

## Exploring the Effects of Information Processing Perceptions on Consumers' Website Advice Continuance Intention

Hui-Chih Wang  
National Chao Tung University  
hcwang1@gmail.com

Her-Sen Doong  
National Chiayi University  
hsdoong@mail.ncyu.edu.tw

### Abstract

*With the rapid evolution of e-commerce, individuals' daily lives are affected not only by information systems but also by the information offered via these systems. Webstore advice, which serves as a virtual salesperson to facilitate consumers' online purchasing, is an important example, considering how frequently successful e-tailers are using this information service. However, existing information system studies mainly test consumers' perceptions towards or re-usage of systems only: the information level has been largely neglected despite its popularity at actual Webstores. Specifically, few studies have uncovered why consumers continue to use Webstore advice from the lens of information processing. This study thus pioneered the integration of perceived fit and trust into the expectation disconfirmation theory to explore consumers' satisfaction and continuance intentions towards Webstore advice at the information level. Based on empirical data, findings supported all the hypotheses proposed. Practical implications are discussed.*

### 1. Introduction

The emerging B2C e-commerce market has created enormous convenience but also great challenges for individuals' daily life. For example, there are over 160 million products available at amazon.com, and merely in one single category like "Computers and Accessories", there are 11,161,645 items for sale. That fact offers a great variety of shopping choices and might be attractive to many consumers. However, to think from the other side, if we take ten seconds to view each item, it will take us 3.59 years to finish browsing all the items displayed in "Computers and Accessories" at amazon.com. Consumers today are facing information overload online. Redmond [1] thus asserted that without Webstore advice, consumers might be limited in their ability to assess products properly, as there is no

salesperson to consult as they normally would in physical stores.

For information system experts, Webstore advice is generated by a recommendation agent (RA), which collects the interests and product preferences of individual consumers [2]. How to develop a RA that is able to create more accurate and efficient advice should be a focus of research. However, pure consumers see only the front-end shopping advice offered by the Webstore and are not interested in the back-end software agent. For example, at amazon.com, consumers will see Webstore advice such as "What other items do customers buy after viewing this item?" and "Customers who viewed this item also viewed..." without knowing how the software agent created this advice. Consequently, these consumers are more likely to perceive the Webstore advice as an information service, rather than an embedded system at the Webstore. Wang and Benbasat's [3] study is one of the first to address this issue that consumers generally feel they are accepting the information from RA, instead of interacting with the RA system. They contended that their research focuses on "consumer intentions to adopt recommendation agents to get shopping advice". Wixom and Todd [4] also supported this research focus and contended that information acceptance should be dealt with separately from system acceptance. More recently, Doong and Wang [5] have taken a step further and demonstrated that consumers' perceptions of usefulness affect their intention to elaborate on RA advice at the information level. Notably, Burke [6] revealed that more than one-fifth of consumers are not satisfied with Webstore advice. Consequently, examining RA performance from the system level, as in existing IS studies, may not be enough. A call to uncover individuals' information processing perceptions towards Webstore advice is thus created. In particular, considering how many leading e-tailers have utilized Webstore advice as a mandatory shopping service and a major strategy by which to

communicate with their consumers, the investments made in building this service are huge. Practitioners are also eager to understand consumers' satisfaction and intentions to continue to use Webstore advice. After all, the expected benefits and returns from such investments can only be realized when the intended users actually continue to utilize this Web advice service [7].

The current study was based on Oliver's [8] expectation disconfirmation theory (EDT) so as to address the following research gaps. First, despite its dominance in testing consumers' satisfaction and continuance intention at the system level within the IS domain, few IS studies have explored consumers' continuance intention towards Webstore advice at the information level with EDT. Second, according to Xiao and Benbasat's [2] broad review, perceived fit, although it is commonly considered to determine consumers' online choices, is seldom investigated at the information level in the information system (IS) discipline, not to mention in the context of Webstore advice. Third, although the nature and role of trust in technological artifacts have been discussed and examined to some extent [10], there is no systematic understanding of its role when integrated with EDT. Fourth, Gefen and Straub [11] asserted that a better understanding of how male and female users may vary in their approach to information systems was essential. Notably, their call is still limited in the system level. Despite the increasing power of Webstore advice in influencing online buyers' decisions, the way in which consumers' gender may create differing perceptions at the information level is overlooked.

