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Research-in-Progress

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Abstract

This research aims to enhance our knowledge of Internet purchase behavior by proposing a new model which draws from three disciplines: consumer behavior, decision analysis and IS. A research methodology has been designed to capture the dynamic process that Internet shoppers follow when they are engaged in a shopping experience and the influences of their interactions with the environment on their behavior. Data from an Internet panel data provider, video recording sessions and questionnaires will be collected to capture the purchase behavior process and establish the contextual factors and the possibilities of cross-channel behavior in the three different sectors of banking, groceries and mobile phones. The proposed model will be revised based on the results of our study. The theoretical and empirical results will inform the three literatures of this study. Companies will also be able to devise winning strategies by better understanding their consumers' Internet shopping behavior.

Keywords: Internet shopping, consumer behavior, consumer decision making, decision models, electronic commerce

Introduction

In the last decade, the Internet has become an enormous marketplace for exchange of products and services. Accessibility of large amounts of information, lower search costs and intangibility of products and retailers have changed shoppers habits. The Internet has turned to a powerful force that influences buying behavior (McGaughey and Mason 1998). In fact, by decreasing the search costs, providing the possibility of visiting different shops at the same time, and comparing various alternatives simultaneously, the Internet has made all the information and market players easily available (Daniel and Klimis 1999). It has consequently increased the competition by reducing the monopoly power of sellers (Bakos 1991; Bakos 1997) and changed consumer behavior by offering them diverse types of convenience to search for information, evaluate different options, and make a purchase (Moon 2004; Constantinides 2004). In addition, the Internet as a channel has an impact on shoppers' behavior as it allows for cross-channel purchases. This means that different stages of the purchase process might take place via the Internet channel or physical shops.

The aim of this research is to understand how Internet shoppers behave and how the Internet has changed the shopping behavior of customers. For this purpose, a model of Internet shopper behavior will be developed and compared with the traditional purchase behavior model which has been used for more than four decades. In order to develop the Internet shopper behavior model, previously proposed conceptual models, new concepts and studies of the digital world, empirical results from Internet panel data as well as analysis of Internet shoppers' behavior while performing a purchase task will be brought together.

This work proposes a conceptual model of Internet shopper behavior by reviewing a number of studies from different disciplines. A combination of research methods such as an analysis of recorded data from an Internet panel data provider and video recording techniques will be combined in order to capture the purchase decision making process that Internet shoppers follow and finally revise the conceptual model. Three different sectors of banking, groceries and mobile phones have been chosen for this study as they are growing markets that have not been studied as extensively as other markets such as books and CDs. On top of that, these sectors are different in the nature of their products/ services, predominantly offering services (banking), goods (groceries) or a combination of both (mobile phones).

Contributions of this research are not limited to the consumer behavior and IS literatures. The development of a revised model of Internet shopper behavior that is supported by empirical evidence in different sectors will benefit e-businesses by increasing their knowledge of their consumers. They could then enhance their Internet marketing strategies based on such knowledge.

Research Focus

Understanding Internet shoppers' behavior requires understanding of buyers in general and the effect of the Internet environment on their behavior and decision making. The three different disciplines of Information systems, consumer behavior and decision sciences have been used to establish contextual factors such as Internet and shoppers' characteristics and explore Internet purchase behavior and purchase decision making.

Internet Penetration

In the last decade, a vast number of researchers have studied behavior of Internet users in relation to various behavioral models introduced before for other contexts such as the technology acceptance model TAM (Davis et al. 1989), the theory of planned behavior TPB (Ajzen 1985; Ajzen 1991) and the theory of reasoned action TRA (Ajzen and Fishbein 1980). Even though these models have not been developed for the Internet context, a wide range of studies has investigated their applicability for Internet usage and online purchase behavior (Lederer et al. 2000; Shih 2004; Pavlou 2003; Koufaris 2003; Pikkarainen et al. 2004; George 2004; Pavlou and Fygenson 2006; Lee 2002b). In fact, "recently, the Internet was the most widely applied target technology in TAM studies" (Lee et al. 2003). Despite their differences, utilization of these models in the Internet context investigates the factors and constructs that affect Internet usage (Agarwal and Karahanna 2000). However, Internet usage and penetration has increased remarkably in the last years (Figure 1). This indicates that Internet usage is becoming ubiquitous and more and more people are going online to perform various tasks. Internet shopping is one of the activities whose volume has been

