MULTI-CHANNEL RETAILING: FUNCTION OF CONSUMERS' PERCEIVED BENEFITS AND COSTS AND RETAIL SYNERGY

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This study investigated the consumers' intention towards multi-channel shopping and the function of synergy in a multi-channel retailing format (i.e., brick-and-mortar stores, catalogs, and the Internet). Two questionnaires were developed, one for the multi-channel consumers and the other for the multi-channel retailers. The structural equation modeling was used to predict the effect of shopping benefits and costs perceived from each channel on the consumer's purchase intention. Data analysis (N = 500) indicated that the purchase intentions were affected by different shopping benefit and cost variables. Qualitative analysis of retailers (N= 10) revealed that the retailers considered synergy to be an important part of their multi-channels. Also, there existed a high level of synergy among the existing three retail channels.

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INTRODUCTION

The retailing industry today is being driven by a new dynamic equation that has been set in motion by the changing consumer. Today's consumer market is driven by factors such as increasing number of dual-income families; lack of time; technological revolutions; and a myriad of shopping choices—not only among different products and brands but also among diverse retail formats such as brick-and-mortar stores, print catalogs, and online shopping electronic systems (Shim, Eastlick, & Lotz, 2000).

The retail industry is mature and the expansion has slowed to a crawl. The environment has changed and stores can no longer count on earnings derived by their physical expansion. Retailers have to find new ways to create shareholder value with the minimum number of assets (e.g. physical infrastructure, machinery, manpower) (Loeb, 1998). Traditional retail businesses and even catalog retailers today face a critical decision whether to accept a new business model that includes e-commerce or to retain their old business model, because they become less competitive vis-à-vis new Web-based competitors (Schoenbachler & Gordon, 2002). At the same time, retailers are learning that shoppers are taking advantage of multiple channels and increasingly shopping across several sales channels. Therefore, it appears the retailers with the broadest channel representation are best positioned to acquire and retain consumers thereby increasing profit margin per consumer (Pulliam, 1999). In fact, multi-channel retailing is gaining importance because a multi-channel consumer can generate more sales and can earn more revenue per consumer for a multi-channel retailer than from a separate-channel, separate-consumer approach (Hoover, 2001). Consumers are now

choosing to fulfill their shopping needs from companies that have multiple channels rather than those companies with a presence in a single channel (Clancy, 2000). It is becoming more evident that multi-channel retailing is a compelling premise for every type of store operator in every product classification and in every size format (Ernst & Young, 2001).

It seems that, multi-channels will meet the consumers' desires for flexibility while shopping for what they want, when they want it, and in the way they want it (Johnson, 1999). The challenge, then, is to understand how and when consumers use the Internet, print catalogs, or brick-and-mortar stores.

Rationale

A new population force, a generation that shops across all channels, is emerging in our society. Consumers expect merchants to adapt to their schedules, and provide products, service, and information to them anyway, anytime (Kurt Salmon Associates, 2000). The power and flexibility of electronic commerce has raised consumers' expectation levels and changed their shopping behavior (Rauh & Shafton, n.d.).

Today's consumers are efficient shoppers, selecting retailers with which they perceive that shopping can be done most satisfactorily. Consumers are looking at ways to maximize the benefits of shopping and minimize the costs associated with shopping, in terms of money, time, and energy whether in a store, through a catalog, or over the Internet (Anonymous, 1999, Downs, 1961; Kim & Kang, 1997). For instance, consumers consider convenience as well as entertainment factors when selecting a channel for their shopping. Also, consumers are time-starved, so they want options that

will save them time. They are likely to purchase products or service via the catalog and/or the Internet in order to save time.

Recently, consumers have begun to shop across multiple channels such as brick-and-mortar stores, catalogs and the Internet, even a combination of two at the same time (Kruger, 1999). According to Reda (2002), traditional store shoppers who also bought on-line from the same retailers spent an average of $600 more annually than shoppers who only shopped from brick-and-mortar stores. In shopping through the multi-channels (i.e., brick-and-mortar stores, catalog and the Internet), consumers want the retail experience to be seamless, allowing them to purchase items from one channel and pick up or return them to another channel (Kurt Salmon Associates, 2000). As such, consumers want a consistency so that they can expect the same product width and depth in all points of contacts across all channels.