To enrich the scope of these important topics, we extended Bhattacharjee's [12] argument referring to perceived fit as a post-adoption belief and incorporated it into the EDT to further verify the role of consumer trust in the development of consumers' continuance intention towards a Webstore advice service. The objective of this study is thus threefold: (1) to demonstrate the effect that perceived fit may have on the associations between disconfirmation and satisfaction towards a Webstore advice service; (2) to uncover how trust may link each of the core concepts in this cognitive decision-making process; and (3) to reveal how gender difference may moderate the relationships between trust/satisfaction and perceived fit/satisfaction. In the following sections, the theories and hypotheses, methodology, data analysis and discussion, conclusion and implications will be presented in turn.

## **2. Theoretical background and research hypotheses**

### **2.1. Webstore advice**

Salespeople in conventional stores are responsible for offering consumer assistance, including giving full product information, explaining the special functions of products, analyzing the features of each product model and giving advice on shopping to increase revenue (e.g. [13]; [14]). Many online consumers also want the same support that is available in a physical shop, merged with the shopping convenience of a Webstore [15]. Webstores involve online-based systems executing a set of operations on behalf of consumers and provide shopping advice based on consumers' needs, preferences, profiles and past purchases [16].

Early studies primarily focused on and used terms such as "online recommendation systems" or "recommendation agents" (RA) to refer to these online information systems. By reproducing the process by which real clerks facilitate consumers' purchases through providing additional shopping advice at Webstores, practical Webstores have set out to develop such systems as "virtual salespersons" [10].

In fact, as e-tailing becomes increasingly popular, the power of Webstore advice is also widened: (1) to aid consumers' shopping decisions online by satisfying consumers' demands for basic assistance [17]; (2) to stimulate consumers' shopping desires and boost Webstore sales by recommending other items available for purchase based on consumers' current interests, budget or shopping purpose [18]. Consequently, issues related to RA acceptance have gained much attention in recent years. For example, at the system level, the interface design is a vital topic in Webstore advice studies. As individuals tend to more positively evaluate those who are similar to themselves, Al-Natour et al. [19] reported that the design of Webstore advice can be used to manifest desired personalities so as to gain consumers' preferences. At the computing level, the technique used to develop Webstore advice is also a central issue. Unlike these studies, which applied the technical approach, the current study focuses on the information level and proposes a research model to examine consumers' continuance intention towards a Webstore advice service from the perspective of the individual's perception. The theoretical basis and hypotheses are discussed below.

## 2.2. Expectation-disconfirmation theory

Oliver [8] proposed the expectation disconfirmation theory (EDT), demonstrating the causes of consumer satisfaction and consequent intention to repurchase products and services. The EDT suggests that while making repurchase decisions, consumers are likely to experience five stages: (1) at the pre-purchase stage, consumers may generate an initial expectation of the product's performance based on the product information obtained via advertisements; (2) after using the product, consumers form a perception of the product's actual performance; (3) by comparing the expected and actual product performance, a disconfirmation is established; (4) a positive disconfirmation will increase the satisfaction level, while a negative disconfirmation will decrease the satisfaction level; (5) finally, satisfaction will positively lead to the repurchase or continued usage of the product.

Bhattacharjee [12] argued that users' IS continuance decisions follow the same expectation-disconfirmation process as customers' repurchase decisions because the system can be seen as a product. His proposition has been widely supported by different studies (e.g., [20]; [21]; [22]). Following this notion, it is appropriate to apply the EDT to consumers' continuance decisions towards Webstore advice, which can be seen as a service. That is, consumer satisfaction towards the Webstore advice is the major determinant of the continuance intention at the post-usage stage. Satisfaction, in turn, is based on consumers' initial expectations towards the Webstore advice and the extent to which these expectations are met after actual usage (disconfirmation). If consumers perceive that performance is higher than expected after usage, they may become satisfied and more likely to continue their elaboration of Webstore advice in the future. In contrast, if consumers perceive that performance is lower than expected after usage, they may not consider the Webstore advice next time because they are not satisfied. Based on this discussion, we proposed a research model comprising nine hypotheses, as illustrated in Figure 1 below.

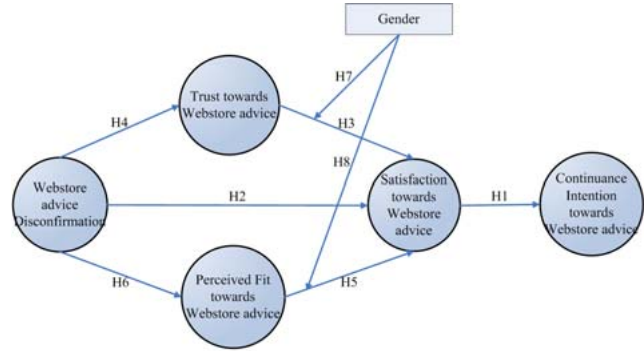


Figure 1: Research model

Moreover, in the Internet context, Bhattacharjee [12] tested 122 online banking users and indicated that their positive disconfirmation enhanced their satisfaction, which ultimately led to their continuance intention. Lin et al. [20] surveyed 254 students and pointed out that their satisfaction would lead to their continued use of a website, and their disconfirmation predicted their satisfaction. Consistently, Thong et al. [21] investigated 811 existing users and revealed that their continuance use intention towards mobile Internet services was determined by their satisfaction, which was shaped by their disconfirmation. Based on these studies, we propose that:

- H1: Consumers' level of satisfaction towards Webstore advice is positively associated with their continuance intention towards Webstore advice.
- H2: The extent of customers' disconfirmation towards Webstore advice is positively associated with their satisfaction towards Webstore advice.

## 2.3. Consumer trust

Consumer trust is central to online transactions [23]. When consumers' trust is high, their online purchase intentions will be enhanced [24] [25]; and their loyalty to the Webstore is also strengthened [26]. However, when consumers' trust is low, they avoid shopping online [27]. Gefen and Straub [24] even argued that trust is more important in the Webstore context than it is in the physical store context, as online services and products are typically not immediately assessable.

Trust has been asserted to precede satisfaction in the exchange relationship between two parties [29]. Cognitive consistency theory posits that as consumers seek harmony in their beliefs and behaviors [30], a lack of trust is likely to result in low

satisfaction. Moreover, Balasubramanian, Prabhudev, and Nirup [31] argued that consumers' distrust may easily detract from their satisfaction. In the Webstore context, trust is empirically found to be the essential feature in predicting satisfaction [28]. Consequently, it is hypothesized that:

- H3: Consumers' trust toward Webstore advice is positively associated with their satisfaction with Webstore advice.

Consumers are likely to form their expectations towards Webstore advice services before shopping at the Webstore. For example, they may feel that "using Webstore advice may enhance my effectiveness in finding suitable products". This expectation will therefore be used as a benchmark to judge the performance of the Webstore advice service after its usage (the disconfirmation process). If there is a positive disconfirmation, consumers' trust toward Webstore advice will be justified. In support of this argument, Rempel and Holmes [32] asserted that trust embodies a subjective expectation about the other party's benevolence, predictability, and honesty. Specifically, Rotter [33] referred to trust as the expectation that another's word can be relied upon. That is to say, once consumers' expectations toward Webstore advice in terms of its reliability or its benevolence, predictability, and honesty are confirmed or exceeded after using it (i.e. a positive disconfirmation), their trust towards Webstore advice will therefore be increased. Komiak et al. [10] also indicated that when Webstore advice features confirm or exceed a consumer's expectations, their trust will develop. Accordingly, it is hypothesized that:

- H4: Consumer disconfirmation toward Webstore advice is positively associated with their trust towards Webstore advice.

## 2.4. Perceived fit

Goodhue and Thompson [34] proposed the task-technology fit (TTF) theory, depicting that individuals' performance when using information technology (IT) is likely to be increased if the capabilities of the IT match the individual's characteristics or the tasks that the user must perform. TTF has been applied in a wide range of information systems implications from e-commerce to diverse decision support systems. For example, Dennis et al. [35] selected 61 articles from 1980-1999 to reveal how the fit between technology and task may influence the performance of group support systems.

Similarly, D'Ambra and Rice [36] examined how the task/technology fit may shape users' evaluation of the World Wide Web system. But in their original work, Goodhue and Thompson [34] noted that the term "task-individual-technology fit", which includes the correspondence between task requirements, individual abilities and the functionality of the technology (p. 218), is a more precise description of the concept, although the term "TTF" is easier to use. That is, they have highlighted the key role of the individual's perception while applying the TTF. However, the issue of individual perception has been largely overlooked in prior TTF studies. Moreover, these existing studies mainly limited the research focus of "fit" to the system level only. For the information level, such as the Webstore advice discovered in the current study, empirical findings are scarce.

The current study defined perceived fit as the extent to which the individual considers the Webstore advice to match his/her ability, the shopping task requirements and the technology's functionality. That is, if Webstore advice can be designed to meet consumers' abilities and shopping task needs more precisely, high perceived fit will increase their satisfaction towards Webstore advice, leading to an enhanced continuance intention. In fact, Maruping and Agarwal [37] discussed how fit may facilitate individuals' satisfaction while using the information communication technologies. More specifically, Karimi et al. [38] empirically demonstrated that if there is a fit, the satisfaction with data will also be higher. Consequently, we proposed that:

- H5: Consumers' perceived fit toward Webstore advice is positively associated with their satisfaction towards Webstore advice.

