

***A Framework for identifying and prioritizing
factors affecting customers' online shopping
behavior in Iran***

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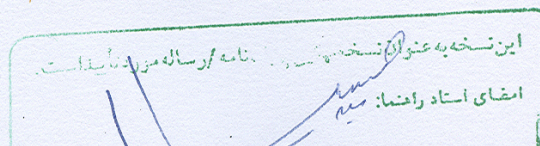
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In the name of God
The compassionate the merciful

*To my problems and defeats which
lead me to where I am.*

To my family that raised me with love of knowledge...

Abstract

The purpose of this study is identifying effective factors which make customers shop online in Iran and investigating the importance of discovered factors in online customers' decision.

In the identifying phase, to discover the factors affecting online shopping behavior of customers in Iran, the derived reference model summarizing antecedents of online shopping proposed by Change et al. was used as basis. As the antecedents collected in Change et al. model are taken from different studies performed in different contexts, it was mandatory to extract the effective factors in Iran context. Solicitation of the factors is done through expert judgment methodology. The result is the set of localized antecedents of customers' online shopping behavior in Iran.

In the second phase, the importance of identified factors was investigated via analytical hierarchy process (AHP). The hierarchic structure needed in AHP was achieved based on categories of Change et al. model and the elicited factors in identifying phase. To examine the importance of identified factor thoroughly from different perspective, online customers, virtual store managers and academic experts were contributed in this investigation. An online survey based on pair-wise comparison of AHP was designed. 220 online customers, 9 virtual store managers and 10 academic experts judged the relative importance of each criteria in online shopping hierarchy.

To obtain aggregated prioritization, representative of three corresponding groups preferences and not losing the preferences of each of decision makers, two level of aggregation utilized based on techniques of *group analytical hierarchy process*. The first step of aggregation was performed inside each group of decision makers by applying aggregating individual judgments (AIJ). In the second step, overall preferences achieved through aggregating the relative and absolute importance (local and global rating) of counterpart nodes in three online shopping hierarchies. The results of aggregation enabled us to discuss the importance of online shopping antecedents according to the three groups of decision makers. Furthermore, it facilitates comparing the preferences of three groups. At the end the overall prioritization of localized antecedents of online shopping is proposed that can improves our understanding of Iranian online customer behavior.

Key words: online shopping, customer behavior, Group AHP, online shopping antecedents

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Chapter 1

Introduction

1 Introduction

1.1 Preface

This chapter presents online shopping status worldwide and in Iran. Also the importance of online shopping research is discussed. Thereafter, the problem definition and research question is outlined. The research designed to tackle the research question is explained. At the end, the general structure of study is clarified.

1.1.1 Online shopping status

Online shopping is becoming increasingly popular. Online retail sales are estimated to grow from \$172 billion in 2005 to \$329 billion in 2010. There are 32 countries worldwide with the Internet penetration rate higher than 50%. As of April 2006, 73% of American adults are Internet users. Moreover, Internet users ability to shop online has significantly improved from 16% to 32% since March 2001(Zhou et al., 2007).

The Economist Intelligence Unit overviewed the e-readiness of the world's largest economies including Iran in 2008. It measures the quality of a country's information and

communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit. Economist Intelligence Unit measures e-readiness based on six criteria of connectivity and technology infrastructure, business environment, social and cultural environment, legal environment, government policy and vision and consumer and business adoption (Economist Intelligence Unit, 2008).

The results this study in Iran show improvement in four criteria of connectivity and technology infrastructure, business environment, social and cultural environment and legal environment. Government policy and vision criterion didn't change in comparison with 2007. However, consumer and business adoption criterion decreased.

The Department of Economic and Social Affairs of United Nations surveys the e-government readiness of its 219 member states to measure the e-government index. The e-government readiness index is a composite index comprising the web measure index, the telecommunication infrastructure index and the human capital index. The result of 2008 report shows that Iran index of e-government readiness has been slightly improved in comparison to 2005. In spite of this improvement Iran' ranking declined 10 levels from 98 to 108 comparing to 2005 as a result of slow improvement considering worldwide development.

The telecommunication infrastructure index and the human capital index indicate increase in recent three years. However, the web index development decreased. According to this survey, internet penetration rate of Iran is 25.54 % in 2008 while it was 10.7% in 2005 and number of personal computer is 10.53% while it was 9.1% in 2005 (UN Division for Public Administration and Development Management 2008, UN Division for Public Administration and Development Management, 2005).