Consumers' motivations for selecting the Internet, the catalogs, or the brick-and-mortar stores for their shopping can vary for different consumers and in different situations, even for the same consumer. For instance, some consumers may shop mainly in a physical store because they want to enjoy the tangible aspects of shopping--the touching and trial of products prior to purchase. On the other hand, some consumers prefer the Internet or catalogs for such reasons as being able to shop in the comfort of the home and to conduct fast transactions (Harden, 1992; Kruger, 1999). Compared to catalogs and brick-and-mortar stores that require physical stocks of products, the Internet is able to provide the consumer a wide range of choices in products with the advantage of not actually having to physically stock the product.

Entertainment or social interactions also play a significant role in selection of channels for shopping. With catalogs as well as the Internet, consumers can enjoy pictures of merchandise presented in an attractive manner. Additional entertainment can be obtained through Internet shopping, including surfing in a multimedia environment, playing online games, and chatting with others who have common interests.

Consumers use the Internet, catalogs, and traditional retail channels differentially in two stages of the shoppers' decision process: seeking information and making purchases. Some shoppers browse online and then place the order by mail or telephone or purchase in a physical store. In fact, a Ziff-Davis Survey found that Internet shoppers spent more money offline after searching products online (Allen, 2001). Fifty-one percent of online shoppers who receive a catalog look for or buy something on line that they first saw in print (Anonymous, 2001). Also, store shoppers who visit a retailer's Website purchase 8% more frequently and have 24% higher transaction amounts compared with the average shopper (Anonymous, 2001) who shops only at one channel. Other shoppers use a print catalog to identify products they want and then go online to the catalog's site to place the order. Still consumers search for information in conventional retail stores, while using Internet resources for purchasing (Peterson, 1997; Pulliam, 1999).

Consumers may switch channels and/or retailers depending on their shopping benefits, suggesting that multi-channel retailers need to provide easy and efficient accommodation for individual consumers (Pulliam, 1999). In order to be profitable, retailers have to ensure that their customers stay with them irrespective of the channel

of shopping, Also, in order to retain customers and reduce switching to other retailers, the retailer has to provide the same kind of shopping experience across all the channels. This entails comparing multiple retail channels in shopping benefits and costs perceived by consumers.

Given the growth of online retailing and the many shopping alternatives available to consumers, it is important for the multi-channel retailers to approach their business holistically (Shern, 2000). It has been widely recognized that the future of retailing is not just about brick-and-mortar stores or Internet e-commerce or catalogs; it is the synergy in multi-channel retailing (Reda, 2000).

Synergy in multi-channel retailing provides opportunities for strategic development. Retailers can provide the same shopping experience across the three channels if there is a high degree of synergy between its brick-and-mortar stores, catalogs, and Internet channels. Synergy allows for coordinating merchandising and consumer service programs across channels to present and maintain a unified brand experience, by continuously strengthening consumer relationships using personalization and communication abilities. Therefore, retailers must determine whether consumers have the same shopping needs in different retail channels. Based on consumers' needs across channels, retailers have to determine the degree of compatibility among the three channels. Retailers who synchronize across channels will be better positioned for success in a competitive environment.

Despite the anecdotal evidence that synergy in multi-channel retailing is in accordance with today's consumer needs, no empirical research has been conducted to determine whether and when multi-channel retailers can implement synergy in retailing

across different channels. A critical need exists that identifies specific strategies multi-channel retailers must develop to increase profitability and to meet their customers' needs.

Purpose of the Study

The purposes of the study were to examine whether consumers' perceived benefits and costs from each channel led to their purchase intention, and whether synergy existed among the three multi-channels (brick-and-mortar stores, catalogs, and the Internet) of a multi-channel retailer.

Assumptions

The researcher assumed that the respondents would answer truthfully, and that the sample set consisted of consumers who had purchased products or services via the three channels (i.e. brick-and-mortar stores, catalogs, and the Internet).