As discussed above, when consumers compare their expectation with the actual performance of Webstore advice, they are likely to create the perception of disconfirmation. A positive disconfirmation indicates that consumers feel that the actual performance of the Webstore advice is better than they expected. Consequently, this awareness will facilitate their evaluations regarding the extent to which this Webstore advice meets their abilities and shopping task demands. In support of this, Bhattacharjee and Premkumar [39] proposed a two-stage model of belief and attitude change, indicating that the disconfirmation will further shape the usage-related beliefs and attitudes at the post-usage stage. As consumers' perceived fit is related to their usage of Webstore advice at the post-purchase stage, their

disconfirmation is likely to affect their perception of how fit this advice is in relation to their shopping requirements. Additionally, extending Lim and Benbasat's [40] arguments, if consumers expect the Webstore advice to be useful, their perceived fit will only be increased if this advice is useful in helping them to make a better decision while shopping. Consequently, it is hypothesized that:

- H6: Consumers' disconfirmation toward Webstore advice is positively associated with their perceptions of the fit of Webstore advice.

## 2.5. Gender difference

According to Bem [41], men and women apply diverse socially cognitive feature while encoding information and solving problems. That is to say, due to their gender status, men and women tend to apply unconscious or internalized actions. Consequently, their perceptions relating to decision-making may also be different. Many IS researchers have responded to Gefen and Straub's [11] call to further explore how men and women may differ in their usage of information technologies. For example, while testing the moderating effect of gender on relationship quality and loyalty toward Internet service providers, Sanchez-Franco et al. [42] reported that the influence of trust on commitment and of commitment on loyalty was significantly stronger for females than for males. Zhang et al. [43] indicated that female bloggers, compared to males, are more sensitive to satisfaction and less responsive to attractive alternatives. Moreover, Awad and Ragowsky [44] investigated the trust issue in the e-commerce market and found that the effect of trust on intention to shop online is stronger for women than for men. In other words, compared to men, women's trust towards Webstore advice may affect their satisfaction more. Consequently, it is hypothesized that:

- H7: Gender will moderate the association between trust towards Webstore advice and satisfaction towards Webstore advice.

While exploring how multimedia vividness and computer-based social cues can influence involvement with technology, Hess et al. [45] uncovered that women report higher levels of involvement with the decision aid. Gefen and Straub [11] indicated that compared to men, women feel that email better fits their usage requirements. Moreover, Awad and Ragowsky [44] revealed that men value

their ability to post content online, whereas women value the participation of other consumers in response to the content they have posted. Viswanath and Morris [47] also indicated that compared to women, men's decisions about using technology are more strongly influenced by their perceptions of its usefulness. In other words, men's perceived fit may demonstrate a higher impact on their satisfaction as compared to that of women, since they are more task-oriented than women. Based on these studies, it is hypothesized that:

- H8: Gender will moderate the association between the perceived fit towards Webstore advice and satisfaction towards Webstore advice.

## 3. Research methodology

### 3.1. Measurement

Five constructs were investigated in the current study: Webstore advice disconfirmation, trust towards Webstore advice, perceived fit towards Webstore advice, satisfaction towards Webstore advice and continuance intention towards Webstore advice. Scale items were adapted from previous studies and appropriately reworded to fit the context specific to the current study.

Webstore advice disconfirmation refers to the extent to which a specific Webstore advice's performance exceeds online consumers' expectations. It was examined using a measurement scale comprising three items taken from Bhattacharjee [12]. Trust in Webstore advice refers to the confidence that online consumers have in their favorable expectations of what Webstore advice will do. The scale items were adapted from Doney and Cannon [48] and Jarvenpaa et al. [49]. The satisfaction towards Webstore advice scale measured online consumers' feelings about using Webstore advice, and was adapted from the three-item measurement developed by Spreng and Olshavsky [50]. Perceived fit towards Webstore advice refers to the extent to which online consumers consider the Webstore advice to match their ability, the shopping task requirements and the technology's functionality. Scale items were adapted from Sun et al. [50]. Finally, continuance intention towards Webstore advice indicates the intention of online consumers to continue using Webstore advice, and the original scale developed by Bhattacharjee [12] was modified to fit the context specific to the current study.

All constructs were measured via seven-point Likert-type scales ranging from “strongly disagree” to “strongly agree”, with the exception of satisfaction towards Webstore advice, which utilized seven-point semantic scales. The initial version of the survey instrument was pre-tested by three professors to examine the wording of each item.

