was found to be positively associated with the adoption of Internet shopping (e.g., Blake et al., 2003; Limayem et al., 2000). Purchasing through the Internet is an innovative behavior that is more likely to be adopted by innovators than non-innovators (Limayem et al., 2000). This leads to the following hypothesis:

H6: The higher the level of innovativeness, the higher the level of actual Internet shopping use.

Net-orientation is the subjective factor for predicting the online buying behavior that indicates if typical online customers are "wired lifestyle" people who have been on the Internet for years, or those who have been online for just a few months. Wired-lifestyle people tend to be net-oriented style (Bellman et al., 2000). They use the Internet not only to improve their productivity at work but also for most other activities, such as reading the news. Net-oriented people are therefore defined as people who are interested in and make use of Internet applications. As customers become more wired to the Internet, their intention to purchase items on it may increase. Thus, we propose:

H7: The higher the level of net-orientation, the higher the level of actual Internet shopping use.

Perceived trust: Lack of trust in online businesses is one of the main reasons for customers not purchasing items through Internet shopping (Hoffman et al., 1999; Pavlou, 2003). Customers are reluctant to input their personal information when Internet shopping sites asks for it. In addition, they are concerned about the interception and misuse of information sent over the Internet. Consequently, they may not trust online shopping. This leads to the hypothesis:

H8: A customer's perceived trust in Internet shopping positively influences his or her attitude toward using it.

Compatibility: The degree to which consumers perceive Internet shopping to match their shopping needs and to be consistent with the existing values and beliefs (Verhoef and Langerak, 2001; Chen et al., 2002). We propose:

H9: The compatibility between using Internet shopping and a customer's needs positively influences his or her attitude toward using it.

H10: The compatibility between using Internet shopping and a customer's needs positively influences his or her perceived usefulness of it.

Need specificity: The specificity of the customer's needs with respect to how well customers consider what they want when they visit a store (Koufaris et al., 2001). We hypothesize that:

H11: The customer's need specificity positively influences his or her attitude toward using it.

2.2.2 Website-Centric Perspective

Website-centric perspective is defined as a factor that is created by an EC company to fulfill the marketing strategy and to be a successful website in the EC market. In other words, this category represents the EC company.

Ease of use: The degree to which customers expect to effortlessly use Internet shopping (Chen et al., 2002). In line with previous studies, we propose:

H12: The ease of use of Internet shopping positively influences a customer's attitude toward using it.

H13: The ease of use of Internet shopping positively influences the usefulness of it.

Usefulness: The customer's probability that using Internet shopping will incrementally influence the performance of purchasing and information searching (Chen et al., 2002). Based on previous studies, we propose:

H14: The usefulness of Internet shopping positively influences a customer's attitude toward using it.

H15: The usefulness of Internet shopping positively influences a customer's behavioral intention on using it.

Service quality: The discrepancy between what customers expect and what customers obtain. Since offline Japanese customers significantly consider getting high-quality products and services, the service quality of products and services in Japan is regularly high (Synodinos, 2001). This is also a necessary concern in Internet shopping to provide the high service quality to online customers in Japan. This leads to the hypothesis:

H16: The service quality of Internet shopping positively influences a customer's attitude toward using it.

Usability of Internet shopping website: The degree to which Internet shopping would be easily and quickly used by customers to navigate, operate and find what they want. Many Japanese have comparatively little free time (Synodinos, 2001). If Internet shopping can provide customers with time-saving shopping, the usability of an Internet shopping website may influence the ease of use

factor, which directly affects customers' attitudes toward purchasing items through the Internet.

H17: Usability of Internet shopping websites positively influences the ease of use of Internet shopping.

Information richness: The degree to which customers can use the information to predict their satisfaction levels with the product prior to the actual purchase. Japanese may expect a lot of product information and product comparison functions as useful because they have been characterized as insatiable information seekers (Synodinos, 2001). Thus, the information richness may influence the usefulness of Internet shopping, which directly relates to a customer's attitude toward using Internet shopping. Another hypothesis is:

H18: The information richness of Internet shopping positively influences the usefulness of Internet shopping.

Product offering: The abundance of different products, pricing strategies, and product retail channel fits. Previous studies found that the usefulness of Internet shopping is determined by the product offerings (Chen et al., 2004). In addition, since the cheap prices and rare products provided as product offering of Internet shopping make Japanese customers shop online (Atcharyachanvanich and Okada, 2006b), product offerings may influence a customer's attitude toward using it. Thus, we propose:

H19: The product offering of Internet shopping positively influences the usefulness of Internet shopping.

H20: The product offering of Internet shopping positively influences a customer's attitude toward using it.

The last two hypotheses were in line with previous studies.

H21: A customer's attitude toward using Internet shopping positively influences her or her behavioral intention to use it.