Operational Definitions

Shopping benefits. Consumers' perceived shopping benefits were measured for brick-and-mortar stores, catalogs and the Internet. Examples of shopping benefits included number of categories, alternatives per category, ease of shopping, access to a variety of brands, layout of the channel and the product, up-to-date and unique items, saving time, privacy, security, quality of merchandise, customer service, easy return of goods and reasonable price.

Shopping costs. Shopping costs consisted of money, time and energy (Downs, 1961) that were measured for all three channels (i.e., brick-and-mortar stores, catalogs and the Internet). Money was measured on parameters such as cost of goods purchased, transportation costs, and shipping and handling charges. Time was

measured on the basis of parameters such as amount of time spent on traveling including time spent parking, amount of time required to complete a transaction, amount of time required to browse through product categories, amount of time spent locating the product in a catalog, amount of time waiting for the Web-page to load, and time spent on returning products. Energy was measured in terms of parameters such as the amount of energy required for shopping, amount of energy spent to locate a parking place, amount of energy required going through various categories, amount of energy spent to locate the right Web-address, and amount of effort for returning products.

Purchase intention. Purchase intention was measured by the intention to purchase products in the brick-and-mortar stores, through the catalogs, or via the Internet over the next six months.

Multi-channel retailer. A multi-channel retailer refers to the person who sells products and/or services through a traditional channel (e.g., catalogs, and brick-and-mortar stores) and the Internet.

Synergy. Synergy was defined as the degree of compatibility between the three channels (i.e., brick-and-mortar stores, catalogs and the Internet). The variables were measured both at the macro level as well as the micro level. At the macro level, the variables included company/organizational structure, marketing strategy, merchandising strategy, customer service, distribution and supplier networks, and financial strategy. At the micro level, the variables included company entity (e.g., name of the company, corporate address), organizational structure, heads of department, functionaries (buyers, logistics supervisor, marketing manager), company logo, promotional strategy, communication strategy (e.g., ad copy, direct mailers, newsletters), advertisement

agency, product range/categories, size and color range, new merchandise, return policy, product information, customer product delivery policy, vendor, payment terms, vendor product delivery policy, distribution center, distribution methods (e.g., road, air, rail), pricing strategy (e.g., cost + mark up, amount of margin), and transaction method for consumer (e.g., cash or credit).

Limitations

This research was based on the participation from the multi-channel retailers. A low level of participation by the multi-channel retailers led to a very small sample set (N = 10). Thus the results cannot be generalized to the entire population of multi-channel retailers.

CHAPTER 2

REVIEW OF LITERATURE

The history of retailing is marked by a number of watershed events that have reshaped the industry. Among these are the advent of new formats such as the discount store and the superstore and the introduction of new technologies such as the point-of-purchase (POS) terminal (Rauh & Shafton, n.d.). Therefore, the retail industry today is all about choices; consumers have a choice of shopping channels, including brick-and-mortar stores, catalogs and the Internet.

Consumers can choose only one channel or a combination of different channels and retailers. By engaging consumers at the deepest level across multiple channels, retailers can derive more sales and earn more revenue per consumer than from the separate-channel separate-consumer approach (Hoover, 2001).

The purposes of the study were to examine whether consumers' perceived benefits and costs from each channel led to their purchase intention, and whether synergy existed among the three multi-channels (brick-and-mortar stores, catalogs, and the Internet) of a multi-channel retailer.

The conceptual framework is described in the next section, and then the relationship between the variables is illustrated in the research model. This is followed by a discussion of the findings of previous research studies. The chapter is concluded by a summary of all the previous sections.

Conceptual Framework

According to Downs' (1961) theory of consumer efficiency, consumers seek to minimize the costs of shopping, including money, time and energy, while trying to

