Factors Influencing Customer Repeated Purchase Behavior in the E-commerce Context

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Abstract: Predicting customer purchase behavior in the e-commerce activities is an important task. However, this effort requires fulfillment of a lot of problems. Recommendation systems have become a common way how to help people when they have to decide in complex selections. But they are not able to perform predictive tasks in this context satisfactorily. In this paper, we deal with a design of a predictive framework for customer purchase behavior in e-commerce context. The aim is to understand customer behavior for online shopping. It means this research seeks to explain the relationship between Internet shopping and customer’s behavior, i.e., to identify the determinants of the relationship between online shopping and business customers based model which includes factors, for example perceived value, satisfaction, and behavior (purchase intent). Experiments performed on a real dataset show that these factors play a key role in the decision-making process.

Key words: E-commerce · Predictive model · Purchase Behavior · Customer Perceived Value

JEL Classification: D83

1 Introduction

With the rapid development of the global information and communication technology (ICT) and the widespread usage of Internet various types of network connecting devices such as smartphones and tablets are becoming more and more common. Wireless coverage rate is growing in an explosive manner and Gartner even predicts it will even reach 90% by 2015 (Garg, et al., 2013). Consequently, people will be able to access all resources, especially e-commerce, in the Internet at anytime from anywhere by then.

One of the key features of e-commerce based on Internet infrastructure is that it has low barriers to entry. It is therefore evident that there are a number of similar e-commerce activities with similar content. They offer similar product or services. If one service is created then a number of equivalent alternative web service follow after a very short time. However, this leads also to a high switching rate between those e-commerce web sites by users. There are also various websites aimed at comparing of prices and product features, including recommendations and references from users. Customers can then choose e-shop according to their preferences.

Due to these experience, it is obvious that great competitive advantage for e-shop or other e-commerce web site is if it has loyal customers who return and perform repeatedly purchases on a respective e-shop. This means that the identification of determinants of intention to perform repeated purchase is crucial for e-shops and other e-commerce activities. Loyal customers will recommend the company to relatives or friends and may be willing to pay higher price. Word of mouth advertising is often very effective and can save shoppers from wasting time searching for the best deal.

Considerable attention is given to understand to customer behavior in connection with online shopping at the present time, for example (Ltifi and Gharbi, 2012; Hernández et al. 2011) and other. The current research is trying to explain the relationship between Internet shopping and customers behavior using models that include factors such as perceived value, satisfaction, and behavior (purchase intention) and others. However, little attention is paid to the study of the conditions that lead to repeated shopping. The content of this paper is focused on the study of factors that influence this loyal customer behavior.

The rest of the paper is divided into six sections. The following paragraph contains a theoretical basis, an overview of previous research and definition of relevant hypotheses. Chapter 3 describes briefly the research methodology and
Chapter 4 data analysis and experimental results. The paper concludes with a discussion of the results (Chapter 5) and conclusion (Chapter 6).

2 Theoretical background and hypothesis development

Different studies use some well-known theory to explain the behavior of online shopping. Research studies showed that there are many factors that influence the behavior of online consumers. The complete coverage of all potential factors in one of the research models is almost impossible. Most studies have focused on several key factors. For example, Koufaris (2002) tested the factors that come from the information systems (technology acceptance model) marketing (Consumer Behavior) and psychology (Flow and environmental psychology) in one model. Pavlou and Fygenson (2006) examined consumer acceptance of e-commerce with an extended theory of planned behavior (Ajzen, 1991). In their research model, consumer behavior has been studied separately in terms of getting information behavior and shopping behavior, both of which were affected by the trust and perceived risk, consumer attitude, social influence, personal online skills and technology-oriented factors, including the perceived usefulness, perceived ease of use and functionality of websites. Most studies use basically two theories, namely the Technology Acceptance Model and the Task-Technology Fit. These theories are important for understanding how people use technology in connection of e-commerce activities (Chen, 2009).

Customers can easily compare prices of products on Internet. If the e-commerce company will be unable to establish a stable relationship it will have to participate in fierce price competition. The question is how to entice customers to buy from the same e-commerce website, how to create customers' loyalty.

Rational behavior theory and The theory of planned behavior (Ajzen, 1991) suggest that the behavior of intent can be used to predict actual behavior. Some customers are firmly convinced of constantly performing transactions with the same company. Using customer loyalty to measure the possibility of future purchases is consistent with Assaelf's (2000) definition of customer loyalty. Partiality towards a certain brand influences the consistency of purchasing behavior. However, some researchers argue that continually making actual purchases measure customer loyalty (Zeithaml, 1996).

This study focuses on people's behavior regarding to repeated purchase behavior in the e-commerce context. Disciplines, such as psychology, are dedicated to understanding, explanation and prediction of human behavior. From these areas, two theories which are suitable for this study have been found. The theory of planned behavior and social cognitive theory were chosen to predict and explain human behavior in the respective research. In addition, customer satisfaction, switching barriers and structural assurance are variables that could explain some of explored consumers’ behavior, i.e. intention to repeat purchase.