raised noticeably. It was 14.5% higher in 2009 to the value of $348.6 billion worldwide, and is also anticipated to reach $778.6 billion, increasing by nearly 125% by 2014 (Datamonitor 2010). At the same time dramatic acceleration in the broadband usage and implications of Web 2.0 applications which enable wide participation of consumers in social activities and consumer-generated content have changed the behavior of buyers (Choudrie and Dwivedi 2007; Constantinides and Fountain 2008; Jarrett 2008) (Figure 2). In fact, the issue that currently requires more attention is how the Internet is being used and how it affects user behavior rather than whether it is used.
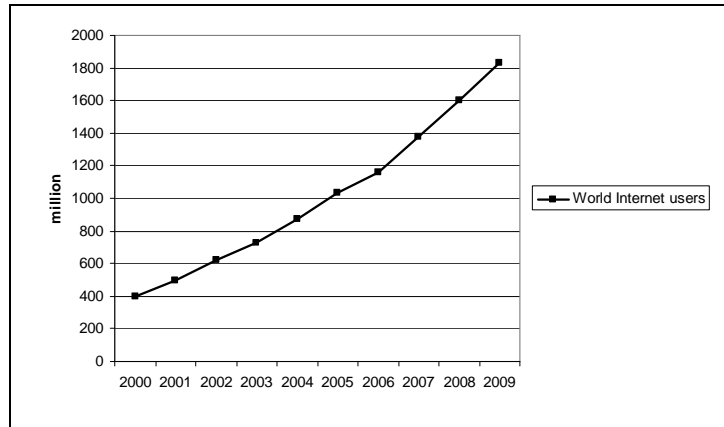

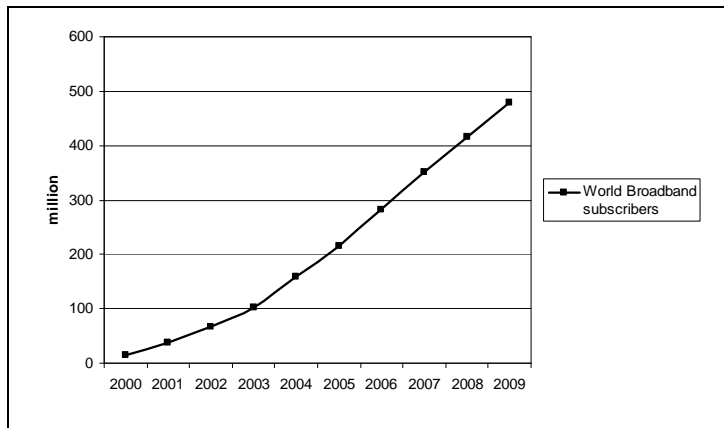**Figure 1. World Internet penetration , source: International Telecommunication Union**

Figure 2. World Broadband penetration , source: International Telecommunication Union