1.1.2 Importance of online shopping research

The rapid growth of e-commerce has great impacts on way of performing business. The characteristics of the global electronic market create a unique opportunity for companies to efficiently reach existing and potential customers. Many physical obstacles hinder companies in their efforts to reach global markets. With assistance from the latest development in communication and information technology, online marketers are able to reach a large number of consumers scattered around in various geographic locations, particularly in hard-to-reach areas(Khalifa and Limayem, 2003).

E-Commerce has two distinct forms: Business-to-business and business-to consumer. Much of the growth in revenues from transactions over the Internet has been achieved from business-to-business exchanges. Unfortunately, this is not the case for business-to consumer E-Commerce. With the exception of software, hardware, travel services, and few other niche areas. Moreover, many companies already practicing E-Commerce are having a difficult time generating satisfactory profits (Limayem, Khalifa et al. 2000).

Despite the explosive growth of electronic commerce and the rapidly increasing number of consumers who use interactive media (such as the World Wide Web) for pre purchase information search and online shopping, very little is known about how consumers make purchase decisions in such settings (Haubl and Trifts 2000).

As the competition in e-commerce is intensified, it becomes more important for online retailers to understand what makes consumers to shop online (Zhou, Dai et al. 2007). We should bear in mind that the Internet as a shopping channel is competing with the long established in-store channel and that the former has not yet reached the “mainstream” status that many had predicted (Soopramanien and Robertson 2007).

If marketers know how online consumers make their decisions, they can adjust their marketing plan to be successful in attracting and retaining customers. Furthermore, web site designers, who are faced with the difficult question of how to design pages to make them effective in increasing sales, can benefit from such an understanding(Khalifa and Limayem 2003).

1.1.3 Problem definition and Research question

Online selling is very different from offline selling and requires a profound understanding of consumer behavior. Understanding of customer online shopping behavior cannot be achieved without comprehension of the antecedents of the customers purchase decision. The aim of this thesis is to investigate the antecedents of online shopping behavior in Iran context and rank these factors according to their importance on customer s decision. As a result the proposed research question would be:

What are the factors affecting customers online shopping behavior regarding their importance on customers decision in Iran?

1.1.4 Research design

The research design constitutes the blueprint for the collection, measurement, and analysis of data (Cooper and Schindler, 2003). It specifies the procedures necessary to obtain the information needed to structure and/or solve the research problem. Research designs are of two broad types: exploratory and conclusive. As is shown in figure 1, 1 conclusive designs may be further categorized as either cross-sectional or longitudinal (Malhotra and Peterson, 2006).

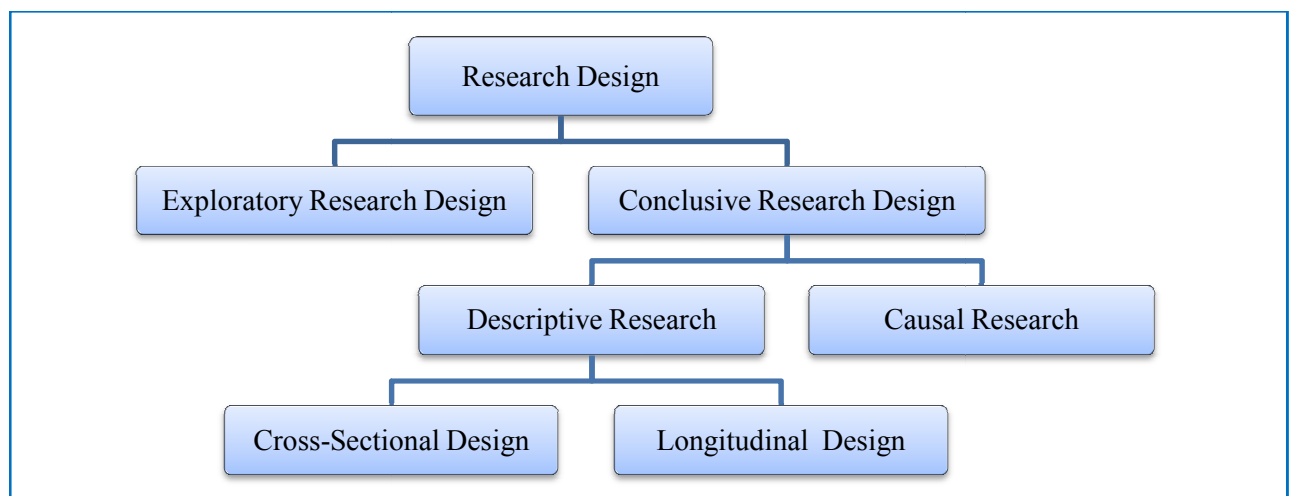


Figure 1-1 A Classification of Market Research Designs

Source (Malhotra and Peterson, 2006)

Exploratory research is a type of research design that has as its primary objective the provision of insights into and comprehension of the problem situation confronting the researcher. Conclusive research is research designed to assist the decision maker in determining, evaluating, and selecting the best course of action for a given situation. Conclusive research can be used to verify the insights gained from exploratory research (Malhotra and Peterson, 2006).

