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Analysis of the Effective Factors on Online Purchase Intention through Theory of Planned Behavior

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Abstract
As the rapid growth of the World Wide Web, electronic commerce has become a new way for businesses on online markets. Du to its facilities, many people are willing to shop online. Although business-to-consumer e-commerce has created new businesses opportunities, questions about consumer shopping motivations toward online shopping versus conventional shopping continue to persist. The purpose of this study is to investigate factors which affect online purchase intention. In this regard, providing a conceptual framework, the effect of some factors including subjective norms, behavioral control, attitude, friends role (social influence) and perceived credibility on online purchase intention are investigated. This is a descriptive-survival study. Data collection is cross-field due to using questionnaire as well as library resources. Statistical population includes Isfahan University's students. Using Cochran formula, sample volume is equal to 260 people. Descriptive and inferential statistics and structural equations are used to analyze data and test hypothesis. The results of the research suggest that all mentioned factors, i.e. subjective norms, behavioral control, attitude, social influence, and credibility affect online shopping directly. We hope that the findings of this research have potential benefits for online retailers, and all those looking to make more virtual sales, also it could reveal researchers in future research.

Keywords: Planned behavior, Online shopping, Consumer behavior, Subjective norm, Attitude, E-commerce, Behavioral control.

1. Introduction

Over the past few decades, the Internet has developed into a vast global market place for the exchange of goods and services. In many developed countries, the Internet has been adopted as an important medium, offering a wide assortment of products with 24 hour availability and wide area coverage. In some other countries, such as Iran, however business-to-consumer electronic commerce has been much below than anticipated proportion of total retail business due to its certain limitations (Sylke, Belanger, and Comunale, 2002).

Nowadays, that e-commerce is necessary in various aspects of human life is undeniable. In addition, participating in global markets through efficient practices which reflect the country's economic empowerment urges organizations to adopt the current international system. In this context, online shopping and retailing is one of the e-commerce branches in which the internet is like a bridge between retailers and customers that helps customers buy their desirable goods every time and every where. Studies have shown that people who are shopping online increase every day (Goldsmith, 2002).

Today, electronic commerce, i.e. exchanges between parties including organizations and individuals based on information technology, has become one of the most important issues in business. E-commerce leads to promoting communications and economic openness in national and international levels, changing business practices and converting traditional markets to modern markets. Online shopping is one of the new shopping practices which have wide advantages. Since there are a lot of online shopping throughout the whole world, identifying its influential factors can help its improvement (Olfat et al., 2012).

In the business to consumer (B2C) e-commerce cycle activity, consumers use Internet for many reasons and purposes such as: searching for product features, prices or reviews, selecting products and services through Internet, placing the order, making payments, or any other means which is then followed by delivery of the required products through Internet, or other means and last is sales service through Internet or other mean (Sinha, 2010).

Theory of reasoned action (TRA), an individual's performance of a certain behavior is determined by his or her intent to perform that behavior, followed by theory of planned behavior (TPB) (Azjen, 1991) which is an extension of the theory of reasoned action (TRA) (Azjen and Fishbein, 1980). Recently, TRA and TPB have also been the basis for several studies of Internet purchasing behavior (George, 2002; Khalifa and Limayem, 2003). Internet purchasing behavior is the process of purchasing products, services and information via the Internet. Goerge (2004) stated that many consumers resist making purchases via the Internet because of their concerns about the privacy of the personal information.

TPB is a well-reputed framework "for conceptualizing, measuring, and empirically dentifying factors that determine behavior and behavioral intention" (Vermeir and Verbeke, 2008, p.544)

Behavioral intention is an important factor in understanding behavioral tendency before a particular behavior is adopted. Behavioral intention refers to the expression induced during the decision process; this expression often tells whether certain behavior will be adopted or not. Behavioral intention is a necessary process in any form of behavior expression; it is a decision made before an actual behavior is adopted (Fishbein & Ajzen, 1975).