Internet Purchase Behavior

The way Internet shoppers behave has always been of great interest to academics and e-businesses. In order to win customers in such a competitive market place, where all the competitors and their products are easily accessible to consumers, companies require a deep understanding of their customers. However, Internet shoppers are not only buyers but also Internet users (Koufaris 2003). Therefore their behavior is affected by general purchase-related factors and also their interaction with the Internet environment. Online consumers are more "powerful, demanding and utilitarian in their shopping expeditions" (Koufaris 2003), as they get the control of the situation and actively "pull" the information they need rather than waiting for marketers to "push" them (Court et al. 2009). On top of that, online consumers have specific needs and concerns which stem from the characteristics of the online environment such as the risk of being a victim of credit card fraud or the possibility of receiving different products from the ones

that were ordered (Bhatnagar et al. 2000). In addition to the obvious characteristics of the Internet as a virtual market, Web 2.0 features provide a highly dynamic platform where web commutations are becoming more and more interactive which in return changes user behavior (Constantinides and Fountain 2008). Therefore, "web-shopping behavior does not necessarily follow traditional consumer behavior" (May et al. 2005). E-businesses encounter challenges that current knowledge of consumer purchase behavior is not able to solve. In fact, traditional consumer behavior knowledge cannot be applied to the Internet shopping environment directly, but has to be altered for the context of Internet shopping.

Traditional Purchase Behavior Model

Although Internet shopping behaviors are different from the traditional ones, there are a lot of common activities which are inevitable parts of purchase behaviors in any context. For example, information search, evaluation of collected or known information and making the purchase are common in any buying activity. A number of studies have captured the stages of the traditional purchasing process (Engel, Kollat and Blackwell 1968; Howard and Sheth 1969; Nicosia 1976; Erasmus et al. 2001). The traditional model of consumer behavior (Figure 3) has been derived from these studies and has been used as a standard model in the consumer behavior literature (see for example Graham 1981; Van der Heijden 2003; Terpsidis et al. 1997). It has also been used to compare transactions in traditional and virtual marketplaces (Butler and Peppard, 1998). Therefore, the traditional model provides the backbone of any purchase behavior study. It defines the five stages of the process i.e. problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior stages.
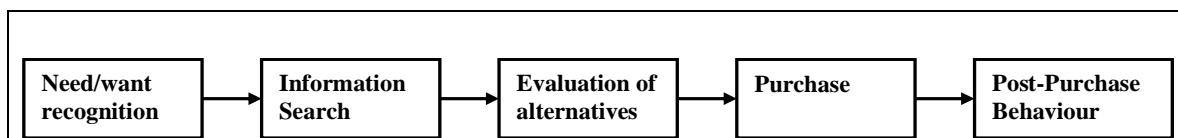
Need/want recognition	→	Information Search	→	Evaluation of alternatives	→	Purchase	→	Post-Purchase Behaviour

Figure 3. Traditional purchase behavior model, source: adapted from Butler and Peppard 1998

Internet Based Models

Recently, the study of Internet purchase behavior has emerged in the consumer behavior literature. There are a few Internet purchase models proposed by previous studies, concentrating on various aspects of behavior such as satisfaction and factors influencing the purchase. Lee's model (2002) for instance, concentrates on the factors which affect Internet purchase decisions. Although some stages of purchase are defined, they are very general and do not indicate the behavior of Internet shopper. The model of Smith and Rupp (2003), based on Kanuk and Schiffman's work (2000), is another example of general models. It shows the influences of external and psychological factors while ignoring the details of the behavior of Internet shopper during the purchase. Some other models such as Chen and Chang (2003) illustrate technological components involved in an online shopping experience. They show the effects of these components' characteristics on the user satisfaction. Providing some empirical evidence by in-depth interview is a remarkable advantage for this study. However, it is not concerned with how Internet shoppers behave while interacting with the environment and making a purchase decision. For instance, search behavior and use of search engines which is one of the main issues of online shopping experience is not indicated. In fact, these models depict a list of factors that affect Internet shopper behavior. They do not specify how behavior is shaped during the interaction. The purpose of this research is modeling how Internet shoppers behave and how the Internet shapes their purchase behavior. Therefore, the process which Internet shoppers follow while interacting with the environment would be captured and divided into different stages; afterwards, their behavior in each stage will be analyzed.

