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A Framework Of Individual Consumer's Acceptance Of Online Shopping

Jianguo Li

A Thesis

in

The John-Molson School

of

Business

Presented in Partial Fulfillment of the Requirements

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ABSTRACT

A Framework of Individual Consumer's Intention To Adopt Online Shopping

Jianguo Li

The main purpose of this research is to identify what determinants influence an individual consumer's intention to adopt online shopping.

One of the main branches of Internet business is online shopping. In academic literature, online shopping is often studied as a new retailing channel in marketing literature. By viewing online shopping as a new kind of IT, this paper attempted to explain and predict customers' intention of adopting online shopping. Ten proposed hypotheses were then empirically tested by using data collected from survey.

The results indicate that the relative advantage of online shopping, the compatibility of online shopping, the voluntariness of individual consumer's doing online shopping, customers' prior experience, and consumer innovativeness are positively correlated with individual consumer's intention of adopting online shopping. On contrary, both the transaction cost involved in purchasing goods online and a customer's sensitivity to risk have negative correlation relationship with his/her adoption intention. Two topics – adoption process and post sale service of online shopping were suggested for future research.

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TABLE OF CONTENTS

LIST OF FIGURES vii
LIST OF TABLES vii
I. INTRODUCTION 1
II. LITERATURE REVIEW 4
II.1. Researches Of Individual's Adoption Of Information Technology.(IT) 4
II.2. Marketing And Electronic Commerce Literature 6
II.3. Researches On Internet Marketplace 7
III. RESEARCH TOPIC 9
III.1. Definition of Variables 9
III.2. Research Hypotheses 20
III.2-1. Consumers' Differences And Their Adoption Intention 21
III.2-2. Innovation Characteristics And Consumers' Adoption Intention 23
III.2-3. Consumer's Voluntariness And Their Adoption Intention 24
III.2-4. Transaction Cost Involved And Their Adoption Intention 26
IV. METHODOLOGY 27
IV.1. Questionnaire Development 27
IV.1-1. Previous Measurements Of The Variables 27
IV.1-2. Written Questionnaire 28
IV.1-3. Questionnaire Publishing 29
IV.1-4. Six Fictitious Sample Homepage Design 30
IV.1-5. Pretest The Questionnaire 33
IV.2. Sample Selection And Data Collection 33
V. DATA ANALYSIS AND RESULTS 35
V.1. Demographics Of Subjects 35
V.2. Scale Reliability 36
V.3. Factor Analysis 37
V.4. Descriptive Statistics Of The Variables 39
V.5. Test The Hypotheses 40
V.6. Regression Analysis 45
V.7. Decomposition Of The Total Sample 47
V.7-1. Decomposition By Treatment 47

V.7-2. Decomposition By Subjects' Frequency of Surfing The Internet..... 48
V.7-3. Decomposition By Gender..... 49
VI. CONCLUSIONS AND FUTURE RESEARCHES..... 51
VII. REFERENCE..... 53
APPENDIX 1. RESULTS OF VARMAX ROTATED COMPONENT ANALYSIS..... 59
APPENDIX 2. ONLINE QUESTIONNAIRE 61
APPENDIX 3. LETTER TO SUBJECTS 73
APPENDIX 4. SAMPLE HOMEPAGES 74

LIST OF FIGURES

FIGURE 1. RESEARCH MODEL..... 20
FIGURE 2. GRAPHIC OF CORRELATION COEFFICIENTS..... 42
FIGURE 3. NORMAL P-P PLOT OF REGRESSION STANDARD..... 45

LIST OF TABLES

TABLE 1. SUMMARY OF THE DEFINITIONS OF VARIABLES..... 19
TABLE 2. OPERATIONAL DEFINITIONS OF VARIABLES..... 29
TABLE 3. SUBJECT DEMOGRAPHICS..... 35
TABLE 4. SCALE RELIABILITIES..... 37
TABLE 5. EXTRACTION OF COMPONENT FACTORS..... 38
TABLE 6. DESCRIPTIVE STATISTICS OF VARIABLES..... 40
TABLE 7. RESULTS OF CORRELATION COEFFICIENTS..... 41
TABLE 8. COEFFICIENTS BETWEEN INTENAD AND HOMEPG (HARD COPY)..... 43
TABLE 9. RESULT OF REGRESSION MODEL SUMMARY..... 46
TABLE 10. RESULT OF ANOVA TABLE FOR REGRESSION..... 46
TABLE 11. RESULT OF CORRELATION COEFFICIENTS..... 46
TABLE 12. ANOVA TABLE (BASED ON TREATMENT)..... 48
TABLE 13. ANOVA TABLE (BASED ON SUBJECTS' SURFING FRQUENCY)..... 49
TABLE 14. ANOVA TABLE (BASED ON GENDER)..... 50

I. Introduction

The Internet-enabled electronic commerce grew very rapidly. E-commerce technologies have fostered unprecedented range of innovations in business structure, allocation of wealth, and indeed of the fundamental definitions of commerce. Marketing channels direct the business in electronic commerce. They are the systems of independent organizations and technology that make products and services available to the clients in a useful and accessible form. Generally speaking, the marketing channels can be classified into three types – business to consumer, business to business, and closed group network channels.

In the past few years, the Internet is quickly becoming the world's largest public electronic marketplace. One of the salient branches in electronic commerce is consumers' online shopping. It is estimated that online shopping revenues for U.S. consumers will reach $37.5 billion by 2002 (Aches 1998). Thus, many researchers have addressed electronic marketing/online shopping (Bakos 1998, Wang 1998, Peterson et al. 1997) and the consumer adoption of the Internet/doing shopping online (Parthasarathy and Bhattacherjee 1998, Liang and Huang 1998, Alba et al. 1997, Lynch and Ariely 1999). But it is still not clear what factors determine the consumers' intention to accept the emerging electronic channels for doing shopping. Little progress has been made by researchers in the past in explaining theoretically why consumers come to do shopping online or not when e-commerce and online shopping are still in their early stage. The lack of a theoretical framework, adequate definitions and measurements of constructs for

online shopping deters our research about this new thing that will dramatically change our ways to do business (either business to business sector or business to consumer sector) in 21st century.

Online shopping is often viewed as a topic of marketing. It was often studied as one of the topics of electronic marketplace or electronic consumer marketing (Peter et al. 1997, Bakos 1998). Most researchers viewed online shopping as another new channel of retailing in marketing field (Eastlick 1996, Ward 1999, Brynjolfsson et al. 1999). This paper tried to view online shopping as a new innovation or new technology of doing shopping from an individual consumer's position. This paper adapted the similar concept of online shopping (it is also called virtual shopping) as that in Podlogar's research (Podlogar, 1998), which includes a consumer's searching, comparing and purchasing some goods or services she/he needs through the Internet. Thus, the research question of this paper can be stated as what factors determine an individual consumer's intention to accept online shopping when online shopping is viewed as an innovation or a new technology of doing shopping from an individual consumer's position. Thus, it is logical for us to apply the rich research results on innovation/technologies acceptance in the MIS field and innovation diffusion field to study the adoption behavior of individual consumer's intention to adopt or accept online shopping.

By combining the literatures in both information Technology and marketing research on consumer behavior, together with the special characteristics of online shopping and electronic market, this paper addresses the following meaningful problem for both

academic research and practice. That is what determinants influence an individual consumer's intention to adopt online shopping. A research framework is proposed to identify the determinants and explore the relationships among them. A function is set up between consumer's intention to adopt online shopping and its determinants. The results of an empirical study that addresses the research questions above are reported in this paper.

II. Literature Review

The literature review here focuses mainly on the pertinent literature in the following fields: individual's adoption of information technologies, marketing literature on consumer behavior, and electronic commerce. Each of these fields is briefly introduced and discussed below.

II.1. Research In Individual's Adoption Of Information Technology (IT)

An important theoretical paradigm underlying research on individual adoption of information technology derives its roots from the adoption and diffusion of innovations literatures. A common theme underlying the various streams of research in technology adoption is the inclusion of perceptions of an innovation as key independent variables. Individual 's perception about using an innovation, together with other factors, is posited to have significant influence on user acceptance (Moore and Benbasat 1991, Rogers 1983). Some other models attempted to explain the relationship between user perceptions, attitudes, and eventual system use. For example, the technology acceptance model (TAM) (Davis et al. 1989) only uses two perceptions - perceived usefulness and perceived ease of use to explain user acceptance. While innovation diffusion theory (Rogers 1983) posited five perceived characteristics of an innovation affected adoption behavior. These characteristics include *relative advantage, complexity, compatibility, trialability and observability*. Recently, the perception set used in innovation diffusion theory has been extended and refined to include seven perceived characteristics of using

an innovation (Moore and Banbasat 1991). The seven characteristics identified by Moore and Benbasat are *relative advantage, ease of use, compatibility, image, result demonstrability, visibility and trialability*. However, a meta-analysis of innovation characteristics research that reviewed much of the same literature as used by Moore and Benbasat, found only three innovation characteristics - *perceived relative advantage, perceived complexity, and perceived compatibility* as being consistently related to adoption behavior (Tornatzky and Klein 1982). A similar research (Agarwal and Prasad 1997) in the context of World Wide Web (WWW) also found that ease of use was not a significant determinant, which has been observed to be a significant predictor of user acceptance in TAM model. As for user acceptance, Rogers (1983) differentiated two types of usage - initial usage of the innovation and continued sustained usage; previous research has examined usage in two ways. One is by studying the extent of actual system use and the other is by measuring intentions to use the system in the future. Although intentions can change with the passage of time, they have been shown to be good predictors of actual future use (Davis et al. 1989). Meanwhile, consumers' perceived voluntariness is also verified to be a predictor for intention to adoption (Agarwal and Prasad 1997, Moore and Banbasat 1991).

In information technology adoption field, the relationship between individual differences and MIS success outcome variables has been theoretically posited and empirically demonstrated by many researchers (For example, Zmud 1979; Harrison and Rainer 1992). Numerous individual difference variables have been studied, such as demographic

and situational variables, cognitive variables, and personality-related variables (Zmud 1979)

II.2 Marketing And Electronic Commerce Literature

Innovation adoption was also extensively examined in marketing literature. Most of the research in marketing focused on what factors determine a consumer's adoption of a new product (Mahajan, Muller, and Bass 1990), a new brand or a new channel of retailing. Boyd and Mason (Boyd and Mason 1999) found that consumers' evaluation of product category attractiveness affects the adoption decision for really new products. These consumer's evaluations are based on the attributes of the product category. Peterson et al. (1997) summarized seven characteristics of the Internet as a marketing channel. Two of them that are relative to online shopping are (1) The ability of powerful and inexpensive means of searching, organizing, and disseminating goods and service information. (2) Interactivity and the ability to provide information on demand. In the context of interactive home shopping, Alba et al. (1997) summarized four key factors - *vast selection, screening, reliability and product comparisons* that influence a consumer's decision to do shopping electronically versus in-store. Product characteristics were found influencing consumer adoption of a new product. The main variable that affects consumers' decision making is the transaction cost involved in purchasing a product through different channels. Meanwhile, different products were found to have different customer acceptance on the electronic market. (Liang and Huang 1998). In the context of online services, it was found that post-adoption behavior was influenced by the individual

differences of adopters (Parthasarathy and Bhattacherjee 1998). By analyzing the real data existing about online buying behavior, Bellman et al. (1999) concluded the four main predictors of online buying behavior. They are *looking for product information on the Internet, the amount of discretionary time they have, wired lifestyle and time starvation*. Other findings of the authors' work are: (1) Demographics alone do not seem to significantly influence whether or not people buy goods online. (2) Security and privacy concerns are increasingly less important predictors of shopping behavior.