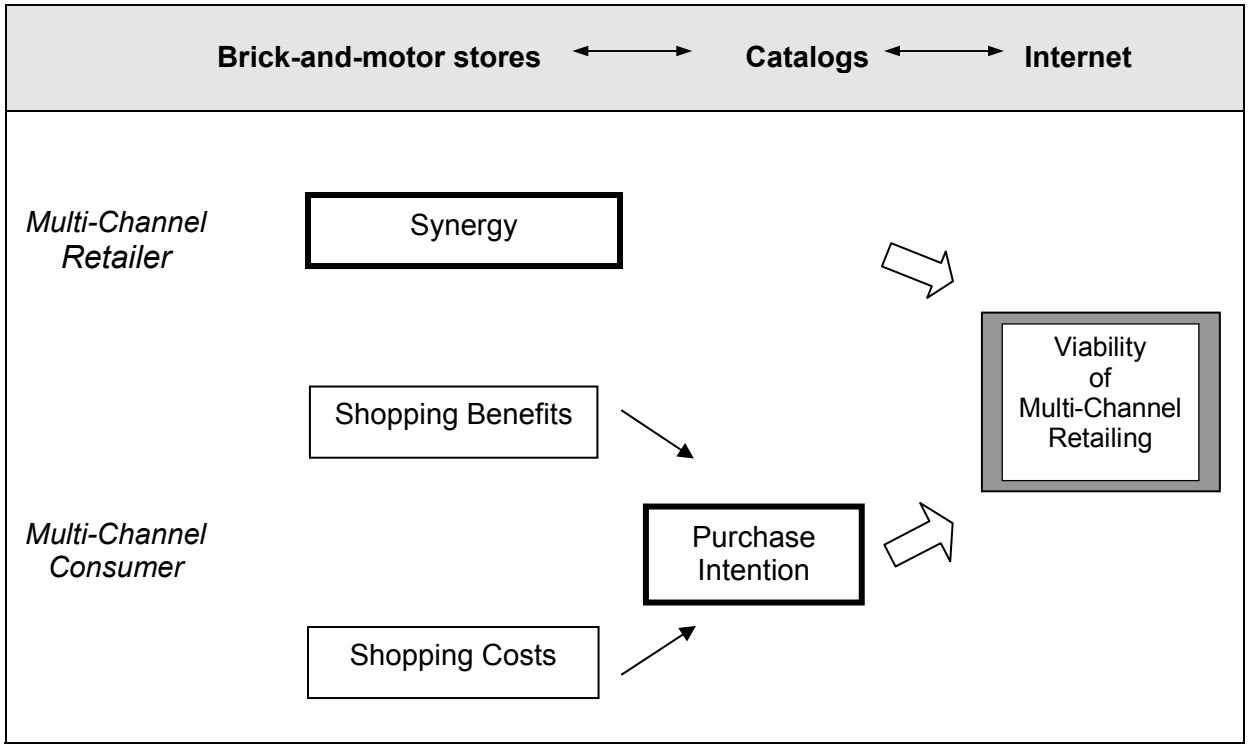
maximize the amount of output to be received. Thus it can be stated that consumers want to maximize their shopping benefits and minimize their shopping costs. Consumers evaluate each channel on the shopping benefits and costs before making a decision on any particular channel. Also, patronage intentions are derived from consumer attitudes towards the retail establishment (Bucklin, 1962) and thus may be related to shopping benefits and costs. Hence, consumers' purchase intentions for any channel depend on the relationship between the shopping benefits and costs.

The retail industry has witnessed a growth in multi-channel retailers who use all the three channels (i.e., brick-and-mortar stores, catalogs, and the Internet) to offer products. Retailers need to integrate their channels in order to minimize their operating costs and maximize their profits in attempts to survive in the ever-changing retail environment. A retailer without integrated multiple-sales channels not only wastes significant marketing costs of time, money and resources but also risks damaging relationships with customers (Lawson, 2001).

Accordingly, synergy across the channels of operation will help the retailer reduce costs for retailing and project a consistent image to consumers as well. The synergy among retail channels will enable retailers to keep their customers and will increase overall sales by driving Internet traffic and/or catalog customers into stores and by driving store customers to the Internet and/or catalogs (Lawson, 2001).

Figure 1 is the research model that illustrates how multi-channel retailers and multi-channel consumers determine the viability of multi-channel retailers. Consumers choose a channel for shopping only when the benefits exceed the costs involved. Shopping benefits and costs of a multi-channel consumer affect the eventual purchase

Figure 1. Research Model for Multi-Channel Retailing



intention across different channels (i.e., brick-and-mortar stores, catalogs and the Internet). For multi-channel retailers, synergy is important for the success of their business as it could impact the profitability levels. Consequently, the viability of a multi-channel retailer is influenced by both multi-channel synergy level and consumer's purchase intention among three channels (i.e., brick-and-mortar stores, catalogs, and the Internet).