### 3.2. Sample

An online bookstore with a well-known brand name was selected as the survey target. This Webstore primarily sells books, CDs and magazines and implements an intelligent agent. This agent employs a basket analysis algorithm to examine online consumers’ purchase behavior and browsing patterns to provide advice.

Five hundred consumers who had made purchases from this Webstore were invited to participate in our online survey. The survey ended after one week, and after the screening process, ninety-six responses were collected. To ensure that the participants were suitable to answer the survey questions designed based on the research objective, only consumers who follow the Webstore advice to complete their purchase were included in this research. That is to say, all ninety-six participants chose to utilize the Webstore advice and purchased accordingly at their free will. Of the respondents, 37.5% were female and 62.5% were male; 43.75% were students and 56.25% were working people; 58.33% were at least university-educated. The average age of the respondents was 30.28 (standard deviation 5.96) and the average length of Internet shopping experience was 6.72 years (standard deviation 1.28).

## 4. Data Analysis and Results

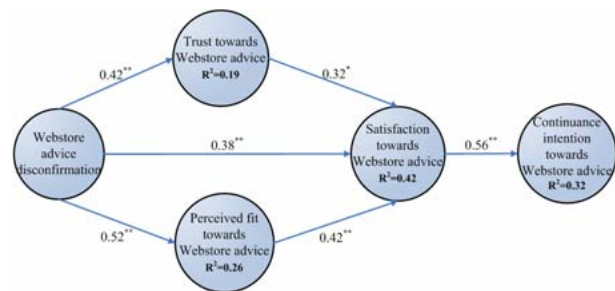
### 4.1. Scale Validation

Scale validation was assessed by applying the partial least squares (PLS) technique, a structural equation modeling technique with no distributional assumptions. The result shows that, all standardized item loadings exceeded 0.7; the composite reliability (CR) ranged from 0.86 to 0.92; and all the average variance extracted (AVE) exceeded 0.5. Hence, this study’s results met all requirements of construct validity proposed by Fornell and Larcker [51].

### 4.2. Hypothesis Assessment

Figure 2 shows the path significance of each association in the research model and the variance explained by each path. All standardized path

coefficients were found to be significant at  $p < 0.05$ . Consumers’ satisfaction towards Webstore advice significantly affected their continuance intention towards Webstore advice ( $\beta = 0.56$ ), explaining 32 percent of the variance. Consequently, hypothesis 1 was supported. Consumers’ perception of fit towards Webstore advice was found to be the strongest predictor of their satisfaction towards Webstore advice ( $\beta = 0.42$ ), followed by their Webstore advice disconfirmation ( $\beta = 0.38$ ) and trust towards Webstore advice ( $\beta = 0.32$ ). These three constructs were able to explain 42 percent of the variance in the satisfaction towards Webstore advice. Hence, hypotheses 2, 3, and 5 were supported. Moreover, consumers’ Webstore advice disconfirmation significantly affected their perception of the fit towards Webstore advice ( $\beta = 0.52$ ), and the former could explain 0.26 of the variance of the latter. Thus, hypothesis 6 was supported. Finally, consumers’ Webstore advice disconfirmation significantly affected their trust towards Webstore advice ( $\beta = 0.42$ ), and the former could explain 19 percent of the variance of the latter. Thus, hypothesis 4 was confirmed.



\*Significant at the 0.05 level. \*\*Significant at the 0.01 level.

Figure 2. Results of PLS analysis

The current study evaluated the moderating effect by using multi-group PLS analysis proposed by Chin [52]. The corresponding paths for each sub-group (female vs. male) were compared. The t statistic with the pooled estimator for the variance was computed as follows:

$$S_{pooled} = \sqrt{\{[(N_1 - 1)^2 / (N_1 + N_2 - 2)] \times SE_1^2 + [(N_2 - 1)^2 / (N_1 + N_2 - 2)] \times SE_2^2\}}$$

$$t_{pooled} = (PC_1 - PC_2) / [S_{pooled} \times \sqrt{(1/N_1 + 1/N_2)}]$$

- where  $S_{pooled}$  is the pooled estimator for the variance

- $t_{\text{spooled}}$  refers to the t-statistic with  $(N_1 + N_2 - 2)$  degrees of freedom
- $N_i$  is the sample size of the dataset for gender  $i$
- $SE_i$  is the standard error of path in the structural model of gender  $i$
- $PC_i$  is the path coefficient in the structural model of gender  $i$

The results showed that the path coefficient from trust towards Webstore advice to satisfaction with Webstore advice for the female model is significantly stronger than that for the male model ( $t_{\text{spooled}} = 1.98$ , significant at  $p < 0.05$ ). Thus, hypothesis 7 was supported. Interestingly, the path coefficient from perceived fit towards Webstore advice to satisfaction toward Webstore advice for the male model is significantly stronger than that for the female model ( $t_{\text{spooled}} = 2.18$ , significant at  $p < 0.05$ ). That is, compared to women, men's satisfaction towards Webstore advice is more strongly affected by their perceptions of the fit of Webstore advice. Thus, hypothesis 8 was supported.