II. 3 Research On The Internet Marketplace

The World Wide Web(WWW) possesses unique characteristics which distinguish it in important ways from traditional commercial communications environments. Hoffman and Novak (1996) identified the following differences in term of marketing environments: (1) the Web is a virtual hypermedia environment incorporating interactivity with both people and computer. Thus, the Web is not a simulation of a real world environment, but an alternative to real world environments, where consumers may experience "telepresence" (Steuer 1992) (2) within the virtual environment, both experiential behaviours(e.g. "netsurfing") and goal directed (e.g. "online shopping") behaviors compete for consumers' attention. (3) consumer capability in the virtual environment, as well as challenges posed by the environment, introduce a competency issue which does not exist so fundamentally in the physical world. This competency issue involves flow, which is the "process of optimal experience" achieved when a motivated consumer perceives a balance between their skills and the challenges of their interaction

with the computer mediated environment (CME). For commercial purpose, Hoffman, Novak, Chatterjee (1996) categorized commercial Web sites into six distinct types. They are (1) Online Storefront (2) Internet Presence (3) Content (4) Mall (5) Incentive Site and (6) Search Agent. Bakos (1998) focused the impacts of the Internet on the function of a market. He argued that Internet-based electronic marketplaces leverage information technology to match buyers and sellers with increased effectiveness and lower transaction costs, leading to more efficient, "friction-free" markets. As for the Intermediaries in the marketplace, the growth of Internet marketplaces may lead certain types of intermediaries to extinction. For example, the sellers that had previously depended on geography or customer ignorance to insulate the customers from the low – cost sellers in the market. Meanwhile, some new electronic intermediaries will come out. These new intermediaries will perform functions that include matching buyers and sellers, providing product and service information to buyers and marketing information to sellers, and so on. For example, the application service provider (ASP) is one kind of the new intermediaries.

III. Research Topic

There are many interesting research topics in the field of business to consumer in the context of the Internet business. This paper just focuses on identifying the determinants of individual consumer's intention to adopt online shopping. The author believes that this is a basic theoretical topic for e-commerce in business to consumer field. Previous research was found that some real differences exist for individual consumer between physical shopping environment and virtual environment, such as the information search process, the layout of goods, etc.. Therefore, if consumers like to do shopping online, what factors influence consumers' going to online to do shopping and how to have them adopt to purchase goods through the Internet are quite meaningful for both theoretical research and business practice. The approaches adopted in this paper to address the research topic above are as follows. (1) define the variables (2) propose the research hypotheses (3) develop a questionnaire and design sample homepages, and publish them online (4) select samples and collect data (5) analyze the collected data and draw conclusions.

III.1 Definition Of Variables

Based on the literature review above and the goal of this research, there are eleven variables used and defined in this paper. ***Adoption Intention*** is used as the only dependent variable in this research model. The independent variables (the determinants of

a consumer's adoption intention) include the following ten variables - ***relative advantage, compatibility, complexity, homepage, consumer risk-tolerance, Internet self-efficacy, prior experience, consumer innovativeness, transaction cost involved, and voluntariness***. The definitions of all the variables are as follows. The three concepts - *relative advantage, compatibility, complexity* are adapted from Rogers' work (Rogers, 1983) and their meanings are redefined in the context of online shopping. The summary of the definitions of these eleven variables is in Table 1.

Adoption Intention The degree of a consumer's willingness or intentions to use the Internet for doing shopping in the future. The concept does not mean that a consumer actually adopts online shopping. It is a mental state and just describes a consumer's willingness and intention. Although it is a mental state, the research of Davis et al. (1989) indicates that this concept is a good predictor of actually future use of a technology. Thus, the higher the adoption intention a consumer has, the more likely he/she will actually do shopping online in the future.

Relative Advantage The degree to which online shopping is perceived as being better than doing shopping through other approaches/channels. It includes the convenience, low price for the same quality, and time saving, rich information available, and so on. It does not matter so much whether online shopping has a great deal of "objective" advantage. What does matter here is whether an individual consumer perceives online shopping as advantageous. It is evident that *Relative Advantage* should be positively related to *Adoption Intention.*

Compatibility The degree to which online shopping is perceived as being consistent with the existing values, habits, needs, and past experiences of a consumer. This concept reflects in what degree online shopping is compatible with (1) a consumer beliefs (2) ideas previously introduced to a consumer (3) a consumer's needs for doing shopping (4) a consumer's previous shopping habit. It should be positively related to *Adoption Intention*.

Complexity The degree to which online shopping is perceived as being difficult to understand and use. That means if doing shopping online is clear in its meaning to potential adopters and if the process of shopping online is simple for a consumer to implement. Just as Ward and Lee (1999) pointed out although there is plentiful product information in the Internet, this may not alleviate all the problems of consumer search. There are two reasons for this. First, despite the increased availability of product information, it is still not costless to obtain (Brynjolfsson and Smith 1999). On the Internet, search for information may involve a non-trivial navigation or hyperlinks between Web sites and an intelligent usage of the search engines and directories. For many users, especially those inexperienced to the Internet, finding product information may be frustrating. Thus, although consumers may often like to obtain all available information, they may not practically be able to do so. Second, even with the information available, some uncertainty about product quality is likely to linger. For example, some products characteristics require consumption before their quality are known. It is not difficult for us to deduce that different consumer has different opinion about complexity

of online shopping. Rogers (1983) pointed out that, in general, new ideas that are simpler to understand will be adopted more rapidly than innovations that require the adopter to develop new skills and understandings. Thus we concluded that the degree of complexity of shopping online should be negatively related to a consumer's intention to adoption of online shopping.

Transaction Cost Involved The total costs involved in purchasing a good through the Internet. When a customer purchases a product from a seller, he/she has to go through a process. This process is called a transaction process. A typical consumer decision process includes five stages: problem recognition, search, alternative evaluation, choice, and outcome (Engel et al. 1978). The costs involved in transaction-related activities are called transaction costs. These costs include the price of the good being purchased and other non-pecuniary costs incurred by a consumer. The transaction costs that affect the decision of whether to buy from an electronic store include costs for searching information, comparing attributes, examining products, negotiating terms, paying for products, delivering products, and post-sales services (Liang and Huang 1998). As we mentioned before, in this paper, online shopping is viewed as a new approach of an individual consumer's adopting the Internet technologies for purchasing goods. Generally speaking, the function of the Internet to a consumer is two fold. The Internet increases evidently individual consumer's ability of information search and this results in lowering the search cost and comparison cost by helping a consumer to find product sources. The Internet also allows consumers to compare different prices easily and timely. But this does not mean the transaction cost of online shopping must be lower than that of its traditional

counterparts. Due to not allowing the consumers to physically examine a product, in general, online shopping increases the examination cost. Online shopping also increases payment cost because a consumer has to provide his/her personal information to finish the payment for online shopping. Economic theory predicts that products will be purchased via the channel whose characteristics tend to minimize the transaction costs incurred due to the product features and the purchaser's endowments (Lancaster 1966). It is logical to deduce that *Transaction Cost Involved* is negatively related to *Adoption Intention.*

Homepage Generally speaking, a homepage is the presence of a store in cyberspace. It is also can be regarded as the virtual store of a physical store in the cyberspace. The variable *homepage* used in this research mainly deals with a consumer's perception about a commercial web site. It includes the content and amount of information contained in the homepage of a company that are related to the five stages in consumers' transaction process. This variable reflects if a homepage contains enough and relevant information that is necessary for consumers to implement online shopping, such as product information, help information, guide information, etc. A consumer is supposed to get all information about a product or service from it. It also should be able to conduct a consumer's purchase through the Internet when he does online shopping. Homepage can be regarded as one of user interface if it is viewed from IT field. The term user interface originated in the engineering environment in the late 1970s. User interface is generally used to describe computer's interface to the users. It is a technology-centered term. Therefore, user interface was defined as a word that signifies a segment of the software

program that handles dialogue with users (Grudin, 1993). Generally speaking, user interface means that the linkage between an information system and its users. The interface can indicate users how to use the system to finish their tasks. The user interface is defined friendly if it contains enough well-organized information to guide users. In this research, a company's homepage that is specially designed includes all texts and graphics files presented in a fictitious retailing book store's web site. It is responsible for providing information, handling dialogue communications between a company and its customers. It is also responsible for enabling and guiding a consumer to complete the purchasing procedure on the Internet. According to the survey of Salam et al. (1998), the most popular contents contained in corporate web pages in the Internet are the information that is related to price/value of a product, performance of a product, quality of a product, safety of doing transaction through the Internet. The more relative information and the clearer the guide information is, the more consumer-friendly the homepage is. Thus, consumer-friendly and well-organized homepage enable consumers to participate in doing online shopping.

Consumer Risk-Tolerance The degree that a consumer's sensitivity to the uncertainty and possible security problems of online shopping. The uncertainty has two meanings here. One is the received product may not meet the customer's expectation at ordering. This can be called as product uncertainty. The other one is process uncertainty that means a consumer may not have a complete confidence in the transaction process (Liang and Huang 1998). As for the security consideration, it is evident that some data of online shopping, such as credit card information, are sensitive data for a consumer. This kind of

security consideration is due to online shopping characteristics. For example, all online shopping involve payments by credit card (Ward 1999). Therefore, a consumer has to inform the retailing company his/her card number. If these kinds of information are leaked out, a consumer may meet some losses. Kettinger (1997) reported that one agent made a survey on the security concerns in companies. It was reported that more than 60 percent of companies investigated cited transaction security concerns as the major deterrent for coming to the Internet. Hoffman et al. (1999) also reported that "almost 95% of web user have declined to provide personal information to web sites at one time or another when asked". The author would like to emphasize one point that the variable ***consumer risk-tolerance*** here is just relative to a consumer's perception of the uncertainty and security problems of practicing online shopping. It does not matter what the objective uncertainty and security problems of doing shopping online are. Thus, the sensitivity to this risk is a subjective concept. Therefore, it is logical for us to deduce that the lower the consumer risk-tolerance (sensitivity to risk), the stronger a consumer's intention to adopt online shopping.