2.1 Customer satisfaction

Customer satisfaction is generally defined in the marketing literature as the discrepancy between a customer’s expectations and perceptions. In this viewpoint, customer satisfaction is delineated as the consumer’s evaluation that products or services meet or fail to meet the customer’s expectations. Moreover, satisfaction is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under or over-fulfillment.

Satisfaction is defined as a feeling fulfillment when certain needs, desires or goals are met and when they shop for enjoyment (Florence, et al., 2006). Customers compare what they paid for some product or service. By this they judge whether or not they feel satisfied (Fornell, 1992). Satisfaction can be measured by following parameters: 1 The experience and quality of shopping from this company; 2. The accuracy of the advertised material; 3 The enjoyment of shopping with one specific company compared to another; 4. The satisfaction of pricing compared to service; 5. A general overall feeling of satisfaction. Past research indicates that company-provided customer service training can effectively increase the probability of a customer making future purchases and increases the marketing share at the same time (Tse and Wilton, 1998).

Customer satisfaction has a great impact on repeated purchase behavior of customers. We propose therefore two following hypotheses:

H1. Customer satisfaction is positively associated with repurchase intention.

H2 - Customer satisfaction is positively associated with switching barriers

2.2 Switching Barriers

Switching barriers are factors that make it difficult or costly for a customer to change service providers. These factors include three types of switching barriers: strong interpersonal relationships (the strength of the personal bonds that may develop between the employees of a supplier and the customer), high switching costs (the customers perception
of the time, money and effort associated with changing supplier) and attractiveness of alternatives, which refers to whether viable alternatives exist in the market.

Author of the paper (Kuisma, 2007) classified switching barriers into three factors: alternative attractiveness, switching cost, investment in a relationship. He also described switching barriers include search costs, transaction costs, learning costs, loss of loyal customer discounts, loss of established habits and relationships, and risk of the unknown. Switching costs are not only economic in nature, but also can be psychological and emotional.

We assume that switching barriers will have a positive effect on repeated purchase of customer. Hence, the following hypothesis is proposed:

H3 - Switching barriers is positively associated with repurchase intentions

2.3 Structural Assurance

Structural assurance indicates the web environment. Environment is very important for predictions concerning a website. Structural assurance reduces internet risk by employing some security technologies. Accordingly, lack of structural assurance suggests the environment is relatively risky or dangerous. The lack of security technologies would cause users to question the motive or ability of a website.

Social learning theory (Mearns, J., 2009) holds that behavior predictions are a result of interaction between the environment and internal factors. Thus, environment is very important for predictions concerning a website. Structural assurance reduces internet risk by employing some security technologies (Grazioli 2004). Accordingly, lack of structural assurance suggests the environment is relatively risky or dangerous. The lack of security technologies would cause users to question the motive or ability of a website. Two possible reasons are inferred, either because of the website’s incapability to evolve the technology, or because of the website intentionally failing to follow privacy and security policies. Therefore, we hypothesize:

H4 - Structural assurance is positively associated with repurchase intentions

2.4 Intention to repeat purchase

We examine online intention instead of studying the online consumers’ actual behavior. Behavior is decided by individual intention.

Customer repurchase intention is defined as the individual’s judgment about buying a service again, the decision to engage in future activity with a service provider and what form this activity will take.

Researchers have focused on different aspects of repurchase intention. For example, regarding the underlying logic of the ECT model as described by Bhattacherjee (2001a, 2001b), the model posits that confirmation and satisfaction are the primary determinants of the intention to repurchase. Jones (1998) considered that switching barriers directly affect repurchase Intention. Customers’ repurchase intention depends on the value obtained in their previous transactions (Wathne et al., 2001) such as: appropriate performance criteria (benefits), competition, and cost considerations.

3 Research methodology

The partial least squares (PLS) technique of structural equation modeling, which uses a principle component-based estimation, was used for the analysis. The approach is suitable for validating predictive models, particularly those with small size samples (Chin, 1998). The primary research question of this study is: what are the factors that cause unsatisfactory results of implementation of information security awareness program? To help answer this research question, a conceptual model combining the theory of planned behavior, self-efficacy, and perceived certainty and severity of sanction was created. This model appears in Figure 1.

This study examines the relationships between the three possible determinants concerning online shopping. To determine the consumer satisfaction, original constructs described for example by Jaronski (2004), Florence et al. (2006), Fornell (1992), Tse and Wilton (1988) were modified. Original items and five point scales were adapted for adherence to the principles of intention repeat purchase. Switching barriers use measures adapted from Burnham et al. (2003), Khalifa and Liu (2007) and Mouakket (2009). The construct structural assurance was measured using four misuse scenarios. Scenarios were chosen because they are considered to be the best way to respond to sensitive issues (Nagin and Pogarsky, 2001). These scenarios were adapted from Harrington (1996) and Paradise (1990).
Data analysis and results

Data for this study was obtained through questionnaires, which we have posed to students of part time study. We addressed 22 respondents. The age of respondents was 25-44 years. Students were from different backgrounds with different levels of experience. Approximately half of the respondents worked in the field of IT in various positions. Also the organization to which they belonged, were different. They were business organizations as well as government organizations. Respondents were evenly divided by gender, represented different ages, and various years of the use of computers. They all believed that they had good knowledge of the use of computers. Respondents had an average of 4.7 years of experience in both small and large companies from various industries branches and government organizations.