## 5. Findings and conclusions

Statistical results were strongly supportive of our study's goals: (1) consumers' disconfirmation towards the Webstore advice service also significantly influenced their trust and perceptions of the fit of this service; (2) both consumers' trust and perceived fit of the Webstore advice service were found to be significantly positively related to their satisfaction with this advice service; (3) in particular, men and women had diverse cognitive decision-making processes in terms of trust/satisfaction and perceived fit/satisfaction associations; and (4) satisfaction also led to their continuance intention towards this advice service.

The theoretical contributions of our study are threefold. First, we empirically demonstrated that EDT is able to appropriately explain consumers' satisfaction and continuance intention at the information level with a practical example of a Webstore advice service. Further, we were the first to test the concept of perceived fit at the information level, which is different from the existing context of the fit between the task and technology. Third, we revealed how men and women differ in their cognitive decision-making processes in terms of trust/satisfaction and perceived fit/satisfaction associations.

Our findings have several implications for Webstore executives. First, according to these results,

Webstores that target women as core consumers, such as those selling cosmetics or high-heeled shoes, should realize that women value trust more than perceived fit when developing their trust towards the Webstore advice service. Consequently, the best strategy to communicate with these core consumers is through building their trust. In contrast, Webstores selling computer or hardware products that may attract men more than women should position their advertising strategies via the perspective of perceived fit rather than trust. Still, whether for men or women, since consumers' disconfirmation dominates their cognitive perceptions, which eventually affect their continuance intention towards Webstore advice services, offering consumers accurate expectations of these services is very important. As different consumers may have dissimilar demands, and these demands may lead to different expectations, the goal of the consumer communication should be to develop accurate expectations towards this service. By avoiding over-stated phrases and using precise descriptions to introduce such services to consumers, their ultimate disconfirmation will not be reduced due to exaggerated expectations created in the initial process.

As in most research, our study had limitations. First, it employed a survey method to collect data rather than using a controlled laboratory experiment. Consequently, we could not control for the effect of other factors. Further, as the empirical results were based on only one e-tailing Website and one consumer group, caution is necessary when drawing conclusions.

**Acknowledgements:** This research was supported by the National Science Council in Taiwan under grant numbers 101-2410-H-415-007-MY3 and 100-2628-H-009-026-MY3.

## 6. References

- [1]. W. Redmond, "The potential impact of artificial shopping agents in e-commerce markets", *Journal of Interactive Marketing*, 16, 1, 2002, pp. 56-66.
- [2]. B. Xiao and I. Benbasat, "E-commerce product recommendation agents: Use, characteristics and impact", *MIS Quarterly*, vol. 31, no. 1, 2007, pp. 137-209.
- [3]. W. Wang and I. Benbasat, "Trust In and Adoption of Online Recommendation Agents", *Journal of the AIS* vol. 6, no. 3, 2005, pp. 72-101.
- [4]. B. H. Wixom and P. A. Todd, "A Theoretical Integration of User Satisfaction and Technology