Internet Self-Efficacy Bandura (1986) defined self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance. It is not concerned with the skills one has but with the judgments of what one can do with whatever skills one possesses". The concept of self-efficacy is also explored in the literature of IS acceptance. Gist et al. (1989) suggested that self-efficacy has important implication for several issues in organizational behavior and human resource management such as: selection, leadership training, performance

appraisal, goals, and incentives. And self-efficacy is also strongly related to future performance. Cervone et al. (1986) suggested that observed performance of a similar task by some other person could also serve as an anchor point for self-efficacy beliefs. Gist et al. (1989) also found that self-efficacy was an important determinant of the perceptions of users about such technologies if it is tailored to computer/information technology context. From the research as above, The author thought that self-efficacy should be also an important determinant of *Adoption Intention* in the context of individual consumer's adopting online shopping because online shopping is also one kind of information technology. The author used the term *Internet self-efficacy* with the following meaning. A consumer may certainly have a well-formed sense for his or her abilities to use information, computer technologies, and the Internet in general. Such general notions of Internet self-efficacy may provide an anchor of judging the ability of practicing and exploiting the online shopping system for a consumer. This term deals with the following factors: a consumer's knowledge of computer and Internet, a consumer's skills on exploiting computer and Internet in general, a consumer's knowledge of search engine use, and so on. It is logical to deduce that the higher the consumer's Internet self-efficacy, the higher the possibility of a consumer's adopting online shopping.

Voluntariness The degree to which the use of online shopping is perceived as being voluntary, or of free will. This term reflects that there is no outside pressure to require a consumer doing shopping through the Internet. The consumer's choice of adopting online shopping is his/her own choice, not because of his/her supervisor, friends, family members, etc. Thus, it should be positively related to intention to adopt online shopping.

Prior Experience The degree of a consumer's familiarity with catalog shopping. Online shopping is a completely new way to purchase goods. It is not logical to suppose the consumers have some experiences on online shopping because online shopping is still in its very early stage. But it is similar to some existing ways of doing shopping. From consumers' position, they consider online shopping is closest to catalog shopping among all the other distribution channels. Ward (1999) identified that there were four similarities between online shopping and catalog shopping. (1) Possession of the product is not transferred when the terms of the transaction are agreed upon for both a consumer and a seller. (2) Both require a certain degree of customer familiarity with credit and financial matters. (3) Both are likely to involve lower transactions cost than traditional retailing (4) Both rely on photographic images or descriptions of the product being rather than direct consumer contact with the product being purchased. Although online shopping is much different from catalog shopping in technological nature, some skills are similar between these two kinds of shopping, such as providing credit card number, examining product indirectly, etc. Based on these similarities, we think a consumer's knowledge and experience with catalog shopping can be regarded as the prior experience of online shopping. Agarwal et al. (1999) pointed out that the extent of prior experience with similar technologies is positively associated with ease of use and usefulness beliefs about an information technology innovation. Therefore, it is evident that the more prior experience with catalog shopping a consumer has, the higher the intention to adopt online shopping the consumer has.

Consumer Innovativeness The degree of a consumer's tendency to accept new ideas and things. It is the personal willingness of an individual to try out an innovation. Trying out an innovation are inherently risky. There is no guarantee that adoption will, in fact, produce the anticipated consequences. In the context of consumers' accepting new products, Manning et al. (1995) defined and measured two aspects of consumer innovativeness: (1) *consumer independent judgment-making (CIJM)*, which is the degree to which an individual makes innovation decisions independently of the communicated experience of others. (2) *consumer novelty seeking (CNS)*, which is defined as the desire to seek out new product information. In the context of the research in this paper, *consumer innovativeness* means the degree of tendency for a consumer to generally use new sales tools or new sales approaches. If a consumer has a higher innovativeness, he/she would more like to try online shopping.

Table 1 lists all the definitions of the eleven variables and the labels used for them in the sequent discussion and analysis.

Table 1 Summary Of The Definitions Of Variables

Abbreviation	Construct	Definitions
Intenad	**Adoption Intention ****	The degree of a consumer's willingness or intention to use the Internet for doing shopping in the future.
Relativ	**Relative Advantage***	The degree to which online shopping is perceived as being better than other shopping approaches.
Compat	**Compatibility***	The degree to which online shopping is perceived as being consistent with the existing values, habits, needs and past experiences of a consumer.
Complex	**Complexity***	The degree to which online shopping is perceived as being difficult to understand and use.
Cost	**Transaction Cost Involved***	The total costs involved in purchasing a good through the Internet.
Homepg	**Homepage***	The presence of a store in cyberspace. It is the virtual store of a physical one. It mainly deals with consumers' perception of a commercial web site.
Risk	**Consumer Risk-Tolerance***	The degree that a consumer's sensitivity to the uncertainty and possible security problems of online shopping.
Selfef	**Internet Self-Efficacy***	A consumer's sense and judgment of his/her ability to use information, knowledge of computer and the Internet, that of search engine use, and so on in general.
Volunt	**Voluntariness***	The degree to which the use of online shopping is perceived as being voluntary, or of free will.
Prior	**Prior Experience***	The degree of a consumer's familiarity with catalog shopping.
Innova	**Consumer Innovativeness***	The degree of a consumer's tendency to accept new ideas and things.

***Independent-Variable** ****Dependent-Variable**

III. 2 Research Hypotheses

Based on the literature review, this paper proposes that the intention of consumer adoption of online shopping is determined by the variables that are relative to the four categories of factors below - consumer individual differences, the variables related to consumer perception of innovation characteristics, transaction cost involved, and voluntariness. As we have defined above, all the predictors except the variable ***homepage*** are adapted from those in prior researches of information technology adoption literature and marketing literature. Meanwhile, all of them are redefined in the context of online shopping and individual consumer behavior. The research model of this study is depicted in Figure 1. This model was constructed in order to answer the research questions raised earlier and was derived from the theories described in the preceding section.

A Model of Individual Consumer's Intention On Online Shopping

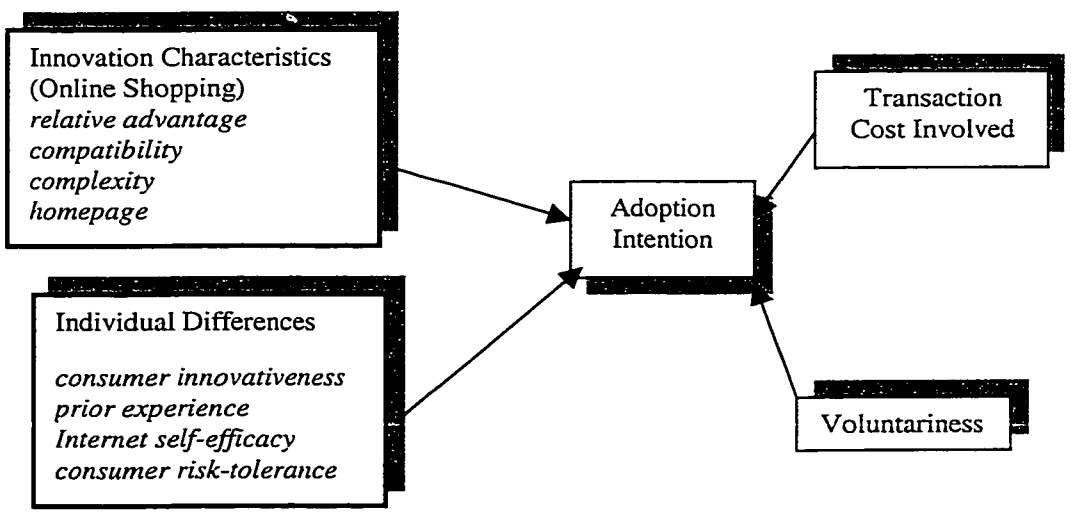

Figure 1 Research Model

III.2-1. Consumers' Differences And Their Adoption Intention

This paper adapts the meaning of individual differences in the research paper of Agarwal et al. (1999). In the context of online shopping, it is evident that an individual consumer's financial status should be considered. Thus, Individual differences here refer to consumer factors that include gender, age, annual income, and traits such as personality and demographic variables, as well as situational variables that account for differences attributable to circumstances such as experience and training. But the author thinks that it is not practical to include all the factors that relate to individual differences in this research. Only the factors that are close to acceptance information technology and have not been theoretically studied are included here. Thus, demographic factors will not be highlighted in the framework. This topic is evident and has been done on the relationships between online access and people's demographic factors, such as Hanson's work (Hanson, 2000). In terms of the access and usage of the Internet by American households, Hanson found the following results based on the extensive surveys of 48,000 households conducted by the U.S. Census Bureau. (1) The higher the annual income that a person earns, the more online access he does. (2) Internet users are much more likely to have at least a college education. For example, in 1997, approximately 21 percent of the U.S. adult population had a college degree. Among Internet users, 42 percent had completed college. (3) The biggest peak of Internet use is among the 30- to 49-year-old cohort. The group least likely to be online is late middle-agers and seniors. (4) Although there are some differences in the access and usage of the Internet between male and female, it becomes smaller as the time progresses. Especially, equality of Internet use

between teenage boys and girls is very striking. Other researchers even found that there was no difference in the usage of the Internet between male and female, such as the research of Farm and Grady. Farm and Grady (1997) found that a gender gap does not seem to exist among the Internet shoppers. On the contrary, in terms of online shopping, the UCLA Internet report (Enos, 2000) showed that 51.7 percent of all Internet users surveyed had made at least one online purchase. There was a noticeable discrepancy between the numbers of men (57.1 percent) and women (45.1 percent) who had made purchases cyberspace. Although Hanson's results are about the access and usage of the Internet, not about online shopping, his conclusions can give us some implications about the relative relationships on the adoption of online shopping. It is evident that all the demographic factors heavily influenced by outside macro-factors. For example, the relationship between a person's annual income and the usage of the Internet is heavily influenced by the price of personal computer and the charge of accessing the Internet. Thus, this research focuses on the factors that are possible to be completely controlled by a potential adopter him/herself. The choice of the factors that reflect the individual difference accords with the nature of this research, in which the intention, not the actual usage of adopting online shopping is mainly studied. The chosen factors can more reflect a person's willingness of adopting online shopping than demographic factors. Therefore, based on the previous research, definitions, and discussions, this paper just considers four factors that are relative to individual differences (consumer risk-tolerance, consumer innovativeness, prior experience and Internet-self efficacy) in the context of individual consumer's accepting online shopping. The supposed corresponding relationship between each variable in the category of consumer individual differences and the dependent

variable- *Adoption Intention* is described in the following four hypotheses. As the gender gap is concerned, it is hard for us to propose a clear hypothesis here because the two opposite results of the surveys mentioned above. But we will explore it in the data analysis stage.