2. Theoretical framework and hypotheses

2.1. Theoretical framework

Since online shopping represents a form of new technology, psychological theories such as TPB provide a good starting point to study online purchase intention. Attitude towards behavior refers to global predisposition, for or against, developing such behavior. TPB suggests some predictors of technology adoption behavior such as perceived behavioral control, perceived credibility, and subjective norms. Perceived behavioral control represents individual perception of the availability or lack of the necessary resources and opportunities to develop a specific behavior (Ajzen and Madden,1986). Subjective norms reflect how the user is affected by the perception of his or her individual behavior by significant references, for example, friends or colleagues, among others (Fishbein and Ajzen, 1973; Schofield, 1974). Behavioral intention is the best predictor for future behavior when the behavior is volitional and individual has the information to form stable behavioral intentions (Ajzen, 1991; Karahanna et al., 1999). While these psychological theories have helped us make substantial progress in understanding adoption, their focus has primarily been on the individual-level psychological processes (Venkatesh et al., 2003, 2007). Our proposed research model stemming from theory of planned behavior (TPB) is shown as follow. In this model, it is attempted to identify effective factors on online purchase intention.
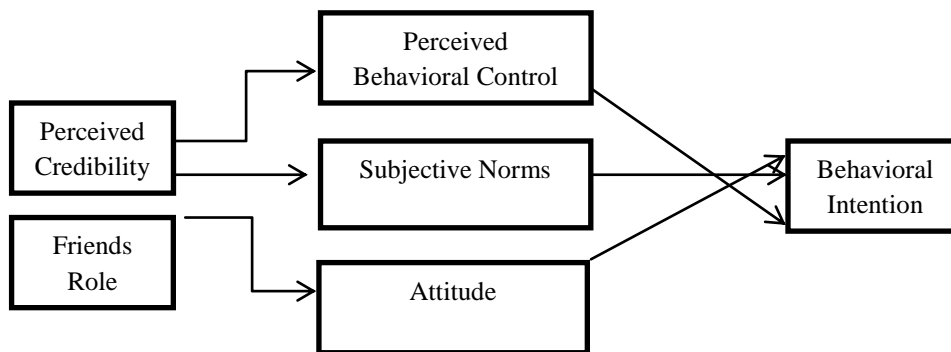

Fig. 1. Research model

2.2. Hypotheses development

Most people belong to some particular groups. When a person is an active member of a particular group, that group is actually his or her reference group. Along with changing conditions, individuals may change their behavior based on the norms of another group. A person may belong to many groups simultaneously, but in each certain situation, only one group will act as his or her reference group (Samadi, 2008). Features of two consuming position (i.e. necessary/unnecessary and visible/personal) affect the efficacy of reference group. When using a product or brand is visible for the group, the group will have the greatest effect, for example, on buying a sport shoes the product, its type as well as its branded are all visible, but the brand is too visible. Consuming products such as drugs generally are personalized. Typically, reference groups only affect those aspects of the product (category, type or brand) which are visible (Samadi, 2008). Reference groups have a significant effect on their followers' behavior because people compare their behavior with them and adopt their operates as their model (Shafiabadi, 1997). Therefore, we hypothesize;

Hypothesis 1. The role of Isfahan University students' friends in online shopping affects their online purchase intention.

Huff and Kelly (1999) suggest that a credible behavior is a tendency toward relying on a particular thing which meets a particular requirement so that leads to positive outcome. There is a scattering of credible conceptualizing in e-commerce. Credibility is defined as general belief in electronics retailers which leads to behavioral intention (Gefen et al., 2003), as the combination of honesty, integrity and benevolence of electronics retailers which leads to increasing behavioral intention via reducing risk among potential but inexperienced customers (Jarvenpaa et al., 1997) and as a set of specific beliefs in competency, honesty and good faith which leads to certain destinations (Mcloughlin, 1999). Therefore, we hypothesize;

Hypothesis 2. Isfahan University students perceived credibility in online shopping affects their online purchase intention.