Exploratory research is a valuable kind of research when there is not much knowledge about the situation. It is a particularly useful approach if the researcher wishes to clarify his/her understanding of the problem. There are three principal ways of conducting exploratory research: (1) A search of the literature; (2) talking to experts in the subject; (3) Conducting focus group interviews (Malhotra and Peterson, 2006).

Descriptive research is a type of conclusive research that has as its major objective the description of something – usually market characteristics or functions (Malhotra and Peterson, 2006). This type of research is concerned with finding out *who, what, where, when, or how much*. Exploratory

research uses a variety of data collection method e.g. survey, panel, observation etc. (Schindler and Cooper, 2008).

The aim of this study is to identify and prioritize the factors affecting customers' online shopping behavior in Iran. Since, for the identifying part there is not much knowledge available about the antecedents of online shopping behavior of customers in Iran. The exploratory approach is the appropriate tool to discover the attributes of online shopping. Accordingly literature review and talking to expert would be proper instruments. Prioritization stage intends to find how the identified factors vary regarding their importance. As a result the descriptive research is the suitable way for ranking part. The data needed for accessing the importance of identified factors could be gathered through conducting a survey (see figure 1.2).

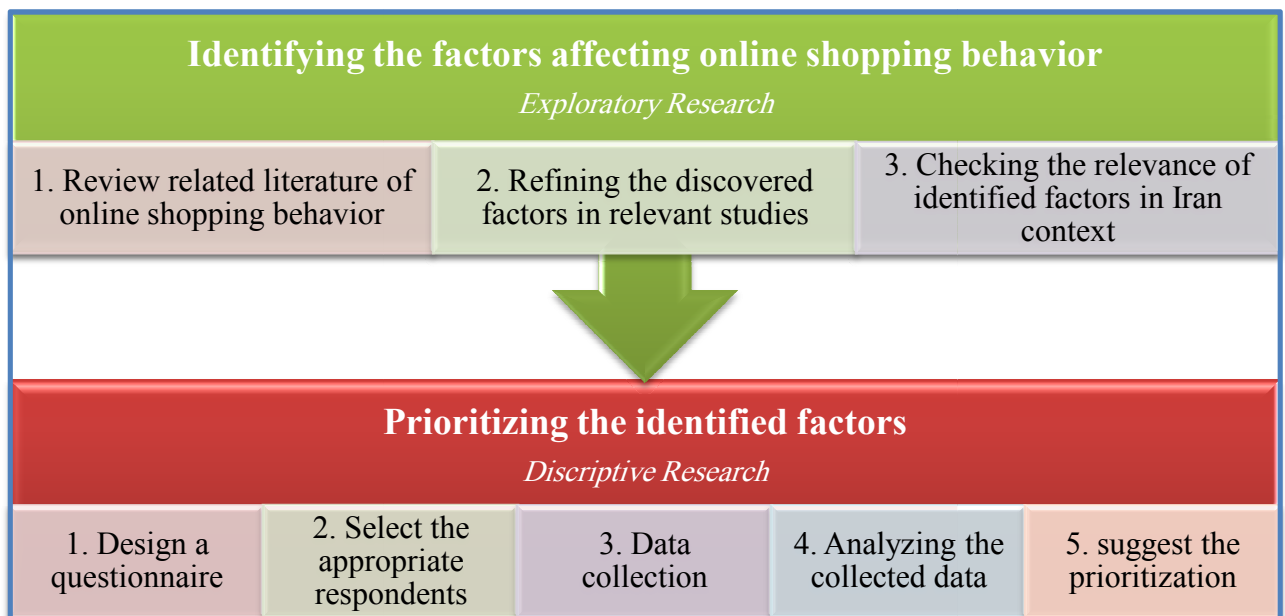


Figure 1-2 Flow chart of the research

As depicted in flow chart of the research (see figure 1.2) the present study has two phases: 1- identifying, 2- prioritizing. Here we bring a description of each phase:

1.1.4.1 Identifying phase

The purpose of this phase is to solicit the factor influential in the online shopping behavior of Iranian customers. Initially, the literature must be reviewed to collect the antecedents of online shopping behavior from related studies. The gathered factors should be revised to omit the repetitive and refine the overlapped factors. Next, the relevance of elicited factors should be checked to recognize the factors that are effective in Iran context. To achieve this goal, expert of online shopping

environment could be used to judge about the relevance of collected online shopping antecedents. Expert judgment is a method of soliciting information from experts. In present study experts will ask to distinguish the relevant online shopping factors in iran online shopping context. ‘Expert judgment’ is defined by Boehm as the consultation of one or more experts (Hughes, 1996).