H1a: ***Consumer Risk-Tolerance(Risk-Sensitivity) is negatively related to Adoption Intention***

H1b: ***Consumer Innovativeness is positively related to Adoption Intention***

H1c: ***Prior Experience is positively related to Adoption Intention***

H1d: ***Internet Self-Efficacy is positively related to Adoption Intention***

III.2-2. Innovation Characteristics And Consumers' Intention To Adoption

The variables in this category are about the perceived attributes of online shopping. Innovation characteristics have been highlighted in adoption and diffusion of innovation field. Rogers (1983) identified five perceived characteristics of an innovation influence acceptance behavior. Moore and Banbasat (1991) found seven perceived characteristics of innovation affect the adoption behavior. However, in a meta-analysis of innovation characteristics research that reviewed much of the same literature as used by Moore and Benbasat, Tornatzky and Klein (1982) found only three innovation characteristics - perceived ***relative advantage, perceived complexity and perceived compatibility*** - as being consistently related to adoption behavior. The result is also supported by the work of Agarwal and Prasad (1997). Thus, this paper adopts the research results of Tornatzky

and Klein's work (1982). Only three variables for innovation characteristics - ***relative advantage, complexity and compatibility*** are used in the context of individual consumer's accepting online shopping. The variable **Homepage** is the unique attribute of online shopping. It is interactive and is accessible any time anywhere. There are large differences between a physical store and its electronic counterpart. A help button on the home page of the online shopping site replaces the sales clerk's friendly advice and service. The familiar layout of the physical store becomes a maze of pull-down menus, product indices, and search features. Thus, the promise of electronic commerce and online shopping depends to a great extent upon the content and layout of the homepages and how people interact with the computer. Pretzer (1998) proposed that content is the king of a web site and organization is the key of a web site. Thus, this paper hypothesizes that if a web site contains more information a consumer needs and is organized well, the consumer would more like to purchase goods through the Internet. Therefore, based on the previous research, definitions, and discussions, the supposed corresponding relationship between each variable in this category and the dependent variable –Adoption Intention is expressed as the four following hypotheses.

H2a: ***Relative Advantage is positively related to Adoption Intention***

H2b: ***Compatibility is positively related to Adoption Intention***

H2c: ***Complexity is negatively related to Adoption Intention***

H2d: ***Homepage is positively related to Adoption Intention***

III.2-3. Consumers' Voluntariness and Their Adoption Intention

The variable ***Volontariness*** here deals with the consideration about whether individual consumer is of free willingness to implement online shopping or reject it. In other word, this variable is about if the external pressure, such as social pressure, managerial pressure and so on, can influence individual consumer's behavior of adoption of online shopping. It is the extent to which potential adopters of online shopping perceive the adoption decision to be nonmandated. The recognition that external pressure can affect acceptance outcomes is present in some technology acceptance models such as TRA. In TRA (Ajzen & Fishbein, 1980), subjective norm is included as a determinant of behavioral intention to use the innovation. With respect to managerial pressure or perceived voluntariness, Moore and Benbasat (Moore and Benbasat, 1991) demonstrated its influence on acceptance behavior. In Agarwal and Prasad's work (Agarwal and Prasad, 1997), external pressure is also one of the four variables that account for the variance in current usage. Previous research (e.g. Moore & Benbasat, 1991) assumed that this construct is not binary or in other words, that voluntariness is not an "either-or" perception. That means the construct could be more than binary. In Moore and Benbasat's article, they indicated that certain behaviors were either voluntary or compulsory is based on respondents' level in the hierarchy or on job descriptions. But the research of Moore and Benbasat were intended to make instrument to be a tool for the study of the initial adoption and eventual diffusion of IT innovation within organizations. The individual consumer studied in this research is in a completely different environment. There is no hierarchy system and managerial pressure existing here. The free choice of rejection or adoption is still at individual consumer's hands. Based on this, I deduce that if there is some external

pressure existing for individual consumer, it should have a positive relationship with his/her adoption intention because the individual consumer has the right to reject any kind of pressure. Thus, the high degree of a consumer's voluntariness can indicate that a consumer may have strong intention to do shopping through the Internet.

H3: ***Voluntariness is positively related to Adoption Intention***

III.2-4. Transaction Cost Involved and Consumer Adoption Intention

Economic theory (e.g. Lancaster 1966) indicates that a consumer would like to minimize his/her transaction costs when she/he purchases a good. Liang and Huang (Liang & Huang, 1998) verified the theory and concluded that whether a customer would buy a product electronically is determined by the transaction cost of the channel. They also found that transaction cost had a negative relationship with acceptance by testing five kinds of products (book, shoes, toothpaste, microwave and flower) in the context of electronic market. This result should be valid in terms of online shopping. Thus, the author thinks the lower the transaction costs, the higher possibility for a consumer to purchase goods through the Internet.

H4: ***Transaction Cost Involved is negatively related to Adoption Intention***

IV. Methodology

Survey methodology using a self-administered questionnaire was used to collect the data for the study. The design of the study has combined and rewritten the measurements of the relative variables in IT field and in marketing literature.

IV.1. Questionnaire Development

The development of the questionnaire was accomplished in six phases: (1) study the questionnaires of previous research that are related to the research topic in this paper, (2) develop the written questionnaire, (3) design the web pages for questionnaire and homepages (4) publish them on the web site (5) pretest the questionnaire, and (6) refine the questionnaire and homepages

IV.1-1. Previous Measurements Of The Variables

There are many existing measurements for most of the variables included in this research paper in both the IT and market research literature. The author just adopted the format for measuring each variable from previous researches and wrote each of them in the context of online shopping. All scales were adjusted into 7 point rating scales with our own word interpretation for each number. The change is necessary in order to keep the consistency of the whole questionnaire that specifies on individual consumer's online shopping. The reasons of our adopting the formats and instruments of previous researches that measure

the variables in the IT domain and marketing literature are as follows. (1) Most variables in this paper have been developed and measured in other research or fields. Some formats and instruments of measuring the variables are popular in the relevant literature, such as relative advantage, compatibility (Agarwal and Prasad, 1997). Thus, the reliability and validity of the measurement of the related variable are extensively testified. (2) Actually, this paper wants to measure all the adopted variables (adoption intention, relative advantage, compatibility, consumer innovativeness, complexity, transaction cost involved, and voluntariness) in the same meanings as those in previous research in terms of the specific topic - individual consumer's online shopping. By adapting those formats, it is easy for us to compare our results with previous works that were based on the same measurement. (3) Adapting the existing formats is time-saving for us.

IV.1-2 Written Questionnaire

The questionnaire was developed to measure the variables in the following categories: (1) the characteristics of online shopping (2) the differences of individual consumer's behavior, experience and personality (3) individual consumer's intention to adopt online shopping (4) transaction cost occurred when purchasing goods through the Internet. The measures of these variables were either developed from previous research or derived from the definitions in this research (homepage, prior experience, and consumer risk-tolerance). Table 2 presents detailed information about each measure, the type of scale employed, and sources for measurement. The complete questionnaire is in appendix 2.

Table 2 Operational Definitions of Variables

	Varaible	Measurement&Source	Scale Type In This Paper
1	Adoption Intention	Agarwal & Prasad (1999) Agarwal & Prasad (1998)	7-Point Likert (1-7)*
2	Relative Advantage	Agarwal & Prasad (1997), (1998) Moore & Benbasat (1991)	7-Point Likert (1-7)*
3	Compatibility	Agarwal & Prasad (1997), (1998) Moore & Benbasad (1991)	7-Point Likert (1-7)*
4	Internet Self-Efficacy	Venkatesh & Davis (1996)	7-Point Likert (1-7)*
5	Prior Experience	Designed & Written By the Researcher	7-Point Likert (1-7)*
6	Consumer Innovativeness	Agarwal & Prasad (1998) Manning et al.(1995)	7-Point Likert (1-7)*
7	Consumer Risk-Tolerance	Derived and Written by the Researcher	7-Point Likert (1-7)*
8	Complexity	Derived from "Ease of Use" in Davis (1989), Agarwal&Prasad (1998)	7-Point Likert (1-7)*
9	Transaction Cost Involved	Liang & Huang (1998)	7-Point Likert (1-7)**
10	Voluntariness	Agarwal & Prasad (1997) Moore & Benbasat (1991)	7-Point Likert (1-7)*
11	Homepage	Designed and Written by Researcher	7-Point Likert (1-7)***

* 1-Completely Disagree, 7-Completely Agree
** 1-Very Low, 7-Very High
*** Very bad, 7-Very good

IV.1-3.Questionnaire Publishing

According to Steuer's research (Steuer 1992), and Hoffman and Novak's research (Hoffman and Novak 1996), the web is not a simulation of a real world environment.

Customers may experience "telepresence". Thus, the questionnaire was posted in the Internet instead of just printing it on papers. The posted web page includes three main parts: (1) Introduction of this research (2) Demographic information of the respondents (3) The 54 questions for measuring the 11 variables.

IV.1-4. Six Fictitious Sample Homepage Design

Six sample homepages were designed and posted for a fictitious retailing bookstore. The six homepages are related to the questions from question 49 to question 54. The reasons for the researcher choosing the book as the sample good to design the sample homepages are as follows. (1) Books are one of the popular goods sold online. (2) Most of the chosen subjects in this study are familiar with the attributes of this kind of good. (3) In fact, the post-sale service is quite important for online shopping, for example, delivery in time, technical support, customer service, and so on. This study deals with individual consumer's intention to adoption. It is necessary to avoid the factors that are not considered in this research to influence the measurement of the variables in this research. Purchasing books online includes little post-sale service consideration. Thus, the book is an ideal good to be used for this research.

To explain how the six different homepages were designed to meet the research purpose in this paper, I would first like to explain the principles guiding the design of the homepages. It is evident that not any web page published in the Internet can be viewed as a homepage in commercial purpose. Some researchers have studied how to

evaluate a commercial web site. Ho (1997) conducted a study of commercial sites using a general framework to evaluate web sites from consumer's perspective of the added value. According to Ho's research, there are no obvious criteria to evaluate the effectiveness of commercial web sites because Web-based business models are still in the nascent stage, and he attempted to build one. In his study, he identified four types of value creation. They are: (1) Timely: timely value applies to time-sensitive information, and not to the speed of its delivery. This category includes time-limited special offers, news, and product announcements (2) Custom: custom value is predisposed preferences of visitor. For example, searching a database of real estate listings based on preferred price range, location, size, and style of home, is a custom value. (3) Logistic: logistic value is created when the site offers a preprogrammed function of the site. For example, quoting the rate for shipping can be preprogrammed, so it is logistical. (4) Sensational: sensation value is totally subjective. The web site includes excellent contents that are beyond the surfers' expectation. This could be downloadable multimedia, surprise discounts, and outstanding web designs. Ho's research is quite powerful. Some researchers applied his value-added model to compare U.S. web sites and Japanese web sites. (Sakaguchi et al. 1999). Based on Ho's framework and Pretzer's work (1998), the guideline for designing the sample web site are as follows: **A.** the content of web site, **B.** the layout and organization of the web site, **C.** Logistic, **D.** comparison, **E.** linkages available, **F.** convenience of conducting purchase. Thus, we designed the six different homepages that each one has its own characteristics that were derived from the guidelines above. Homepage1 just has the products (two books sold). The layout is straightly. But it is

not attractive. Homepage2 paid attention to both the content and their layout. But it is still not a homepage that can be regarded as a commercial site. Homepage3 and Homepage4 emphasize the logistic characters of a web site. Homepage5 includes all the necessary characteristics (content, good layout, comparison, linkages available, and so on) of a commercial web site. Homepage6 is a simple web site. But it includes the basic characteristics of a commercial web site.