H22: A customer's behavioral intention to use Internet shopping positively influences his or her actual use of it.

3 RESEARCH MODEL

The research model used the consumers' acceptance of virtual stores model developed by Chen et al. (2004) to investigate the factors affecting the Internet shopping in Japan and to study the effects of customer characteristics on the actual use of it. The research model consists of thirteen constructs; ten critical success factors and three determinants of the

actual use of Internet shopping. Figure 1 shows two groups of critical success factors and their proposed relations. A new factor, need specificity, was added to the base model and critical success factors that were investigated were categorized into two groups: customer-centric/website-centric- perspectives.

3.1 Data Collection

A web-based survey was conducted to investigate the critical success factors and consumer purchasing behaviour through the Internet. The online questionnaire consisted of two sections. The first section was designed to gather the demographic characteristics including age, gender, monthly personal income, and Internet activities. In the second section, the constructs employed in the model were measured using multi-item scales. Each construct contains several items measured by the fully anchored, 5-point Likert scale ranging from (1) "strongly disagree" to (5) "strongly agree". The items were generated from previous research projects and were modified to fit the context of Internet shopping when necessary.

As the survey was conducted in Japan, a Japanese version of the questionnaire was administered. The questionnaire, originally written in English, was translated into Japanese by bilingual people whose native language was Japanese and whose background was IT-oriented. The questionnaire was then translated back into English by other bilingual people whose native language was English and whose background was also IT-oriented. The English versions were then compared, and no item was found to pertain to a specific cultural context in terms of language or to a specific IT-related context in terms of background translation. An online survey targeted at potential online users who have purchased a product or service through Internet shopping was utilized to collect data. All questions were posted on a reliable website with four million registered users operated by the goo Research of NTT Resonant Inc. in Japan (www.goo.ne.jp). The period of the questionnaire ran from July 21 to 25, 2006. After the initial reliability and validity screening, 1,215 responses were found to be complete and usable.

The initial screening eliminated incomplete and fictional responses. Among the 1,215 respondents, the percentages of gender (51.3%, 48.7% were male and female respectively) and age group (7.4%, 19.5%, 22.1%, 18.4%, 18.8%, and 13.8% were aged between 15-19, 20-29, 30-39, 40-49, 50-59, and more than 60 respectively), which are the same percentages as those from the communication usage

trend survey conducted in 2005 by the Ministry of Internal Affairs and Communications (2006). Therefore, the results of our study predicted the same trend as the ministry’s study of online customers in Japan does.

3.2 Data Analysis

The data analysis employed a two-step approach (Anderson and Gerbing, 1988) using a statistical program, SPSS, and a covariance-based program, AMOS. In the first step, the measurement model was examined for instrument validity and refinement by using a confirmatory factor analysis (CFA). The second step involved confirming the relationships and testing the hypotheses of the research model by using the structural equation modeling (SEM) technique.

To test the reliability of the initial questionnaire, a Cronbach alpha was calculated for each construct and the results are presented in Table 1.

The test of the structural model estimated the goodness-of-fit of the research models so that the hypothesized model would be a good representation of the structures underlying the observed data. The chi-square of the revised model was calculated to be 4015.213 ($p=0.0$) with 866 degrees of freedom. The root mean square error of approximation (RMSEA) was 0.055, which indicates a good fit and reasonable errors of approximation in the population and was lower than the recommended limit of 0.08 [23]. The 0.033 root mean square residual (RMR) and the 0.904 comparative fit index (CFI) meet the recommended levels of 0.05 and 0.90, respectively (Byrne, 2001). Overall, the research model for the customer intention to purchase through the Internet

appears to be statistically well fitting. Figure 2 shows the results of the structural paths of the research model. The estimated path effects (standardized) are presented.

4 RESULTS

4.1 Customer-Centric Perspective

4.1.1 Customer’s Characteristics

The actual use of Internet shopping was measured by a number of purchases that was defined as how many times online customers have purchased items through Internet shopping in the last six months. The customer characteristic distributions of the responding sample and the mean number of purchases toward using Internet shopping are shown in Table 2.

The percentage of respondents within each characteristic distribution is enclosed in parentheses. T-tests for independent samples were used to identify the response differences in the actual use of Internet shopping per gender and marital status.

An analysis of variance (ANOVA) was used to determine the response differences in actual Internet shopping use based on age group, income, and levels of education, innovativeness, and net-orientation. In addition, regression analysis was used to indicate how a change in each independent variable (age group, income, education level, innovativeness, and net-orientation) affects the values taken by the dependent variable.