In order to capture the behavior of Internet shoppers, this study has adopted the consumer behavior definition proposed by Belch and Belch (1998). They suggest that consumer behavior is "the process and activities people engage in when searching for, selecting, purchasing, using, evaluating, and disposing of products and services so as to satisfy their needs and desires". The same definition was used by McGaughey and Mason (1998) who are among the first researchers discussing the impacts of the Internet on consumer behavior. They studied the potential

influences of Internet on the five stages of the traditional purchase behavior model; problem recognition, information search, alternative evaluation, purchase, post-purchase behavior. However, like the majority of researchers in the area, they have developed hypotheses and conceptual models rather than providing sufficient empirical evidence (McGaughey and Mason 1998; Moon 2004).

Consumer Search Behavior Studies

One of the important stages of Internet purchase behavior is the search behavior. There are a number of studies which have concentrated only on the search behavior of Internet shoppers (Klein 1998; Johnson et al. 2004). Kaas (1982) studied search behavior of consumers in more details by dividing it into different stages in which shoppers start the process or spend more time based on their knowledge of the market and frequency of purchase (Figure 4). Sproule and Archer 2000 have used this concept in the e-commerce context. If they are unfamiliar with a product, they will enter the "concept-forming" "to learn about the relevant attributes of the product category and determine the appropriate choice criteria" (Sproule and Archer 2000) and move to next step. Infrequent consumers who are familiar with the product category enter the search process from the brand information stage where they "collect brand-specific information to compare the important attributes" with their criteria (Sproule and Archer 2000). Afterwards, they move to the situational information stage (Kaas 1982). For frequent purchases, consumers only require a set of situational attributes, such as price and availability, to compare the possible alternatives. They enter the last stage of search from the beginning.
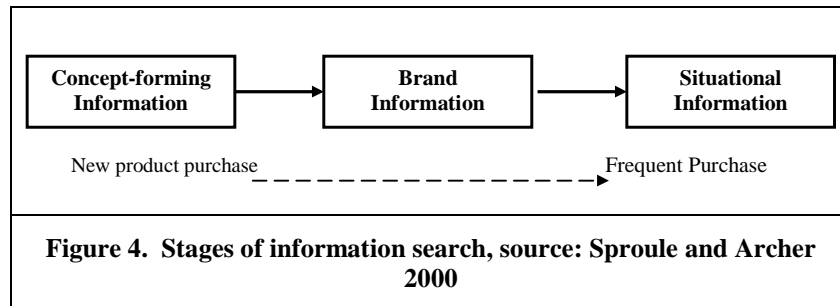

Figure 4. Stages of information search, source: Sproule and Archer 2000

Proposed Model of Internet Shopper Behavior

A preliminary model based on the literature has been proposed in this paper (Figure 5). The proposed model has the traditional purchase behavior model as its base. However, the sequential structure has changed to a non-linear process in which there is a possibility of jumping to the previous stages at any point during the process. This structure is essential for the Internet environment where shoppers control the process themselves and create a dynamic behavior. As search is one of the main parts of the Internet purchase behavior, it has been illustrated with more details according to the study of Kaas (1982) and Sproule and Archer (2000). We have also added a formulation stage which is an important step in any decision analysis, mentioned by many scholars in decision science literature (Holtzman 1989; Papamichail and Robertson 2005; Regan and Holtzman 1995). As it can be noticed from figure 5, there is a constant interaction between phases of purchase and formulation of decision model. Any action taken by Internet shopper such as search, evaluation and even post-purchase behavior might change the formulation of decision model. This model supports the cycles that might occur during the purchase to the previous stages as well as the possibility of skipping some stages.

This preliminary model will be revised for Internet context according to empirical evidence. It will take into account the general characteristics of the Internet that changes the traditional behavior as well as the interactive features of this dynamic and self controlled environment that affect the behavior during the interactions. In order to make the Internet shopper behavior model more precise and close to the real world experiences, Internet shopper behavior in three different sectors of banking, groceries and mobile phones will be analyzed and compared. These sectors were chosen because of their different characteristics. For example, there are different types of products involved such as tangible goods, services and a mixture of both. The frequency of purchase, price and the level of risk also vary remarkably. The cross sector analysis of this study will be a step towards more applicable Internet behavioral models.