By asking the subjects to rate the six homepages, the author hopes to measure the perception of a customer about the different characteristics of a commercial site. Thus, the score we got from the subjects is not about a homepage itself, but about the subjects' perception about the one kind of characteristic belonging to each homepage. Thus, a high score of one homepage got from the subject means, in his/her opinion, that the characteristic or the combination of the characteristics in a specific homepage is good in terms of purchasing goods through the Internet. After we got the scores, we can test the supposed relationship between this kind of opinion and a consumer's attitude to adopt online shopping.

The responses of the subjects were stored in a database. The posted questionnaire and six homepages were written with Dreamweaver 3.0. The corresponding database was set up in Access. The questionnaire and web pages were hosted by Abekobe Company.

IV.1-5 Pretest The Questionnaire

Ten students were invited to access the web site and respond the questions. After the pretest, the researcher asked the students to talk about their impression and advice on how to improve the questionnaire. Then, the author did two things. One was refining the questionnaire and correcting some errors inside the questionnaire. The other was changing the way of the inter-linkage among the web pages.

IV.2 Sample Selection And Data Collection

To test the hypotheses above, totally there are 182 subjects participating in the survey. Due to the nature of this research, the subjects were treated in two different ways. The subjects in the first group answered the questionnaire through hard copies by just referencing and surfing the six homepages of the fictitious retailing bookstore. The contents in the hard copies included the background of this research, how to finish the questionnaire, the questionnaire, and the web site where the subjects can surf the six homepages of the fictitious retailing bookstore (Appendix 3). There are 75 subjects in this group who are undergraduates in John-Molson School of Business of Concordia University. With prior permission from the professor of each class, the students were contacted and asked to participate as subjects in the study by filling out a questionnaire. The subjects in the second group answered the questionnaire completely through the Internet. There are 107 subjects in the second group. The subjects were subscribed from Faculty of Arts & Science of Concordia University, John-Molson School of Business of Concordia University, and the Shadd Business Center. With prior permission from

instructor/supervisor of each class, the students were contacted and asked to participate as subjects in the study by answering the questionnaire through the Internet. Thus, all the data gathered from the second group were collected through web page. The subjects in the second group could personally experience the "telepresence". By treating the subjects in two different ways, the author hopes to know if there is any difference existing due to the "telepresence". A web site designed by the researcher that contains the questionnaire and six homepage samples related to the variable *Homepage* could be accessed by the subjects in this group. They answered it at home or in their labs when they were free. The questionnaire (Appendix 2) and the homepages (Appendix 4) are specially prepared for the purposes of this research, based on the literature review and the nature of this research. The subjects were asked to fill out a questionnaire through the Internet upon reading background information, together with several sample homepages.

V. Data Analysis And Results

V.1 Demographics of Subjects

The demographics of the survey respondents are showed in table 3.

Table 3 Subject Demographics [1]

Subjects' Gender	Male	83 (45.6%)
	Female	99 (54.4%)
Subjects' Level Of Education	Below Undergraduate	6 (3.3%)
	Undergraduate	137 (75.3%)
	Graduate	32 (17.6%)
	PHD	7 (4.1%)
Subjects' Major	Arts & Science	110 (60.4%)
	Commerce & Administration	72 (39.6%)
Surfing The Internet[2]	Yes	150 (82.4%)
	No	32 (17.6%)
Treatment	By Hard Copy	73 (40%)
	By Electronic Version	109 (60%)

[1]Total sample size is 182. Numbers may not add up because of outliers.
[2]All subjects could access the Internet at university, in the school or at home.

From table 3, we can see that there are 182 subjects participating in this survey. As the technology of WWW and online shopping are still at their infancy stage, it is reasonable to assume that doing shopping online has not been institutionalized for daily life and purchasing at the time of data collection. Thus, the sample exhibits the desired characteristics for this research. That is potential adopters have knowledge about the Internet and online shopping, have the opportunity to use the Internet or do shopping online of their own volition (The use of the Internet and adoption of online shopping are not mandated), and are still in the process of deciding whether to purchase goods online.

As the data shown, most of the subjects (96.7%) at least have undergraduate education. The participants were divided into two groups. One group (40%) answered the hard copy questionnaire (except surfing the six sample homepages online). The other group (60%) responded the electronic version questionnaire through the Internet. Among the subjects, 82.4% of them often surf the Internet.

V.2 Scale Reliabilities

As we know that internal consistency reliability is concerned with the homogeneity of the items comprising a scale. Internal consistency is typically equated with Cronbach's coefficient alpha (Cronbach 1970). It is widely used as a measure of reliability. Thus, in this research, we reported all the Cronbach's coefficient alphas of our scales.

Table 4 presents the number of items comprising each scale and the Cronbach's alpha for scale reliability obtained for this sample.

From the Table 4, we can see that all the reliabilities (except that of the construct Voluntariness) have reached the acceptable percentage (70%) for social science study. Although this percentage (70%) is extensively deemed as a minimum acceptable reliability, for some variables, low scores were also accepted. For example, Agarwal and Prasad (1997) had used low percentage of reliability coefficient of Voluntariness in their research. For their sample size the reliability coefficient of Voluntariness is .45. The value of reliability coefficient of voluntariness in this research is .55. It is not surprising that the reliability value of voluntariness is much less than 0.7 here because the items

used in this research were derived from the work of Agarwal and Prasad (1997). That the reliability coefficient of voluntariness is less than the value of 0.70 is often deemed to be satisfactory (Nunnally, 1978). Based on this, we still kept the construct of Voluntariness in the research model in order to test the supposed positive relationship between it and potential adopter's adoption intention. Data analysis was focused on examining the relationships between individual consumer's intention to adopt online shopping and its 10 determinants that were hypothesized in the hypotheses of this study.

Table 4: Scale reliabilities [1]

Scale	Number Of Items	Reliabilities[2]
Adoption Intention	4	.85
Relative Advantage	5	.72
Compatibility	4	.90
Complexity	6	.77
Transaction Cost Involved	3	.70
Homepage	5	.72
Consumer Risk Tolerance	4	.68
Internet Self-Efficacy	5	.82
Voluntariness	3	.55
Prior Experience	5	.74
Consumer Innovativeness	5	.76

[1]Total sample size is 182. Cronbach's alpha is reported for scale reliability.
[2]The significant level is at 0.05.

V.3 Factor Analysis

As we know that factor analysis is an extensively used approach in social science study. It can identify the structure of relationships among respondents (or items) by examining the correlations between the respondents (or items). With the factor analysis, we can

identify the separate dimensions of the structure and then determine the extent to which each variable is explained by each dimension. Once these dimensions and the explanation of each variable are determined, we can do summarization and data reduction. Therefore, we used factor analysis in this research to identify the items of each construct (variable) and do summarization and data reduction upon the collected data. There are totally 11 constructs being measured in this study. It is necessary to test the relationships between the constructs and their respective measurement items. Thus, we first reported the results of the Extraction of Component Factors are in table 5.

Table 5: Extraction of Component Factors

Factor	Eigenvalue	Percent of Variance (%)	Cumulative Percent of Variance (%)
1	7.996	16.318	16.318
2	4.948	10.099	26.417
3	3.445	7.031	33.448
4	2.598	5.303	38.751
5	2.263	4.618	43.369
6	1.958	3.996	47.365
7	1.819	3.712	51.076
8	1.666	3.4	54.476
9	1.503	3.068	57.544
10	1.348	2.752	60.296
11	1.322	2.699	62.994

From table 5, we can see that more than 62.99 % of the total variance is accounted for by the 11 constructs (totally there are 49 items analyzed). All the Eigenvalues are greater than 1.

In order to assess their validity and identify the unique dimensions of each construct, Factor analysis with VARIMAX rotation was employed because VARIMAX method maximizes the sum of variances of required loadings of the factor matrix. The results from the VARIMAX rotated component analysis factor Matrix were reported in Appendix 1. From Appendix 1, we can see that the loadings are far from 0, these indicate that clear positive or negative associations between the items and the factors, respectively.

V.4 Descriptive Statistics Of The Variables

The score of each variable was calculated from its corresponding items that are designed to measure it and identified by factor analysis. The average value of corresponding items of each variable was used as the value of each construct (summated scales). The descriptive statistics of the 11 variables are shown in table 6.

We would like to discuss a little bit more about the variable ***Homepage***. What does the mean score of ***Homepage*** variable mean by averaging the scores of the six homepages in the context of this research? As that mentioned before, each homepage represents one or more characteristics that a commercial web site should have. The score stands for the subjects' opinion on the measured characteristic(s) including in each homepage. The characteristic or the combination of the characteristics including in each homepage are derived from the same construct "commercial homepage". Thus, the score (a consumer's opinion about the characteristic(s)) is one of the specific attributes of the construct. We can see this from the scale of reliability of variable Homepage. It is .72. This means that

the six designed homepages were derived from the same construct. Therefore, just as other variables, we can calculate the average score of the six scores rated by the subjects to measure a subject's perception (opinion) about a commercial web site in his mind. If the attributes designed in the homepages meet a customer's inner perception about the commercial homepage, we would get a high average score, vice versa. By this average score we can test if consumers' perception about a commercial homepage is positively related to their intention to adapt online shopping.

Table 6 Descriptive Statistics Of Variables

Variable	N	Minimum	Maximum	**Mean**	Std. Deviation
Intenad	182	1.00	6.75	**3.8091**	1.1920
Relativ	182	1.00	6.80	**4.5879**	1.0466
Compat	182	1.00	6.50	**3.5495**	1.3517
Selfef	182	1.00	7.00	**5.9758**	.9003
Prior	182	1.00	7.00	**4.4637**	1.3958
Innova	182	1.00	6.60	**4.0407**	1.1629
Risk	182	1.00	7.00	**4.8668**	1.0812
Complex	182	1.00	6.00	**3.2326**	1.0548
Cost	182	1.00	7.00	**4.8242**	1.1051
Homepg	182	1.40	6.20	**4.0165**	.8093
Volunt	182	1.00	7.00	**5.0055**	1.1890
Valid N(listwise)					

V.5 Test the Hypotheses

There are 10 hypotheses in this research. All the hypotheses are about the relationships (associations) between individual consumer's intention of adopting online shopping and the related factors that are supposed to determine a customer's adoption behavior. Thus, the correlation coefficients between the variable – *Adoption Intention* and each of the

other variables are calculated. As we know, correlation coefficient has two meanings. One is the strength of association. The other indicates the association is positive or negative. The results of Correlation Coefficients between the variables and adoption intention, and their respective significant levels are listed in table 7.