According to Meyer et al., expert judgment could be performed to meet the need of interpreting existing data. This method is frequently mandatory to organize qualitative information or mixtures of qualitative and quantitative data into a framework for making decisions(Meyer and Booker, 2001).

1.1.4.2 Prioritizing phase

The purpose of this phase is to investigate the importance of identified factor and propose prioritization of antecedents of online shopping behavior of customers. One of the main applications of analytical hierarchy process is ranking (Vaidya and Kumar, 2006)that makes it appropriate method for the aim of this phase. The analytic hierarchy process is a multi-criteria decision-making method allowing decision makers to model a complex problem in a hierarchical structure which consists of the goal, objectives (criteria), sub objectives, and alternatives. Based on pair-wise comparison judgments, AHP integrates both criteria importance and alternative preference measures into a single overall score for ranking decision alternatives(Bhushan and Rai, 2004).

A questionnaire must be designed base on pair-wise comparisons of AHP method. The next step involves selecting the decision-makers who can decide on online shopping antecedents’ importance. The data will be collected accordingly and then will be analyzed by applying AHP. Finally the prioritization would be suggested.

1.1.5 Structure of the Report

The rest of this report is organized as follows. Next chapter briefly reviews the literature on online shopping and the theoretical foundations of our research. Chapter three then reviews the steps of the identifying phase of the research. Chapter four outlines the stages carried out for prioritization stage. This study is concluded in chapter five by conclusion, contributions, managerial implications, limitation and future research directions.

Chapter 2

Literature Review

2 Literature Review

2.1 Introduction

This chapter reviews the previous online shopping researches, and focuses on factors affecting customers' online shopping behavior. In this chapter the dependent variables in previous online shopping studies as well as various theoretical frameworks applied to investigate costumers' online shopping behavior were summarized. Finally, the research model used as the foundation of this study is explained.

2.2 Dependent variables in online shopping studies

Two different points of view of behavioral intention and actual behavior have been explored in online shopping behavior studies. In some studies the dependent variable was online shopping intention and in some studies, the actual online shopping behavior was considered as dependent variable; and in few studies both online shopping intention and

actual online shopping behavior have been examined. Furthermore, attitude toward online shopping has been explored in several studies as dependent variable (Xinyu Cao and Patricia L. Mokhtarian, 2005)

2.2.1 Online shopping intention

Intention to shop online refers to the likelihood that a consumer actually buys online (Chen et al., 2002). From the perspective of customer behavior, it is customer intention to exchange information online, share confidential information and engage online transaction (Pavlou and Chai, 2002). Behavioral intention does not perfectly correlate with the actual behavior. An individual may engage in a less intended choice due to the presence of constraints (behavioral control factors). In addition, of course, stated intentions often differ from true intentions due to social desirability bias (the tendency to provide the response that is socially expected) or consistency bias (the need to appear consistent to the analyst, which can result in stated intentions that are consonant with previously-expressed attitudes, when in reality one's actual behavior will be dissonant from those attitudes). Generally, however, behavioral intention tends to have a positive association with the actual choice of that behavior. That is, the stronger an individual's behavioral intention, the more likely she is to perform the behavior (Xinyu Cao and Patricia L. Mokhtarian, 2005).

2.2.2 Actual shopping behavior

In previous studies, online shopping behavior was defined in different ways. Most studies considered only purchase behavior. On the other hand, some studies treated both purchases and information gathering as online shopping behavior (e.g., Chen et al., 2002). The measures of actual e-shopping behavior mainly include three dimensions: the adoption of e-shopping, the amount spent online, and the frequency of using e-shopping.

Actual behavior was also measured differently. In (Chen et al., 2002), online shopping behavior included both product purchasing and product information seeking, while in (Limayem et al., 2000), only online purchasing behavior was considered (Xinyu Cao and Patricia L. Mokhtarian, 2005).