Findings of Previous Research

Shopping Benefits and Costs: Consumers

Increasingly, consumers are taking a more active role in their shopping decision. They demand shopping anytime, anywhere procurement, as well as anytime, anywhere consumption. They demand more value in exchange for the four primary resources at their disposal: money, time, effort and space (Seth & Sisodia, 1997). Consumers are

now driving the entire marketing process (Seth & Sisodia, 1997) and demanding more customization from the retailer. No longer can a single marketing plan be effective for the entire target segment because individuals expect businesses to respect their individuality and tailor-made marketing strategies to suit their unique needs and wants.

Previous studies have examined the consumers' perceived shopping benefits and costs on the Internet and their impact on the consumers' online purchase intention (Jarvenpaa & Todd, 1997; Syzmanski & Hise, 2000). Jarvenpaa and Todd's (1997) study concluded that responsiveness and tangibility had the greatest impact on patronage intention while shopping on the Internet. Szymanski and Hise's (2000) study highlighted that convenience had the greatest impact on patronage intention on the Internet, followed by site design or financial security; merchandise had the least impact on patronage intention on the Internet (Appendix: Table 1).

In addition, Shim, Eastlick, and Lotz (2000) also examined the impact of the Internet and the brick-and-mortar stores on the consumer and their purchase intention. Their findings suggested that the Internet was used for purchasing cognitive products; cross-shoppers were product situation specific (Appendix: Table 1).

Kim and Kang's (1997) study examined the consumers' perception of shopping costs and its relationship with retail trends. The study highlighted the shopping benefits and costs in a brick-and-mortar retail format in the context of a shopping mall and included economics, service, institutional image, convenience/safety, atmosphere, easy return, selection, money, time and energy as the variables that affected purchase intention (Appendix: Table 1). However, no study has been conducted to examine

consumers' shopping benefits and costs across the three channels (i.e., brick-and-mortar stores, catalogs and the Internet).

Each channel is associated with shopping benefits and costs on the basis on which a consumer makes a purchase decision. Multi-channel retailers need to provide easy and efficient access for individual consumers (Pulliam, 1999). Each of these three channels (i.e., the Internet, catalogs, and brick-and-mortar stores) offers communication, transaction and distribution opportunities (Peterson et al., 1997).

Table 2 compares the shopping benefits and costs of brick-and-mortar stores, catalogs and the Internet (Data obtained from Kim, 2002). Shopping benefits include sensory experience, social interaction, convenience, and consumer service. Brick-and-mortar stores provide more opportunities for face-to-face interaction vis-à-vis catalogs and the Internet. Although catalogs and the Internet provide no direct interaction with other people, consumers can still network with other individuals via email or telephone. The brick-and-mortar stores provide one-stop shopping whereas both catalogs and the Internet provide 24-hour accessibility.

Shopping costs include money, time and energy (Downs, 1961). Money spent to acquire a product is a cost that is applied to any channel. However, catalogs and the Internet involve shipping and handling costs, which are not present in the case of brick-and-mortar stores. Time is spent traveling to the store and finding a parking space in the case of brick-and-mortar stores. For shopping via catalogs or the Internet, time is spent locating products as well as completing a transaction. Energy expended on brick-and-mortar stores, include waiting in checkout lines and finding the product. While shopping on the Internet, energy is expended navigating through the Web pages to find products

as well as navigating broken links. In shopping through catalogs, energy is expended finding the right product.

Multi-Channel Retailing

The retail environment is being transformed with the introduction of multi-channel operations designed to offer a spectrum of retail experiences for consumers to choose from (Mathwick, Malhotra, & Rigdon, 2001). Murphy (1998) examined the impact of the Internet on retailers' business in terms of marketing, external communications and corporate image. The findings indicated that most of the respondents viewed the Internet as informational rather than as a transactional channel. The retailer utilized the Internet as a tool to increase public awareness and accessibility and enhance corporate image**.** Since multi-channel retailers have access to more customer information, and more opportunities to sell and service their customers, they have the best chance to build lasting relationships (Rauh & Shafton, n.d.).