Table 7 Results of Correlation Coefficients Between The variables And Adoption Intention

Variable	Pearson Correlation	Sig (2-tailed)
Relativ	**.307****	.000
Compat	**.482****	.000
Selfef	.065	.382
Prior	**.241****	.001
Innova	**.410****	.000
Risk	**-.144***	.050
Complex	-.065	.385
Cost	**-.151***	.041
Volunt	**.215**	.004
Homepg	.106	.153

** Correlation is significant at the level of 0.01 (2-tailed).
* Correlation is significant at the level of 0.05 (2-tailed)

From table 7, it is evident that all the hypotheses except H1d, H2c, and H2d were supported by our sample test at the significant level .05 ($p<0.5$). Thus, we can conclude that the independent variables –***consumer innovativeness, prior experience, relative advantage, compatibility, voluntariness*** are positively related to the dependent variable – **adoption intention**. The variable – ***transaction cost involved*** and ***consumer risk tolerance*** are negatively related to the dependent variable – **adoption intention**, which are supported by our sample test at the significant level .01 ($p<.01$). But the supposed relationship between the variable – ***Internet self-efficacy, complexity*** and ***homepage***, and

the dependent variable – **adoption intention** is not statistically significant at the significant level of 0.05 (p>.05). The test results are graphically showed in **figure 4.**

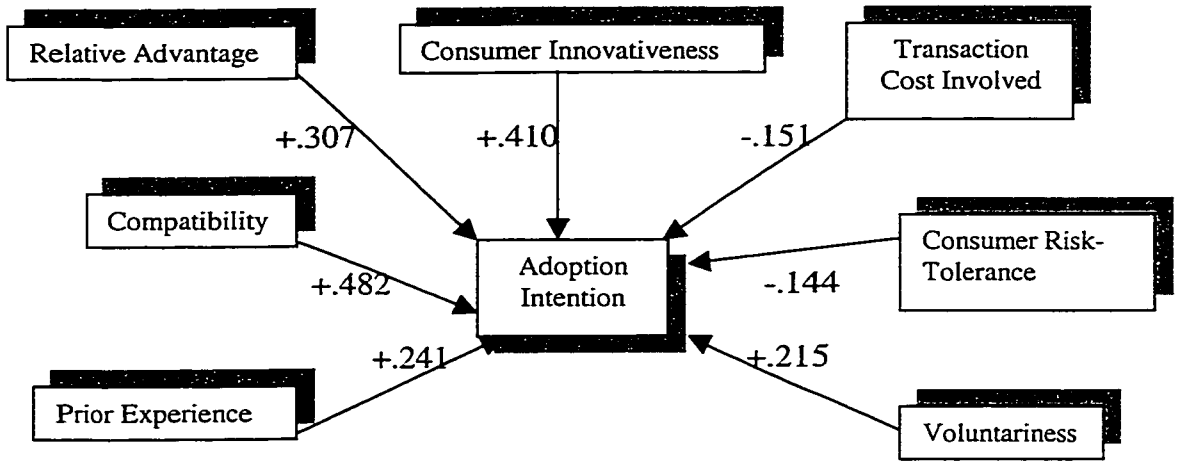

Figure 2 Graphic of Correlation Coefficients

One surprising result is that variable **homepage** has a positive relationship with the customer's intention to adopt online shopping is not supported here based on the whole dataset. The reason may be the respondents did not check the six homepage seriously and carefully when they answered the questionnaire. It is also possible that no respondent had actually bought goods online. They were not sensitive to the differences existing inside the six homepages. The third reason may be the so-called subjects' "telepresence". For example, the computer mediated environment (CME) mentioned by Novak (1996). Thus, we got the following interesting result here. Although the positive relationship between individual consumer's adoption intention and the variable homepage lacks significance

for the whole dataset, it does exist if only the sub-dataset collected from the subjects treated by hard copy questionnaire (See table 8). We can see that the positive coefficient .315 is significant at the level of .01 ($p<0.01$). Therefore, for the hard copy-treated subjects, the characteristics and information contained of a company's homepage is positively related to their adoption intention.

Table 8 Correlation Coefficient Between Intenad and Homepg (based on Hard Copy)

Variable		**Intenad**	**Homepg**
Intenad	Pearson Correlation	1.00	.315*
	Significant Level	.	.007*
	N	73	73
Homepg	Pearson Correlation	.315	1.00
	Significant Level	.007	.
	N	73	73

* Correlation is significant at the .01 level (2-tailed).

As variable ***complexity*** is concerned, the lack of significance of complexity in predicting individual consumer's intention to adopt online shopping is reasonable because doing shopping online is not much more complicated than searching a piece of news or an article. As we know, the key features of the WWW include a common "look and feel", consistent interface, and a complete shielding of the user from the complexity underlying the storage and retrieval of information on the net. The availability of graphical front-ends and user-friendly browser serves to mask the complexity of the Internet and the process of purchasing goods through the Internet. Actually, the definition of complexity is similar to another popularly studied term in the technology adoption literature "ease of use" (Davis et al. 1989), which is also used to reflect the degree of how a technology is

difficult for adopters to use. In this research, I got the same result as that in the work of Agarwal and Prasad (1997). In the context of WWW, they found that ease of use lacked significance for predicting user's acceptance of information technology.

The supposed positive relationship between the variable ***Internet self-efficacy*** and customers' adoption intention was not supported, either. As for how to explain that the supposed positive relationship was not supposed in the context of adopters' intention to do online shopping, I would like to mention the following two points. (1) Self-efficacy in previous research has shown that when self-efficacy improves, there are accompanying increases in performance (Gist, Schwoerer and Rosen, 1989). Thus, maybe it is necessary for us to differentiate the two terms – performance and intention. Performance is related to the outcome of actually doing something. Intention is just about people's willingness to do something. People's willingness to do something and their judgment of their ability to do something are totally two different concepts. (2) In the context of students' studying multimedia course, Christoph et al. (1998) argued and supported that self-efficacy comprise existing self-efficacy and developed self-efficacy. Students with prior exposure to multimedia-based courses have higher levels of existing self-efficacy, higher levels of developed self-efficacy, and perceive multimedia instruction to be more effective than those students with no exposure to multimedia courses. We can deduce that customers with prior exposure to the Internet and online shopping would have a higher level of existing self-efficacy and developed self-efficacy. Thus, due to the simplicity of practicing online shopping, most subjects in our sample should have a high level of self-efficacy because 82.4 percent of our subjects often surf the Internet. Our design of

measuring this variable is a statically-based measurement. It could not measure the dynamic nature of the variable ***Internet self-efficacy***.

V.6 Regression Analysis

Regression analysis can be used in this study. There are seven hypotheses that were supported by the sample test here. Therefore, in this regression analysis, we tried to set up a linear function in which adoption intention is dependent variable and relative advantage, compatibility, prior experience, innovation, consumer risk tolerance, cost involved and voluntariness are predictors. Before we can set up the linear function, we checked if our dataset meets the relative assumptions of doing regression. We found that all the assumptions were met here. All the values of VIF are around 1. This means that the multicollinearity was avoided in our dataset. The independence statistical assumption was also satisfactory because all the respondents answered the questionnaire individually. The analysis of residuals indicates that the assumption of normal distribution of the error terms was not violated (see figure 5). We can see that the distribution is almost a straight line. As a result, all the assumptions for doing linear regression were confirmed.

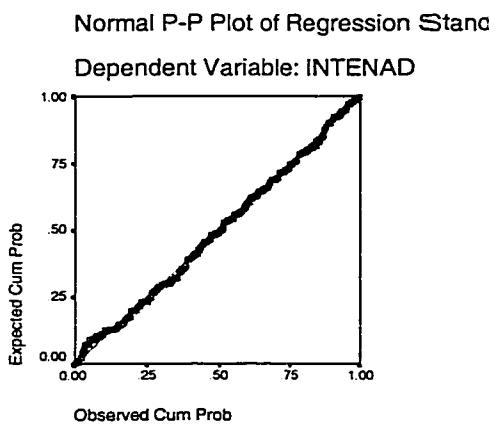

Figure 3 Normal P-P Plot of Regression Standard

By doing regression analysis in SPSS software package, we can get the results that are showed in table 9, 10, 11.

Table 9 Results of Regression Model Summary

Model	R	R Square	Adjusted R^2	Std. Error Of The Estimate
1	.566*	.320	.293	1.0026

* Predictors: (Constant), Volunt, Risk, Innova, Cost, Relativ, Prior, Compat

Table 10 Result Of ANOVA Table For Regression

Model	Sum Of Squares	df	Mean Square	F	Sig.
1 Regression	82.280	7	11.754	11.694	.000*
Residual	174.897	174	1.005		
Total	257.178	181			

*Predictors: (Constant), Volunt, Risk, Innova, Cost, Relativ, Prior, Compat.
Dependent Variable: Intenad

Table 11 Result Of Correlation Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.255	.550		4.098	.000
Relativ	8.824E-02	.085	.077	1.033	**.303**
Compat	.258	.070	.292	3.693	.000
Prior	1.796E-02	.062	.021	.292	**.771**
Innova	.207	.079	.202	2.629	.009
Risk	-.138	.073	-.125	-1.886	.061
Cost	-.144	.073	-.134	-1.981	.049
Volunt	.137	.068	.137	2.031	.044

* Dependent Variable: Intenad

From the table 9, we can see R-square is .32. This means this regression model can explain 32 percentage of the total variance. It is acceptable. Table 10 tells us that the regression result is statistically significant at $p<.001$. From table 11, we found that Variable ***Relativ*** and variable ***Prior*** are not significant in the regression analysis. Thus, we can not keep them in the function. Finally, we can get the following function at the significant level of 0.01 ($p<0.1$).

Intenad=2.255 +.292***Compat** +.202***Innova** +.137***Volunt** -.125***Risk** -.134***Cost**

Based on the function above, we can say that there is a linear function relationship between the dependent variable - ***adoption intention*** and the predictors - compatibility, consumer innovativeness, consumers' voluntariness, consumers' risk sensitivity, and cost involved in transaction. If the variable Compat there is 1 unit change, the dependent variable adoption intention will have .292 units change, and so on.

V.7 Decomposition Of The Total Sample (ANOVA)

V.7-1 Decomposed By Treatment

If we decomposed the data into two groups: hard copy questionnaire-treated subjects and electronic version-treated subjects. We found the following results.

By doing this decomposition, first, we tried to explore if there are some differences existing due to the different treatment for each construct. From table 11, we can see that

different treatment resulted in real difference for the variables – Relative advantage, compatibility, Internet self-efficacy, customer's previous experience, consumer innovativeness and consumers voluntariness at the significant level α=.05. All the five variables have higher scores from hard copy–treated subjects than those from electronic version-treated subjects.

Table 12 Difference between Hard Copy treatment Vs Electronic Version-treatment

Construct	Hard Copy*	Electronic **	F Value	p-Value
Intenad	3.8801	3.7615	.432	.512
Relativ	4.8685	4.40	9.156	**.003**
Compat	3.8116	3.3739	4.68	**.032**
Selfef	6.1534	5.8569	4.845	**.029**
Prior	4.726	4.2881	4.385	**.038**
Innova	4.2219	3.9193	2.994	**.085**
Risk	4.9863	4.7867	1.494	.223
Complex	3.1347	3.2982	1.05	.375
Cost	4.9132	4.7645	.791	.375
Homepg	3.9452	4.0642	.945	.332
Volunt	5.2466	4.844	5.125	**.025**

* Sample size of hard copy-treated is 73.
**Sample size of electronic version is 109.