2.2.3 Attitude toward online shopping

Attitude toward online shopping has been explored in several studies as dependent variable (Xinyu Cao and Patricia L. Mokhtarian, 2005). Attitude toward a particular act represents a person’s overall positive and negative beliefs and evaluation of the behavior. In turn, attitude is derived from salient behavioral beliefs of particular outcomes and evaluation of those outcomes.

Table 2.1 shows the determinant of independent variable of online shopping behavior including: Online shopping intention, Actual shopping behavior, and Attitude toward online shopping:

Table 2-1 Determinants of independent variable of online shopping

Determinants of online shopping Intention	Determinants of actual shopping behavior	Determinants of attitude toward online shopping
Attitude	Innovativeness	Trust
Perceived usefulness	Experience	Experience
Innovativeness	Intention	Perceived usefulness
Perceived behavioral control	Internet usage	Ease of use
Risk	Perceived Risk	Perceived Risk
Social norm	Enjoyment	Habit
Perceived Consequences	Perceived behavioral control	Innovativeness
Ease of Use	Demographic variables	-
Habit	-	-

Source: (Limayem et al., 2000)

2.3 Theoretical Frameworks

Many previous studies applied theoretical frameworks to investigate costumers’ online shopping, including the theory of reasoned action, the theory of planned behavior, the technology acceptance model, transaction cost theory, innovation diffusion theory, and so on. The remainder of this section will discuss the theory of reasoned action, Theory of planned behavior (TPB), Technology acceptance model (TAM) and Online Shopping Acceptance Model (OSAM) in detail and also their applications to e-shopping research.

2.3.1 The theory of reasoned action (TRA)

The theory of reasoned action was proposed by Ajzen and Fishbein in 1975. This theory describes the psychological process behind conscious human behavior, and aims to explore the determinants of that behavior (Ajzen and Fishbein, 1980). Under TRA one's action or decision to perform an action differently from others is influenced by one's "distinct" belief towards that action as well as the environment within which the action is to take place (Sopramanian and Robertson, 2007). According to the TRA, an individual's behavioral intention impacts the performance of the behavior. Attitudes toward a behavior and subjective norms are two antecedent factors that determine behavioral intention (Ajzen, 1991). Attitude refers to one's evaluation about the consequences of performing a behavior, subjective norm refers to one's perception of social pressure to perform or not to perform the behavior under the consideration (Athiyaman and Campbelltown, 2002) and behavioral intention measures "how hard people are willing to try, [and] how much of an effort they are planning to exert, in order to perform the behavior" (Ajzen, 1991). As an example, a consumer might have a very favorable attitude toward having a drink before dinner at a restaurant. However, the intention to actually order the drink may be influenced by the consumer's beliefs about the appropriateness (i.e. the perceived norm) of ordering a drink in the current situation (with friends for a fun meal or on a job interview) and her/his motivation to comply with those normative beliefs (Hansen et al., 2004). TRA theory is depicted in figure 2.1.

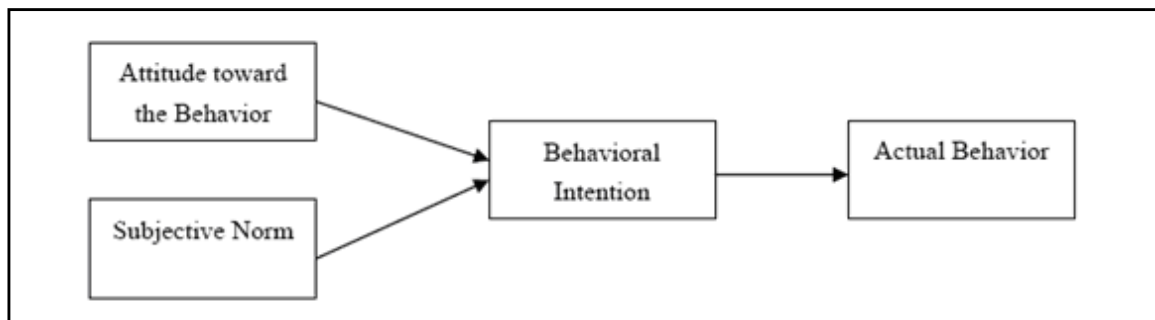


Figure 2-1 Theory of reasoned action

Source: (Davis et al., 1989)

(Vijayasathy, 2002) identified four types of beliefs that collectively determine an individual's attitude toward online shopping: product perception, shopping experience, customer service, and consumer risk. (Verhoef and Langerak, 2001) hypothesized that an individual's e-shopping intention is determined by her perceptions of its relative advantage,