- Acceptance”, *Information Systems Research* vol. 16 no. 1, 2005, pp. 85-102.
- [5]. H. Doong, and H. Wang, “Do males and females differ in how they perceive and elaborate on agent-based recommendations in Internet-based selling?”, *Electronic Commerce Research and Applications*, vol. 10, 2011, pp. 595–604.
- [6]. R. R. Burke, “Technology and the customer interface: What consumers want in the physical and virtual store?”, *Journal of the Academy of Marketing Science*, 30, 4, 2002, pp. 411-432.
- [7]. M.Y. Yi, K.D. Fiedler, J.S. Park, Understanding the role of individual innovativeness in the acceptance of IT-based innovations: Comparative analyses of models and measures, *Decision Sciences* 37(3), 2006, pp. 393-426
- [8]. R. L. Oliver, “A cognitive model for the antecedents and consequences of satisfaction,” *Journal of Marketing Research*, vol. 17, no. 3, 1980, pp. 460-469.
- [9]. S. Y. X. Komiak, W. Wang, and I. Benbast, “Trust building in virtual salespersons versus in human salespersons: Similarities and differences”, *E-Service journal*, vol. 3, no. 3, 2005, pp. 49-63.
- [10]. D. Gefen, and D. W. Straub, “Gender differences in the Perception and use of e-mail: An extension to the technology Acceptance Model”, *MIS Quarterly*, 21, 4, 1997, pp. 389-400.
- [11]. A. Bhattacharjee, “Understanding information systems continuance: An expectation-confirmation model”, *MIS Quarterly*, vol. 25, no. 3, 2001, pp. 351-370.
- [12]. C. F. Miao, K. R. Evans, and Z. Shaoming, “The role of salesperson motivation in sales control systems — Intrinsic and extrinsic motivation revisited”, *Journal of Business Research*, 60, 5, 2007, pp. 417-425.
- [13]. F. L. Bonney, and B. C. Willams, “From products to solutions: the role of salesperson opportunity recognition”, *European Journal of Marketing*, 43, 7/8, 2009, pp. 1032-1052.
- [14]. M. Holzwarth, C. Janiszewski, and M. M. Neumann, “The influence of avatars on online consumer shopping behavior”, *Journal of Marketing*, 70, 4, 2006, pp. 19-36.
- [15]. G. N. Punj, and R. Moore, “Smart versus knowledgeable online recommendation agents”, *Journal of Interactive Marketing*, 21, 4, 2007, pp. 46-60.
- [16]. R. Nikolaeva, and S. Sriram, “The moderating role of consumer and product characteristics on the value of customized on-line recommendations”, *International Journal of Electronic Commerce*, 11, 2, 2006, pp. 101-123.
- [17]. L. P. Hung, “A personalized recommendation system based on product taxonomy for one-to-one marketing online”, *Expert Systems with Applications*. 29, 2, 2005, pp. 383-392.
- [18]. S. Al-Natour, I. Benbasat, and I. R. Cenfetelli, “The role of similarity in e-Commerce interactions: The case of online shopping assistants”, *Journal of the Association for Information Systems*, 7, 12, 2006, pp. 821-861.
- [19]. C. S. Lin, S. Wu, and R. J. Tsai, “Integrating perceived playfulness into the expectation-confirmation model for web portal context”, *Information & Management*, vol. 42, no. 5, 2005, pp. 683-693.
- [20]. J. Y. L Thong, S. J. Hong, and L. Y. Tam, “The effects of post-adoption beliefs on the exception-confirmation model for information technology continuance”, *International Journal of Human-Computer Studies*, vol. 64, no. 9, 2006, pp. 799-810.
- [21]. S. J. Hong, J. Y. L. Thong, and K. Y. Tam, “Understanding continued information technology usage behavior: A comparison of three models in the context of mobile internet”, *Decision Support Systems*, vol. 42, no. 3, 2006, pp. 1819-1834.
- [22]. D. Gefen, E. Karahanna, and D. W. Straub, “Trust and TAM in online shopping: An integrated model”, *MIS Quarterly*, vol. 27, no. 1, 2003, pp. 51-90.
- [23]. D. Gefen, “E-commerce: The role of familiarity and trust”, *Omega: The International Journal of Management Science*, vol. 28, no. 6, 2000, pp. 725-737.
- [24]. S. L. Jarvenpaa and N. Tractinsky, “Consumer trust in an internet store: A cross-cultural validation,” *Journal of Computer Mediated Communication*, vol. 5, no. 2, 1999, pp. 1-35.
- [25]. F. F. Reichheld and P. Schefter, “E-loyalty: Your secret weapon on the web”, *Harvard Business Review*, vol. 78, no. 4, 2000, pp. 105-113.
- [26]. D. L. Hoffman, T. P. Novak, and M. Peralta, “Building consumer trust online”, *Communications of the ACM*, vol. 42, no. 4, 1999, pp. 80-85.
- [27]. D. Gefen and D. W. Straub, “Consumer trust in B2C e-commerce and the importance of social presence: Experiments in e-products and e-services”, *Omega*, vol. 32, no. 6, 2004, pp. 407-424.
- [28]. R. W. Armstrong and M. Y. Siew, “Do Chinese trust Chinese? A study of Chinese buyers and sellers in Malaysia”, *Journal of International Marketing*, vol. 9, no. 3, 2001, pp. 63-86.
- [29]. J. Meyers-Levy and A. M. Tybout, “Schema congruity as a basis for product evaluation”, *Journal of Consumer Research*, vol. 16, no. 1, 1989, pp. 39-54.