The specific tool that was used was SmartPLS 2.0 (PLS-SEM. 2014). PLS supports two measurement models: (a) the assessment of the measurement model and (b) the assessment of the structural model. The structural model presents information about the path significance of hypothesised relationships using the path coefficients ($\beta$) and $R^2$. An examination of the structural model indicates that the model explains approximately 70 percent of the variability in behavior intention ($R^2 = 0.69$) and 40 percent of the variability in behavior ($R^2 = 0.37$). These results are based upon 22 responses from students, participant of part time studies. Chin (1998) notes that $R^2$ values of 0.69 and 0.40 for the percentage of variance in a model are substantial and moderate, respectively. The $R^2$ shows the percentage of variance in the model to give an indication of its predictive power.

Further, an assessment of the measurement model of the three main constructs was estimated using: internal consistency, convergent validity, and discriminant validity. Hair et al. (1998) suggested that item loadings of 0.5 are adequate for these indicators. The composite reliability for each of the study’s constructs was above the recommended level of 0.70, indicating the internal consistency of the data. Fornell and Larcker (1981) recommended that the average variance extracted (AVE) criterion be used to assess convergent validity. These researchers suggested that an AVE value of 0.50 is acceptable, as it indicates that a latent variable is able to explain more than half of the variance of its indicators, on average. Convergent validity was examined using the average variance extracted measure. Customer Satisfaction and Structural Assurance cleared suggested 0.5 benchmark with scores of 0.61 and 0.54, respectively. Unfortunately, one construct fell short: Switching Barriers generated an AVE score of 0.44.

In addition, each of the four hypotheses was examined using t-tests (21 degrees of freedom). This is an indication of path significance levels. Two of the hypotheses were supported, while two were not. H1 is supported at the 0.01 level (t-value = 3.15, $\beta = 0.398$), suggesting that Customer Satisfaction does influence Intention to repeat purchase. H4 is supported at the 0.01 level (t-value = 3.80, $\beta = 0.560$), suggesting that Structural Assurance does influence Intention to repeat purchase. H2, and H3 were not supported, suggesting that, in this situation, Customer Satisfaction does not influence Switching Barriers (t-value = 0.046, $\beta = 0.004$) and Switching Barriers do not influence Intention to repeat purchase (t-value = 0.109, $\beta = 0.034$).

5 Discussion

The aim of this research was to find out why people decide to repeat purchases in online shopping. The results of this study suggest that customer satisfaction and structural assurance and contribute to improvement of adoption principles of desirable behavior in the area of online shopping, while the switching barriers not.
Customer satisfaction (H1) is an important factor influencing intentions to return. This result is consistent with previous study in information system continuance intention and usage research (Limayem and Hirt, 2007). Accordingly, we can infer and suggest online website managers need to develop an interesting and fancy interface design, which can increase online users’ tendency to use the website again. Satisfied customers are a less expensive and more effective advertising channel than mass media. For example, Crego and Schifferin(1995) mentioned that a 5% increase in customer retention reduces 18% of operating costs.

Factor Structural assurance (H4) indicates that perceptions of website malevolence and incompetence have a strong effect on a user’s distrust of the website. A user has negative expectations of an incompetent website, because it does not have the ability to do for the user what s/he needs done. A website of malicious intention towards users may cause financial loss, steal private information, induce the purchase of unwanted goods, etc. Users will not allow themselves to become vulnerable to such a website to prevent negative outcomes. Therefore, as the review of distrust literature suggested, certain attributes of a website, namely malevolence and incompetence are two main antecedents of distrust in the website.

Our study has found that Switching Barriers (H3) is not an important determinant of repeated usage intention. The lack of a significant relationship between the factor Switching barriers and Intention to repeat purchase for online shopping is rather surprising. The plausible explanation is that, according to our data survey, 76% of participants are online shopping experienced users. Thus, experienced users may have different perspectives about e-commerce systems and their continuing use. Consequently, intentions to return may be high regardless of user perceptions of barriers and ease of use. Future research is needed to investigate this topic.

Therefore, website designers and administrators should consider factors customer satisfaction and especially structural assurance that affect user’s intentions to repeat purchase.

Limitation and Future Study

There are several limitations for our research. First, this study may have limited generalizability, because of the small number of interviewees. Second, limited number of factors are taken into account. We want to include factors in future study. Third, an online survey was used as the method to collect data. One often cited disadvantage of self-reported surveys is the threat of common method bias (Malhotra et al. 2006). In future, other methods should be employed to broaden this research.

6 Conclusion

This research examines the model designed to explain why user intent to repeat purchase in online shopping sites. Model, while imperfect, explains almost 70 percent of the variance in intention to repeat purchase. However, many questions remain to be examined. For example, the sample consisted only of students of part time study in university. The sample will be extended by a more representative cross-section of individuals. Other variables that could affect the intention to repeat purchase on online shopping sites should be explored, for example factors as price, perceived ease of use, ways of communication or some other social factors. These issues will be addressed in future research.

References