Based on theory of planned behavior (TPB), perceived behavior control is defined as an individual's confidence that he or she is capable of performing the behavior (Ajzen, 1991). It has two aspects of perceived behavioral control; first, how much a person has control over behavior and the second, how confident a person feels about being able to perform or not perform the behavior. The more the control an individual feels about making online purchase, the more likely he or she will be to do so. However, Kwong and Park (2008) found different results. The perception of volitional control or the perceived difficulty towards the behavior will affect intent (Chang, 1998). Therefore, we hypothesize;

Hypothesis 3. Isfahan University students perceived behavior control in online shopping affects their online purchase intention.

Subjective norms refer to an individual's perception of whether people who are important to him or her think that he or she should or should not perform the behavior in question (Ajzen and Fishbein, 1980). They are the function of how a consumer's referent others (e.g., family and friends) view the regarding behavior and how motivated the consumer is to comply with those beliefs (Lim and Dubinsky, 2005). Therefore, we hypothesize;

Hypothesis 4. Isfahan University students subjective norms in online shopping affects their online purchase intention.

Attitude is defined as Individual's positive or negative feeling associated with performing a specific behavior. Ajzen and Fishbein (1980) suggest that people form beliefs about an object by associating it with various characteristics, qualities and attributes. Because of these beliefs, they acquire favorable or unfavorable attitudes toward that object depending on whether they associate that object with positive or negative characteristics. These beliefs may be attained by direct observation, obtaining information from outside sources, or generated through an inference process. Some beliefs persist, others do not. The challenge is when one tries to change a perceived attitude (Doll & Ajzen, 1992; Bagozzi & Dabholar, 2000). Therefore, we hypothesize;

Hypothesis 5. Isfahan University students attitudes toward online shopping affects their online purchase intention.

3. Research methodology

3.1. Instrument development and data collection

An empirical investigation of effective factors on online purchase intention was conducted. The questionnaire consisted of two parts. The first part solicited demographic information such as sex, educational level and spent time on surfing the Internet per week. The second presented questions pertaining to the proposed model. To address face validity, a group of business professors, doctoral students, and industry experts were asked to read and refine the questionnaire. Based on their feedback, several items were changed to reflect the purpose of this research better. This pre-test examination provided us reasonable assurance of the validity of the scale items. All items included in the survey were measured on a five-point Likert scale. The target population was Isfahan University students in 2013-2014, which was equal to 1200 people. Using simple random sampling and Cochran formula, sample volume was obtained equal to 260 people. Cronbakh's alpha coefficient was calculated using software SPSS, so that questionnaire reliability was equal to 0.878.

3.2. Measurement model

Given the model, several indexes were used to estimate its goodness of fit. To confirm the model, using 3-5 indexes is typically coefficient.

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Table 1. Indexes for estimating model goodness of fit

Model	k-score	P	RFI	RMR	AGFI	RMSEA
Default model	58.260	0.060	0.860	0.015	0.909	0.013

RFA index: its value is varied between 0 and 1, so that the more this value is near to 1, the better the model is fitted to data. In this study RFI=0.860 which indicates a good model fit.

P-value: it tests whether model fit is good or not. In this study P-value= 0.060 which indicates a perfect model fit.

RMR index: it is used to measure the average residuals, and can be changed only with connection to variances and covariance. The smaller this index is (next to zero), the better the model is fitted. In this study RMR=0.015 which indicates a good model fit.

AGFI index: the more AGFI index is near to 1, the model goodness of fit to observed data is better. In this study, AGFI=0.909 which indicates a good model fit, i.e. the model is confirmed.

RMSEA index: it is less than 0.05 for a good model fit; the higher values up to 0.08 indicate a reasonable error for approximation in the community. Those models which their RMSEA index is 0.1 or higher have a poor fit. Thus, given the RMSA is equal to 0.013, the model is fitted well.

According to the suggested indexes, it can be said that model is fitted rather well. After the model is being fitted, the impact and correlation coefficients between variables were calculated and expressed as the standard and nonstandard values. Model diagram included estimated values and T- test, which were cited in the following, confirmed all of the coefficients.