Figure 5. Proposed model of Internet shopper behavior
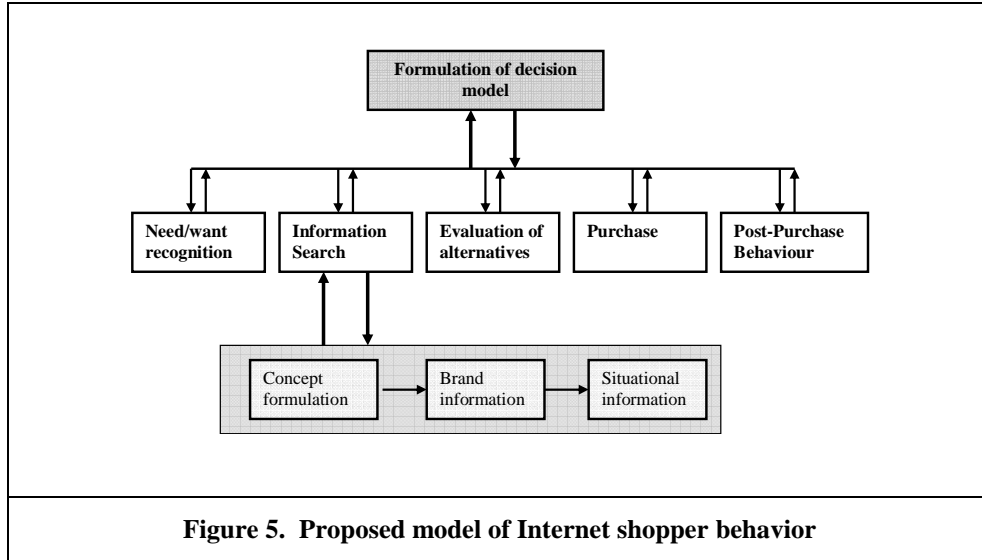
Methodology

Capturing the Interactive Behavior

The aim of this research is to understand how the Internet affects the shopping behavior of buyers. Analyses of Internet shoppers' behavior includes not only how they behave while utilizing the facilities of this environment but also how their behavior changes depending on their interactions with the environment or in other words, the effects of the environment on their behavior. Internet purchase is a dynamic process in which both Internet shoppers and marketers play an important role in shaping the process (Figure 6). Internet and shopper characteristics affect the process. Therefore, both characteristics should be considered in the analysis of shopping behavior. Court et al. (2009) has illustrated influential elements in various stages of the Internet purchase process. The study suggests that in addition to the characteristics of the two ends (Internet and shopper), interactions of Internet shoppers with the store, intermediaries and agents is a key element that affects different stages of the Internet purchase process (12% influence in choosing the alternatives during the research, 26% in the evaluation stage, and most importantly by 43% during the purchase stage). This indicates that the final stage is mostly affected by the interactions. Therefore, the purchase process can be understood by the analysis of the shopper characteristics, merchant and product characteristics as well as the dynamic interactions between the two ends. As the Internet shopper behavior relies on dynamic sets of interrelated choices, it can only be assessed and analyzed by looking at the whole process as it occurs. In fact, behavior during the interaction should be captured and finally modeled.