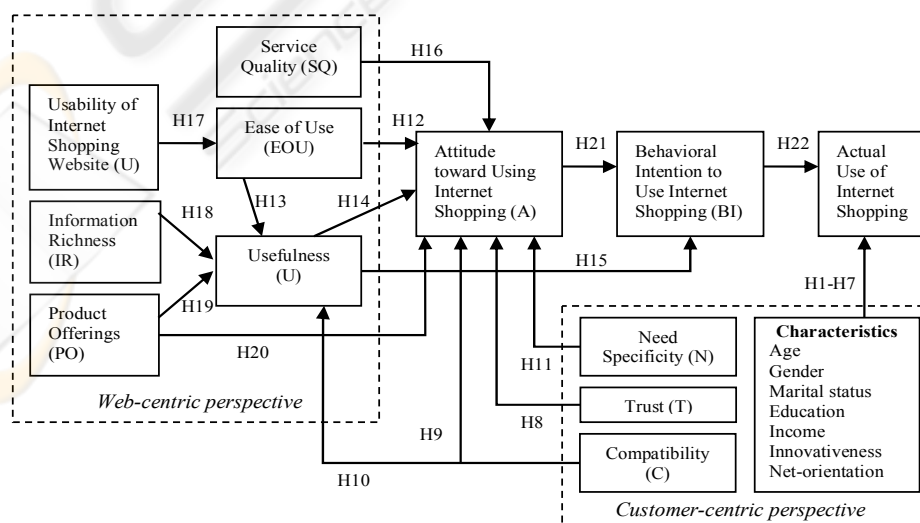


Figure 1: Research model.

Table 1: Reliability of measured constructs.

Constructs	No. of initial questions	No. of final questions	Cronbach alpha
Actual Use of Internet Shopping	2	2	0.661
Behavioral Intention to Use Internet Shopping (BI)	1	1	1.000
Attitude toward Using Internet Shopping (A)	3	3	0.898
Perceived Usefulness	5	5	0.883
Perceived Ease of Use	4	4	0.916
Compatibility (C)	3	2	0.797
Need Specificity (N)	3	2	0.418
Perceived Service Quality (SQ)	10	9	0.906
Perceived Trust (T)	6	6	0.899
Product Offerings (PO)	5	4	0.779
Information Richness	5	3	0.715
Usability of Internet Shopping Website (U)	5	2	0.801

The T-test results for the independent samples showed that a number of purchases toward using Internet shopping show an insignificant difference per age group, marital status, and income. Therefore, H1, H3, and H4 were rejected.

Gender was found to significantly affect the actual use of Internet shopping. Female customers made significantly more purchases (mean score of 6.87) than male customers did. Thus, H2 was rejected. Concerning the customer's education level, the number of purchases were found to be significantly different ($F = 4.476$, $df = 7$, $sig. = 0.035$). The regression analysis results showed that the customer's education level positively affected the number of purchases made ($\beta = 0.32$, $t = 2.12$), supporting H5. Customers who hold doctoral degrees made the most purchases. Unexpectedly, customers with the lowest level of education made a rather high number of purchases.

The results showed that high-innovative customers made the highest number of purchases (mean score of 7.25) than other groups of innovative customers. In other words, high-innovative customers tend to more frequently purchase items through the Internet than low-innovative customers. The regression analysis results showed that innovativeness positively affects the number of purchases ($\beta = 1.30$, $t = 3.47$), thus supporting H6. High-net-oriented customers made the highest number of purchases (mean score of 7.88) than other groups of net-oriented customers. The regression analysis results

showed that net-oriented positively affects the number of purchases ($\beta = 2.48$, $t = 6.32$), thus supporting H7.

Table 2: Customer characteristics and mean number of purchases.

Characteristics	Number (Percent)	Mean
Age group: (F= 0.072, Sig.= 0.788)		
15-19	90 (7)	4.17
20-29	238 (20)	6.11
30-39	268 (22)	7.29
40-49	223 (18)	7.30
50-59	228 (19)	5.87
>=60	168 (14)	5.67
Gender: (F= 5.551, Sig.= 0.019*)		
Male	624 (51)	5.84
Female	591 (49)	6.87
Marital Status: (F= 0.048, Sig.= 0.589)		
Single	461 (38)	6.49
Married	754 (62)	6.25
Income: (F= 3.127, Sig.= 0.077)		
< 250,000 JPY	214 (18)	5.91
250,000 – 499,999	422 (35)	6.14
500,000 – 749,999	230 (19)	6.74
> 750,000 JPY	176 (14)	6.99
Education Level: (F= 4.476, Sig.= 0.035*)		
Secondary School	30 (2)	7.43
High School	357 (29)	5.64
Vocational School	128 (11)	6.22
College	131 (11)	5.87
Bachelor Degree	493 (41)	6.80
Master Degree	65 (5)	6.62
Doctoral Degree	11 (1)	10.82
Innovativeness: (F= 12.030, Sig.= 0.001***)		
Low	75 (6)	4.72
Medium	684 (56)	5.91
High	456 (38)	7.25
Net-orientation: (F= 39.921, Sig.= 0.000***)		
Low	38 (3)	3.61
Medium	652(54)	5.26
High	525 (43)	7.88

*, **, *** significance at $p < 0.05$, 0.01, and 0.001,

4.1.2 Need Specificity, Trust, and Compatibility

Figure 2 illustrates the structural model results. It supports the H11 hypothesis of the effect of need specificity on a customer's attitude toward using Internet shopping. However, H8 and H9 were rejected. These results indicated that customers'

subjective reasons in trusting Internet shopping and compatible with Internet shopping would not affect Internet shopping behavior.