V.7-2 Decomposed By Subjects' Frequency Of Surfing The Internet

The Second, we tried to explore if there are some differences existing due to subjects' frequency of surfing the Internet. From table 13, we can see that, for the following 5 variables- Relative advantage, compatibility, Internet self-efficacy, customer's innovativeness, and consumers' sensitivity to risk, the difference of scores between subjects who often surf the Internet and those who do not often surf the Internet is

significant at level α=.05. All the scores got from subjects who often surf the Internet are higher than those from subjects who do not often surf the Internet. Especially, I would like to mention that the score of Internet self-efficacy of surfing subjects is higher than that of non-surfing subjects. This result agrees to the work of Christoph, Schoenfeld Jr., and Tansky (1998). In the context of multimedia-based students' training, they found that students with prior exposure to multimedia-based courses have higher levels of both existing self-efficacy and developed self-efficacy than students with no exposure to multimedia courses.

Table 13 Difference Between Subjects often Surfing the Internet and Not

Construct	Surfing*	Non-Surfing **	F Value	p-Value
Intenad	3.8533	3.6016	1.178	.279
Relativ	4.7173	3.9813	13.982	**.000**
Compat	3.7283	2.7109	16.197	**.000**
Selfef	6.1213	5.2937	25.277	**.000**
Prior	4.5373	4.1187	2.39	.124
Innova	4.1853	3.3625	14.164	**.000**
Risk	4.94	4.5234	3.979	**.048**
Complex	3.2133	3.3229	.284	.595
Cost	4.8244	4.8229	.000	.994
Volunt	5.0689	4.7083	2.445	.120
Homepg	4.0427	3.8938	.892	.346

*Sample size 150. **Sample size 32

V 7-3 Decomposed By Gender

As what we cited before, there were opposite results about if there was a gender gap existing in terms of online shopping. Farm and Grady (1997) found that a gender gap did not seem to exist among the Internet shoppers. On the contrary, the UCLA Internet report (Enos, 2000) showed that there was a noticeable discrepancy between the numbers of men (57.1 percent) and women (45.1 percent) who had actually made purchases

cyberspace. Thus, we are interested in what is our result about gender gap. We decomposed the whole dataset by the variable gender and did ANOVA analysis. The result is showed in table 14.

Table 14 Difference Between Male And Female

Construct	Male*	Female **	F Value	p-Value
Intenad	4.0663	3.5934	7.353	**.007**
Relativ	4.6771	4.5131	1.109	.294
Compat	3.7620	3.3712	3.834	.52
Selfef	5.9880	5.9657	.028	.868
Prior	4.6771	4.2848	3.617	.059
Innova	4.2386	3.8747	4.504	**.035**
Risk	4.7199	4.9899	2.845	.093
Complex	3.1446	3.3064	1.063	.304
Cost	4.8675	4.7879	.233	.630
Volunt	5.0884	4.9360	.740	.391
Homepg	3.9711	4.0545	.479	.490

*Sample size of male is 83. **Sample size of female is 99

From this table, it is easy to see that there are no differences existing between male and female for most of the 11 variables. But the differences exist for variable adoption intention and consumer innovation at the significant level of α=.05. Especially, we would like to explore the difference of the variable adoption intention. The significant level is at α<.01. This means our sample size strongly supports the result. According to the definition of adoption intention and the research result of Davis (Davis et al. 1989), our result means there is a noticeable discrepancy between male and female in adoption of online shopping. It seems that male are more likely to purchase goods online than female. Therefore, our sample size and result support the result of Enos (Enos, 2000)

VII. Conclusions and Future Researches

Finally, we can conclude the findings of this research. First, the following relationships were supported by the sample test. The independent variables –***consumer innovativeness, prior experience, relative advantage, compatibility, voluntariness*** are positively related to the dependent variable – **adoption intention**. The variable – ***transaction cost involved*** and ***consumer risk tolerance*** are negatively related to the dependent variable – **adoption intention**. But the supposed relationship between the variable – ***Internet self-efficacy, complexity*** and ***homepage***, and the dependent variable – **adoption intention** is not statistically significant at the significant level of 0.05. Second, the so-called "telepresence" of people exists in this research. Third, designing sample homepages and publishing questionnaire online is a practical approach to collect data.

It is no doubt that there are several limitations in this research. This research tried to address the determinants of individual consumer's intention of accepting online shopping. Except the factors considered in this research, there are some other factors that were not addressed here. For example, the dynamic nature of present online shopping, the behavior and statutes of government, the religion and culture, and so forth were not considered.

Another limitation is related to the sample size. As a general rule, the minimum sample size is to have at least five times as many observations as there are variables to be analyzed. The higher cases-per-variable ratio is helpful to minimize the chance of

"overfitting" the data (Hair JR. et al., 1998). The meaning of variable in context of the above rule means each measured item. In this study, there are 49 items measured. Because the approach of collecting data through the Internet is rather new and it is hard for the researcher to subscribe the respondents, the author did not collect enough data according to this rule here. Based on this rule, we should at least have 49×5=245 observations. But we just had 182 subjects.

Especially, the author would like to mention the following two topics for future research. As we know that how people accept new technologies or innovations is strongly influenced by some other people who adopted the innovations earlier. The communication channel type of the innovations affects people's perceptions of the specific innovation, such as relative advantage. But this was not considered in this research. Thus, strictly speaking, this research can only be viewed as a static framework of individual consumer's accepting online shopping.

Post sale service is quite important in retailing industry. Due to the nature of online shopping, where the customers can not physically examine the goods, this kind of service is critical for successfully doing business. Although this problem was not discussed here because this research just focused on individual consumer's intention to do shopping online and intention to use is a good predictor of future usage, this problem is quite meaningful for both theoretical and practical purpose. Therefore, this is a good topic for future research.

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Appendix 1

Results Of The VARIMAX Rotated Component Analysis (Factor-Loading Matrix)

Measure Items	Construct Intenad	relativ	Compat	Selfef	Prior	Innova	Risk	Complex	Cost	Volunt	Homepg
Intenad1	0.672										
Intenad2	0.782										
Intenad3	0.838										
intenad4	0.780										
Relativ1		0.268									
Relativ2		0.440									
Relativ3		0.619									
Relativ4		0.664									
Relativ5		0.721									
Compat1			0.843								
Compat2			0.766								
Compat3			0.831								
Compat4			0.699								
Selfef1				0.694							
Selfef2				0.672							
Selfef3				0.665							
Selfef4				0.770							
Selfef5				0.768							
Prior1					0.631						
Prior2					0.813						
Prior3					0.797						
Prior4					0.444						
Prior5					0.468						

	Intenad	relativ	Compat	Selfef	Prior	Innova	Risk	Complex	Cost	Volunt	Homepg
Innova1						0.481					
Innova2						0.680					
Innova3						0.588					
Innova4						0.416					
Innova5						0.314					
Risk2							0.760				
Risk3							0.724				
Risk4							0.719				
Risk5							0.421				
Complex1								0.602			
Complex2								0.680			
Complex3								0.693			
Complex4								0.472			
Complex5								0.775			
Complex6								0.679			
Cost3									0.683		
Cost4									0.758		
Cost5									0.640		
Volunt1										0.363	
Volunt2										0.682	
Volunt3										0.459	
Homepg1											0.695
Homepg2											0.734
Homepg3											0.787
Homepg4											0.686
Homepg6											0.468

APPENDIX 2

QUESTIONNAIRE FOR ONLINE SHOPPING SURVEY

I am a graduate student in Concordia University. This questionnaire is to collect the data for my thesis. **All the collected data are only used for my paper.**

Please circle one choice (number) in each question.

Your answer is very important for me. Thanks for your help !

Instructions

To answer the questions, please **circle** the most appropriate number on the scales provided, or **check** the appropriate answer. Please circle or check ONLY ONE answer per question, and **please answer all 54 questions**, since incomplete questionnaires will not be taken into account for the data analysis. Thus, even if you are not sure about what a statement means, please answer to the best of your understanding. Finally, remember that **there is no right or wrong answer**. This survey intends to study only consumer perceptions.

Important Notice:

You will answer Part 2 of this questionnaire at home because you have to access the indicated homepages through the Internet first. Before you answer the questions in Part 2, first please fill in your ID number and email address.

Part 1

Your ID#_____ Your Email_____

Your Age: ❑ 15-20 years
❑ 21-25 years
❑ 26-30 years
❑ 31 + years

Your Gender: ❑ male
❑ female

Level of Studies: ❑ undergraduate
❑ graduate

Status: ❑ Full-time
❑ Part-time

Area of study: ❑ Arts & Science
❑ Commerce & Administration
❑ Engineering & Computer Science
❑ Fine Arts
❑ Other (please specify): _____

Do you often surf the Internet? ❑ Yes ❑No

Please note: All collected data for this study will be stored anonymously and will be treated confidentially. Please answer all questions without leaving out any item.

Please begin to answer the questionnaire now from next page!

Question 1 (1/54)
I intend to completely switch over to the Internet for purchasing goods.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 2 (2/54)
I intend to increase my use of the Internet for purchasing goods.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 3 (3/54)
Given that I had access to online shopping system, I predict that I would use it.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 4 (4/54)
Assuming I had access to online shopping system, I intend to use it.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 5 (5/54)
Doing shopping through the Internet would make it easier to purchase goods.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 6 (6/54)
Doing shopping through the Internet would help me to purchase goods more quickly.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 7 (7/54)
Doing shopping through the Internet would make it easier for me to compare different brands of the product that I intend to buy.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 8 (8/54)
Doing shopping through the Internet would make me to have more choices than I do shopping in traditional stores.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 9 (9/54)
Doing shopping through the Internet would make me quicker to find lower price of the product that I intend to buy.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 10 (10/54)
Doing shopping through the Internet would be compatible with all aspects of my life.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 11 (11/54)
I think doing shopping through the Internet would fit well with the way that I like to behave.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 12 (12/54)
Doing shopping through the Internet would fit into my lifestyle.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 13 (13/54)
Doing shopping through the Internet would fit into my purchasing habit.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 14 (14/54)
I could use computer/the Internet to do what I want to do, such as using windows 95/98, emailing friends, surfing the Internet.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 15 (15/54)
I could complete an assignment, such as writing a letter by computer or finding some information through the Internet if the necessary manuals of reference are available.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 16 (16/54)
I could solve the problems that arouse when I use computer or surf on the Internet.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 17 (17/54)
I could collect enough information of a topic that I am interested in through the Internet.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 18 (18/54)
In general, I consider myself familiar with at least one of the web search engine (such as Yahoo!) to find the information I need.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 19 (19/54)
I bought at least one good through catalog shopping before.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 20 (20/54)
I have some knowledge about catalog shopping.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 21 (21/54)
I am familiar with home shopping