- [30]. S. Balasubramanian, K. Prabhudev, and M. M. Nirup, "Customer satisfaction in virtual environments: A study of online investing", *Management Science*, vol. 49, no. 7, 2003, pp. 871-889.
- [31]. J. K. Rempel and J. G. Holmes, "Trust in close relationships", *Journal of Personality and Social Psychology*, vol. 49, no. 1, 1985, pp. 95-112.
- [32]. J. B. Rotter, "A new scale for the measurement of interpersonal trust", *Journal of Personality*, vol. 35, no. 4, 1967, pp. 651-665.
- [33]. D. L. Goodhue, "Understanding user evaluations of information systems", *Management Science*, vol. 41, no. 12, 1995, pp. 1827-1844.
- [34]. A. R. Dennis, B. H. Wixom, and R. J. Vandenberg, "Understanding Fit and Appropriation Effects in Group Support Systems Via Meta-Analysis", *MIS Quarterly*, vol. 25, no. 2, 2001, pp. 167-193.
- [35]. J. D'Ambra and R. E. Rice, "Emerging factors in user evaluation of the World Wide Web", *Information and Management*, vol. 38, no. 6, 2001, pp. 373-384.
- [36]. L. M. Maruping and R. Agarwal, "Managing Team Interpersonal Processes Through Technology: A Task-Technology Fit Perspective", *The Journal of Applied Psychology*, vol. 89, no. 6, 2004, pp. 975-990.
- [37]. J. Karimi, T. M. Somers, and Y. P. Gupta, "Impact of Environmental Uncertainty and Task Characteristics on User Satisfaction with Data", *Information Systems Research*, vol. 15, no. 2, 2004, pp. 175-193.
- [38]. A. Bhattacharjee and Premkumar, "Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test," *MIS Quarterly*, vol. 28, no. 2, 2004, pp. 229-254.
- [39]. K. H. Lim, and I. Benbasat, "The effect of Multimedia on perceived equivocality and perceived usefulness of information systems", *MIS Quarterly*, vol. 24 no. 3, 2000, pp. 449-471.
- [40]. S. L. Bem, "Gender schema theory: A cognitive account of sex typing", *Psychological Review*, 88, 4, 1981, pp. 354-364.
- [41]. M. J. Sanchez-Franco, A. F. V. Ramos, and F. A. M. Velicia, "The moderating effect of gender on relationship quality and loyalty toward Internet service providers", *Information & Management*, 46, 3, 2009, pp. 196-202.
- [42]. K. Z. K. Zhang, M. K. O. Lee, C. M. K. Cheung, and H. Chen, "Understanding the role of gender in bloggers' switching behavior", *Decision Support Systems*, 47, 4, 2009, pp. 540-546.
- [43]. N. F. Awad, and A. Ragowsky, "Establishing trust in electronic commerce through online word of mouth: An examination across genders", *Journal of Management Information Systems*, 24, 4, 2008, pp. 101-121.
- [44]. T. J. Hess, M. A. Fuller, and J. Mathew, "Involvement and decision-making performance with a decision aid: The influence of social multimedia, gender, and playfulness", *Journal of Management Information Systems*, 22, 3, 2005, pp. 15-54.
- [45]. V. Viswanath, and M. G. Morris, "Why don't men ever stop to ask for directions? gender, social influence, and their role in technology acceptance and usage behavior", *MIS Quarterly*, 24, 1, 2000, pp. 115-139.
- [46]. P.M. Doney, J.P. Cannon, An examination of the nature of trust in buyer-seller relationships, *Journal of Marketing*, 61, 1997, pp. 35-51.
- [47]. S.L. Jarvenpaa, N. Tractinsky, M. Vitale, Consumer trust in an internet store, *Information Technology and Management*, 1, 2000, pp. 45-71.
- [48]. Spreng, A. Richard, and R. W. Olshavsky, "A Desires Congruency Model of Consumer Satisfaction", *Journal of the Academy of Marketing Science*, vol. 21, no. 3, 1993, pp. 169-177.
- [49]. Y. Sun, A. Bhattacharjee, Q. Ma, "Extending technology usage to work settings: The role of perceived work compatibility in ERP implementation", *Information & Management*, vol. 46, no. 6, 2009, pp. 351-356
- [50]. C. M. Ringle, S. Wende, and A. Will, *SmartPLS. Hamburg, Germany: University of Hamburg. 2008*
- [51]. C. Fornell and D. F. Larcker, "Structural equation models with unobservable variables and measurement Error", *Journal of Marketing Research*, vol. 18, no. 1, 1981, pp. 39-50.
- [52]. W. W. Chin, *Frequently Asked Questions – Partial Least Squares & PLS-Graph. Home Page.[On-line]. Available: <http://disc-nt.cba.uh.edu/chin/plsfaq.htm>, 2000.*