Figure 6. Dynamic nature of interactions
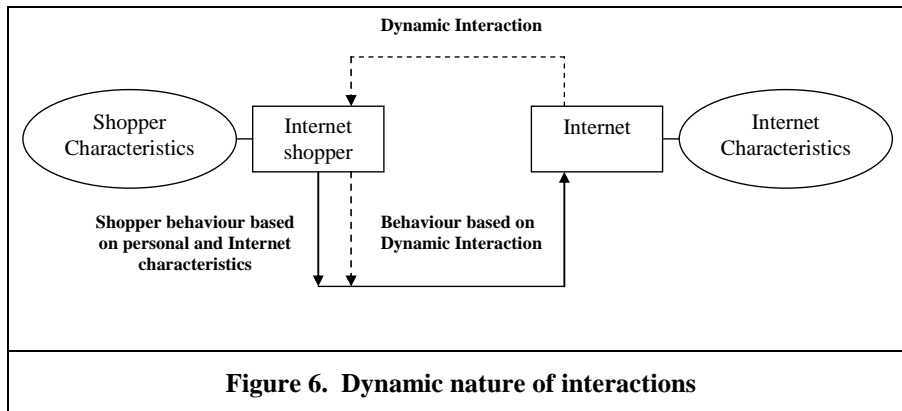
Video Recording

As there is not a well-defined model of Internet shopper behavior available, qualitative research is required to capture this behavior in different stages of the purchase process. Video recording has been used before to analyze phases of behavior (Weingart 1997). It can be used to capture all the behaviors of Internet shoppers and the steps they may repeat or skip. In fact, observing the online shopping behavior while Internet shoppers are involved in the process can facilitate our understanding of different behavioral patterns (Ranaweera, Gordon and Bansa 2005).

A different scenario of purchase will be defined for each of the three sectors. Participants will perform the defined Internet purchase tasks. All their actions from the first webpage they open to the point where they choose their favorable supplier will be recorded by a video recording technique. They will be asked to talk about what they are doing and how they are feeling during each stage of the interaction. An important issue in the analysis of their behavior is that their behavior might be attributed to different reasons. For instance, search at the beginning could be a general information search but at the end of the process might indicate uncertainty and doubt in their Internet shopping experience. Only by asking them to say aloud what they are doing or how they are feeling, such differences can be identified. In addition, the formulation of a decision model can only be understood through their own description of the process, by identifying the stages where they formulate their knowledge and information to create objectives and alternatives and make a decision on the next action to be taken. For the analysis, the stages that Internet shoppers follow will be identified and compared with the model. We will not restrict ourselves to the elements of the model, on the contrary, data itself might create other boxes in the model which are not known and this is one of the advantages of qualitative research. Some of the behavioral aspects that will be evaluated are drawn from the literature (Klein 1998; Kaas 1982; Johnson et al. 2004). For example, search behavior can be assessed by time spent on the search, use of search engines, number of sources consulted, variation of sources and number of repeated and skipped steps.

Preliminary Questionnaire

In order to collect data on the shopper characteristics, a questionnaire has been designed that will be administrated prior to the video recording sessions. Demographics (Moon 2004; Ranaweera et al. 2005; Middleton 1994), previous knowledge and experiences (Middleton 1994; Brucks 1985; Rao and Monroe 1988; Rickwood and White 2009), and Internet usage skills (Koufaris 2003; Moon 2004) which have been shown to influence the Internet shoppers' behavior, are the characteristics that will be analyzed in relation to the purchase behavior.

Final Questionnaire

It should be noted that participants will stop before completing the purchase. Therefore, they will be asked to answer a short questionnaire at the end of the task to establish whether they would have finished the purchase in reality or they would have optted for offline purchase after gathering the information online and the reason for that decision. Possible post-purchase behaviors that they might consider getting involved with, such as re-purchase, online or general Word of Mouth (WOM) will be also questioned. This research step will collect data on cross-channel behavior by asking participants about the alternative channel they might use at any stage of the process. Although their answers to the questions regarding the purchase and post-purchase behavior might not be exactly as in real life, according to Ajzen (1991), behavioral intention is a strong predictor of actual behavior. Therefore, customer Intentions are used instead to measure the purchase and post-purchase behavior.