4.2 Website-Centric Perspective

All website-centric perspective hypotheses (H12-H20), except H20 concerning product offering were valid after testing the research model. These results indicated that the features of Internet shopping including ease of use, usefulness, usability of Internet shopping website, and information richness affected a customer's attitude toward using Internet shopping and indirectly influenced the actual use of it. Surprisingly, the service quality of Internet shopping was found to have a negative impact on a customer's attitude toward using Internet shopping. However, its coefficient and significance level are low enough to be considered insignificant. Thus, this implies that the service quality of Internet shopping has no effect on Internet shopping behavior. Moreover, product offering has no direct impact on the customer's attitude toward using Internet shopping.

5 CONCLUSION

This study was conducted to explore the critical success factors in terms of customer-centric and website-centric perspectives that influence a Japanese customer to use Internet shopping. The consumer acceptance of virtual stores developed by Chen et al. (2004) was used as a base model to test the research hypotheses. From an online survey, educated females with high incomes and low

innovative Japanese are the most active online customers.

The critical success factors have been grouped into two categories, (a) customer-centric perspectives helping managerial people understand the nature of consumer behaviors and (b) website-centric perspectives providing insights into the features and elements of Internet shopping websites that make customers purchase items through Internet shopping.

Regarding the customer characteristics as customer-centric factors, an interesting find was that the more innovative the online customers are, the less intent they are on purchasing items through the Internet. This finding does not conform to those of previous studies (Limayem et al., 2000; Blake et al., 2003). Since their respondents were not Japanese, one possible reason to explain this is that the consumption behavior of our respondents, which were Japanese, is notably different from those of other societies (Synodinos, 2001). Consequently, it implies that the effect of innovativeness on the actual use of Internet shopping may depend on the nationality of the respondents. Unexpectedly, trust has no impact on the customer behavior of Internet shopping. This may be because of our limitation on the respondents, who were members of the goo website. Their perception of trust in Internet shopping had already been approved and become insignificant to their attitude toward using Internet shopping. Regarding the insignificance of compatibility, it may be because the underlying items of compatibility made Japanese respondents reluctant to answer with their true feeling on whether purchasing items through Internet shopping matched their needs. This issue should be considered for further study.

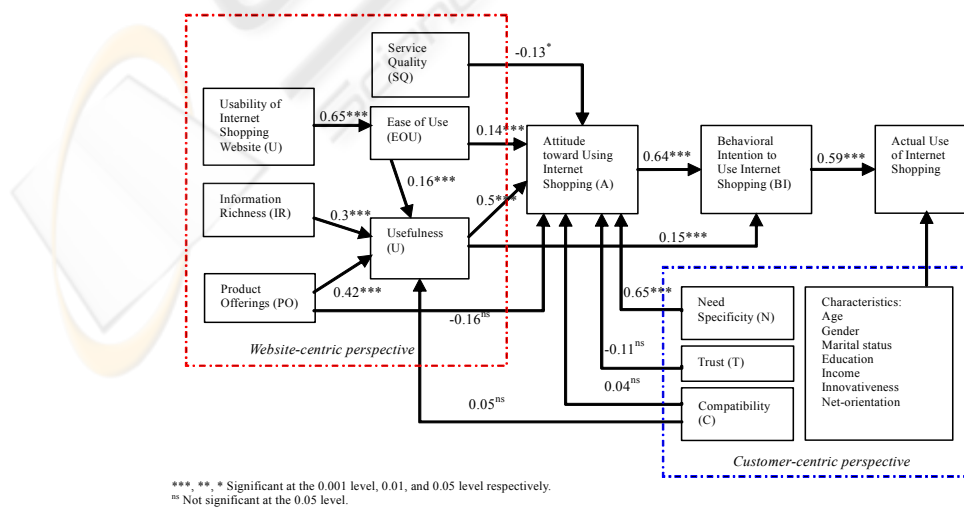


Figure 2: Model Results.

The findings showed that the website-centric perspective factors have played a more important role than those of the customer-centric perspective factors. This indicated that enhancing the EC website can ensure the success of EC, because the website-centric perspective factors are more controllable than the customer-centric perspective factors. In addition, Japanese online customers do not consider the service quality of Internet shopping as importantly as Japanese offline customers.

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