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 22 (22/54)
I am familiar with how to use credit card.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 23 (23/54)
I provided my credit card information to somebody else through telephone/order form.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 24 (24/54)
I generally like to experiment with new sales means.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 25 (25/54)
I frequently look for new products and services.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 26 (26/54)
I seek out situations in which I will be exposed to new and different sources of products and services information.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 27 (27/54)
I am usually willing to try new and unproven sales methods for customers.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 28 (28/54)
I prefer to work out the bugs and problems with a new sales tool before other people use it.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 29 (29/54)
On the whole, considering all sorts of factors combined, about how risky would you say it is to buy a good from a traditional store.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 30 (30/54)
On the whole, considering all sorts of factors combined, about how risky would you say it is to buy a good through the Internet.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 31 (31/54)
In general, how risky would you say it is to use credit card for payment.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 32 (32/54)
In general, how risky would you say that the received product may not meet your expectation at ordering.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 33 (33/54)
Generally speaking, it is usually impossible for you to physically examine the purchased product. What assessment of the trouble would be in your mind due to the lack of physical examination of products when doing shopping online.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 34 (34/54)
I believe that purchasing goods through the Internet is cumbersome to implement.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 35 (35/54)
I think it would take me a long time to remember how to purchase goods through the Internet.

low	1	2	3	4	5	6	7	high
	very low	low	slightly low	undecided	slightly high	high	very high	

Question 36 (36/54)
I believe my purchasing goods through the Internet requires a lot of mental effort.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 37 (37/54)
I think purchasing goods through the Internet would be often frustrating.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 38 (38/54)
Overall, I believe that purchasing goods through the Internet is hard to implement.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 39 (39/54)
I believe learning to purchase goods through the Internet is difficult for me.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 40 (40/54)
The first step for buying merchandise is often to collect information such as where to buy, prices, and others' comments. Compared with buying in traditional stores, what is your assessment of the time and effort spent in search relevant information when buying a good from web stores?

low	1	2	3	4	5	6	7	high
	absolutely low	very low	low	about the same	high	very high	absolutely high	

Question 41 (41/54)
After collecting information, we often want to evaluate products based on various attributes such as prices and quality. Comparing with buying in traditional stores, what is your assessment of the inconvenience of product evaluation when buying a good from web stores?

low	1	2	3	4	5	6	7	high
	absolutely low	very low	low	about the same	high	very high	absolutely high	

Question 42 (42/54)
Web stores usually deliver the merchandise you ordered by mail or other means, which is different from traditional stores where you pick up what you buy immediately after payment. Compared with traditional stores, what is your assessment of the trouble due to delivery of products, when buying a good from web stores?

low	1	2	3	4	5	6	7	high
	absolutely low	very low	low	about the same	high	very high	absolutely high	

Question 43 (43/54)
After receiving the merchandise, it may need to be returned or some other post-purchase services. Compared with traditional stores, what is your assessment of the trouble in post-purchase services, when buying a good from web stores?

low	1	2	3	4	5	6	7	high
	absolutely low	very low	low	about the same	high	very high	absolutely high	

Question 44 (44/54)
Online shopping requires that the order be placed on the web and prices be paid by credit card or money orders. Compared with traditional stores, what is your assessment of the trouble due to placing orders and paying by credit card on the web, when buying a good from web stores?

low	1	2	3	4	5	6	7	high
	absolutely low	very low	low	about the same	high	very high	absolutely high	

Question 45 (45/54)
Although online shopping might be helpful, doing shopping through the Internet is completely my own desire.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 46 (46/54)
Neither the government nor retailing store required me to purchase goods through the Internet.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 47 (47/54)

My doing shopping through the Internet is voluntary.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

Question 48 (48/54)
None of my friends/colleagues/family members expect me to purchase goods through the Internet.

unlikely	1	2	3	4	5	6	7	likely
	completely disagree	disagree	slightly disagree	undecided	slightly agree	agree	strongly agree	

You have finished Part 1 of this questionnaire. Thank you very much!

Please continue to answer Part 2 of this questionnaire at home by accessing the corresponding homepages through the Internet.

Part 2

Fill In Here First, Please!

Your ID#_____ Your Email_____

NOTE:

1. Before you answer each of the next six questions, please access the following web site (**http://www.abekobe.com/jianguo/face.htm**) to surf and rate each corresponding homepage.
2. Please finish the following six questions at your free time and hand it in next class.

Question 49 (49/54)

Please rate **HOMEPAGE 1** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

Question 50 (50/54)

Please rate **HOMEPAGE 2** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

Question 51 (51/54)

Please rate **HOMEPAGE 3** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

Question 52 (52/54)

Please rate **HOMEPAGE 4** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

Question 53 (53/54)

Please rate **HOMEPAGE 5** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

Question 54 (54/54)

Please rate **HOMEPAGE 6** based on your opinion about if the information and layout provided in the homepage is helpful for you to purchase a book through the Internet.

Bad	1	2	3	4	5	6	7	Good
	absolutely bad	very bad	bad	so-so	good	very good	absolutely good	

The survey ends here. Thank you very much!

APPENDIX 3

QUESTIONNAIRE FOR ONLINE SHOPPING SURVEY

I am a graduate student in Concordia University. This questionnaire is to collect the data for my thesis. **All the collected data are only used for my paper.**

Your answer is very important for me. Thanks for your help !

Instructions

First, please access web site **http://www.abekobe.com/intro.html** through the Internet. It is better for you to use the browser – **Internet Explorer**.

To answer the questions, please **click** the most appropriate number on the scales provided. Please click ONLY ONE answer per question, and **please answer all 54 questions**, since incomplete questionnaires will not be taken into account for the data analysis. Thus, even if you are not sure about what a statement means, please answer to the best of your understanding. Finally, remember that **there is no right or wrong answer**. This survey intends to study only consumer perceptions.

Important Notice:

1. After you finally click the button "SUBMIT", if you see the words **" The form is not complete, sorry, use the back button",** that means you miss one or more choice. You just need to click "BACK" at the left top, and you can continue your choice. Otherwise, you will see the words like **"The data has been written. Thank You!"** This means your SUBMIT has been accepted and recorded.
2. Make sure your ID number is correct. You will be paid by the ID that I got from the database.
3. To answer question 49 to 54, first, you need to refer to and surf the corresponding homepage of JG Bookstore
4. Please read the 54 questions carefully before you choose the solution to each question.

APPENDIX 4

SIX SAMPLE HOMEPAGES

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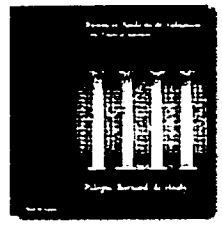

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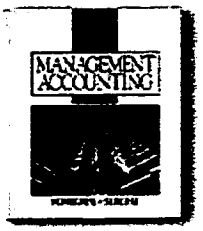

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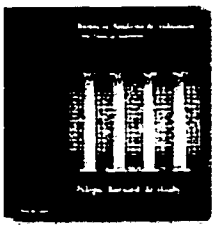

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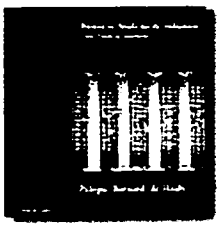

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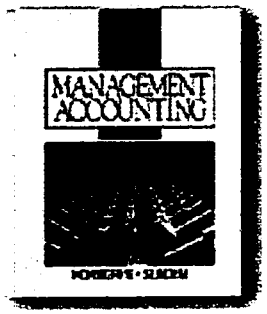

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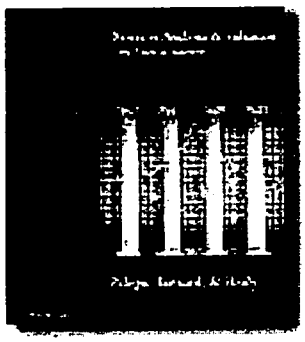

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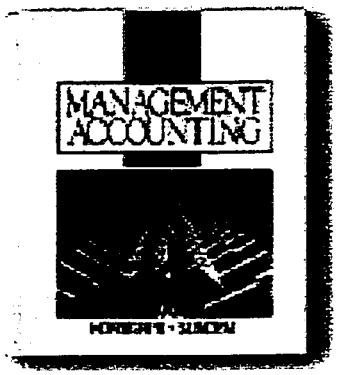

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Frank H. Selto is Professor of Accounting at the University of Colorado, boulder. He received his B.S. degree from Gonzaga Uı the University of Utah. He received his MBA and Ph.D. degrees from the University of Washington. Professor Selto was Editor of Ed Accounting Review, 1982-87. He has also served on several American Accounting Association committees and as a consultant to gov Professor Selto has numerous publications in accounting and business journals including the journal of Accounting Research, account Society, and the journal of Accounting Literature. He has presented his research at numerous professional, corporate, and university m

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Brief Contents

Part One Focus On Decision Making

1. perspective: Scorekeeping. Attention Directing. and Problem Solving

2. Introduction to cost behavior and cost-Volume Relationships

3. Variations of cost Behavior 71 4. Introdution to cost systems

5. Relevant Information and Decision Making: Part One

6. Relevant Information and Decision Making: Part Two

PART TWO ACCOUNTING FOR PLANNING AND CONTROL

7. The Master Budget: jkThe Overall Plan

8. Flexible budgets and Standards for control

9. Management control systems and Responsibility accounting

10. Management control in decentralized Organizations

PART THREE CAPITAL BUDGETING

11. capital Budgeting: An Introduction

12. Capital budgeting: Taxes and Inflation

PART FOUR PRODUCT COSTING

13 Cost Allocation and Activity-Based costing

14 Job-Costing Systems, Overhead Application. Service Industries

15.Process-Costing Systems

16.Overhead Application: Variable and absorption Costing

PART FIVE QUANTITATIVE METHODS

17 Quantitative Techniques Used in Management Accounting

PART SIX BASIC FINANCIAL ACCOUNTING

18. Basic Accounting: concepts, Techniques, and conventions

19. Understanding corporate annual Reports: Basic Financial Statements

20. More in Understanding corporate annual Reports

PART SEVEN APPENDIXES A Recommended Readings

B fundamentals of compound Interest and the Use of Present-Value Tables

Glossary

Index

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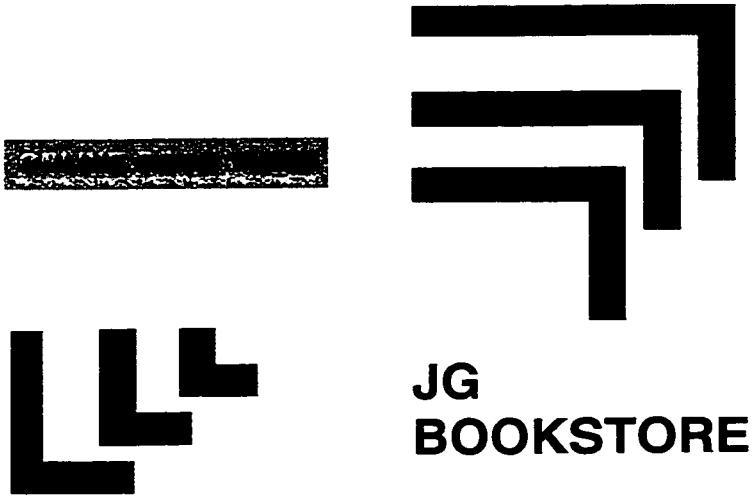

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