Analysis of Visited Websites

As it was mentioned before, shoppers' behavior is influenced by the characteristics of the interface they are interacting with. Therefore, it is crucial to look at the particular characteristics of the visited sites. For this purpose, the websites that participants have visited will be assessed based on the type of the website (information site, a retailer or a comparison site) and its usability which "is a very important part of the store's image and that it can influence shopping behavior" (Flavián et al. 2006). Usability of a website is measured by various factors such as information presentation, navigation, ease of use, context, customization and security (Palmer 2003; Ranganathan and Ganapathy 2002). The type of the website will be identified by the researcher while the perceived usability will be assessed by the analysis of video recording data. Observing participants' behavior and recordings of their

comments during the interactions will be used as the assessment of the usability. Although there is a number of usability measures developed that can be tested through a questionnaire, a wide range of websites which the participants are expected to visit makes it impossible to check the usability for each and every one of them. However, by observation and analysis of features mentioned by the participants themselves, those characteristics which have a major impact on the process will be identified.

ComScore

In addition to the video recording, data from an Internet panel data provider, ComScore, will be used to provide general knowledge on the trends of behavior in each sector. It could be compared across different sectors. For example: average number of pages per visitor, average minutes per visitor and average minutes per page will be compared for different sectors. These three dimensions could be used as an indicator of the complexity of the behavior. It is expected to observe differences across sectors. For instance, shopping online for groceries might not be a very complex and time consuming behavior, while buying mobile phones is expected to require more extensive research.

Overall, three sources of ComScore, video recording and questionnaire will be used to capture the behavior of Internet shoppers (Figure 7). Finally, the proposed model will be revised based on the analysis to be as realistic as possible for the Internet environment.

Figure 7. Research design
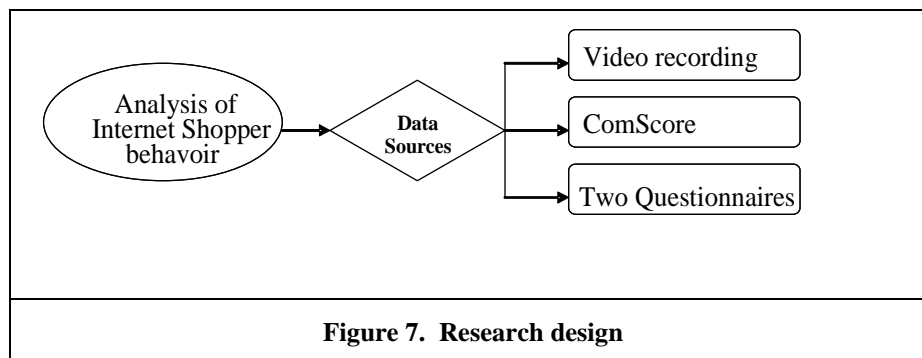
Summary, Expected Findings, and Conclusions

Despite its importance in today's marketplace, Internet shoppers' behavior has not received enough attention from researchers (Terpsidis et al 1997; Peterson and Merino 2003). Knowledge of shoppers' behavior engaged in traditional purchases cannot be applied directly to the Internet environment due to its particular characteristics. Although a number of conceptual models have been developed to enhance our knowledge of Internet shopping, their empirical evidence is notably weak. In addition, these models are too general rather than being content specific and do not consider the differences that exist in the behavior of Internet shoppers for different products/services. This study has reviewed a wide range of studies and previously suggested models as well as studies of Internet purchase behaviour. A model which considers characteristics of the digital world has been proposed accordingly. In order to be able to explain the real Internet shoppers' behavior and cross-channel behavior, the proposed model will be revised based on the data collected from observations of Internet shoppers and questionnaires. The outcome will possibly show more cycles between different stages due to the dynamic nature of the process on the Internet and easy access to a large amount of information sources and retailers. In addition, we expect to identify different patterns of behavior in different sectors which stem from their unique characteristics. The study will make useful contributions to the disciplines of consumer behavior, decision sciences and IS. Companies and businesses will also benefit from the findings of this study. The recommendations of the research will help them devise their e-marketing strategies based on deep knowledge of their consumers.

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