3.3. Structural model

Statistical data analysis is done through structural equation modeling and using software Lisrel. Analysis of covariance structures, causal modeling or structural equation modeling are main methods for complex data structures analysis. Since so many variables in this research were independent, which their effects on the dependent variable must be examined, it would be necessary to use structural equation modeling.
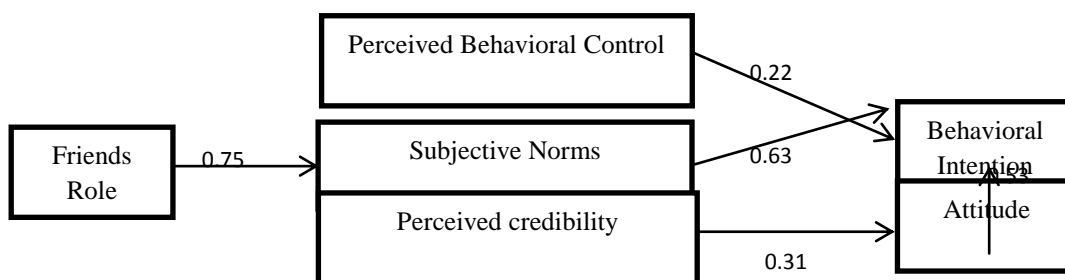

Fig. 2. Structural model analysis results.

Table 2. Hypothesis testing results.

path	Path coefficient	t-value	p-value	Hypothesis
SN → BI	0.63	4.90		Supported
PBC → BI	0.22	3.05		Supported
ATD → BI	0.53	5.64		Supported
PC → ATD	0.31	3.09		Supported
FR → SN	0.75	4.72		Supported

Not: SN= subjective norms, BI= behavioral intention, PBC= perceived behavioral control, ATD= attitude, PC= perceived credibility, FR= friends role.

Fig. 2 and Table 2 present the results of our study with overall explanatory power, estimated path coefficients and associated t-values of the paths. As shown in Fig. 2 and Table 2, structural model results provide strong support for the effects of friends role, perceived credibility, perceived behavior control, subjective norms and attitude toward students online shopping on their online purchase intention. All hypothesis were supported. While friends role has a significant effect on students subjective norms in online purchase intention (supporting H1), perceived credibility has significant effect on their attitude toward online purchase intention (supporting H2). The results also indicate that the paths from perceived behavioral control and subjective norms to behavioral intention are significant which indicate that perceived behavioral control and subjective norms affect online purchase intention significantly(supporting H3, H4). Furthermore, attitude has a significant effect on online purchase intention (supporting H5).

4. Discussion

4.1. Implications

The purpose of this study was to investigate factors which affect online purchase intention. In this regard, providing a conceptual framework, the effect of some factors including subjective norms, behavioral control, attitude, friends role (social influence) and perceived credibility on online purchase intention were investigated. An empirical investigation of effective factors on online purchase intention was conducted. Questionnaires were distributed among Isfahan University students. Cronbakh's alpha coefficient was calculated using software SPSS, so that questionnaire reliability was equal to 0.878. Statistical data analysis was done through structural equation modeling and using software Lisrel. Our findings indicated that all of these factors have positive significant effects on online purchase intention.

Along with credibility in online shopping, it is suggested that governments should adopt rules associated with establishing online companies and online exchanges to support consumers and retailers. It is also necessary that companies prevent from giving dishonest information and web unreal advertisement.

Along with friends' role in online shopping, and in order to meet individuals requirements to have social communication, it is suggested that online stores provide chat and video facilities for customers to enable them communicate with each other.

4.2. Research limitation

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The first limitation of this study is that the findings are validated in a short period of time and after some times the importance of various effective factors on online purchase intention may be reduced or increased, or the tendency may convert from online shopping to traditional shopping. Second, this study is limited to the determined geographical zone while it can also be done in other parts of the country. Third, in this study available method was used for sampling, so it has all restrictions of available sample. Finally, this study has just examined business-to-consumer (B2C) e-commerce not its other fields.

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