Although the multi-channel retailer concept has been around for years, the recent pressure to add an online presence has driven more and more retailers and cataloguers to become multi-channel entities (Schoenbachler & Gordon, 2002). The difficulty in moving to a multi-channel strategy is magnified by the fact that little is known about what drives consumers to be single-channel or multi-channel buyers (Schoenbachler & Gordon, 2002). The main uncertainty is how exactly online, catalog, and physical retailing will combine together to form a successful retailing concept (Anonymous, 1999). Schoenbachler and Gordon's (2002) study discussed the need for the implementation of a multi-channel strategy and the need for consumer focus. However,

no study has been done to determine how synergy is achieved within the various channels and how important synergy is to a retailer.

Synergy in Multi-Channel Retailing

It has been widely recognized that the future of retailing is not just about brick-and-mortar stores, the Internet e-commerce or catalogs; it is the synergy in multi-channel retailing (Reda, 2000). Customers will use a retailer's catalog, Website and store in making a purchasing decision, and thus there is a greater need for the retailers to integrate (Reda, 2002). According to the National Retail Federation's "Channel Surfing" survey, retailers attract more customer spending by integrating all three selling channels: brick-and-mortar stores, the Internet, and catalogs (Anonymous, 2001). In other words, the various channels cannot function as separate entities as there needs to be continuity and integration among the three channels (Reda, 2002). Thus a multi-channel retailer who is able to successfully integrate various channels can have a wider customer base.

Traditional retailers with multi-channel options can incorporate the reach, segmentation, and economic benefits of direct marketing and merchandising richness, personal interaction, and ambience of the retail store (Rauh & Shafton, n.d.). Catalogers have also adapted to the online medium with success. They enjoy the advantages of established brands, existing infrastructure, and extensive experience in selling to customers at a distance (*Online Retailing in 2005*, 2001).

Synergy is a relatively new concept and not much information is available about the various items of synergy. Even though the studies highlighted the necessity for a consistent strategy across channels, the parameters for the same were not listed.

Therefore, the synergy variables were generated based on educated assumptions from the literature review as well as inputs from the retailers. At the macro level, synergy was assumed to be dependent on company/organizational structure, marketing strategy, merchandising strategy, customer service, distribution and supplier networks, and financial strategy at the macro level. At the micro level, each of the above variables was further divided to variables that assessed each of the macro variables in depth (e.g., company/organization structure: company entity, organizational structure, heads of department, functionaries).

In conclusion, synergy in multi-channel retailing provides opportunities for strategic development by sharing resources between three channels. Synergy allows for integration of marketing and financial activities; economies in merchandising and distribution activities; sharing of supplier networks; and implementation of similar consumer service programs and organizational structures across channels. Synergy of multi-channel also can help retailers to leverage the existing brand equity across all channels. Retailers who synchronize across channels will be better positioned for success in today's competitive environment.

Opportunities for Multi-Channel Retailing

Opportunities exist for the brick-and-mortar retailers, catalog retailers, and pure-play Internet retailers to operate multiple channels. Table 3 summarizes the opportunities for brick-and-mortar retailers, catalogers and retailers only with Internet presence. These opportunities include leveraging existing brand equity, establishing brand equity, leveraging advertising and marketing expense, leveraging distribution and supplier networks, driving cross-traffic to multiple channels, accessing complementary

demographic group of shoppers, and leveraging real estate (Baker, 1999). A retailer can leverage existing brand equity to add another channel. A brick-and-mortar store retailer or a catalog retailer can leverage marketing expenses and distribution expenses to add an online channel. All the retailers irrespective of channels can access the same consumer base and can drive traffic amongst the channels.

Challenges in Multi-Channel Retailing

There is an obvious disparity between the consumers' needs and their expectations and what multi-channel retailers offer (Ernst & Young, 2001). Multi-channel shoppers spend 30% more money than single-channel shoppers, yet retailers do not identify and market properly to these consumers (Capizzi, 2001).

One of the biggest challenges that still remain for multi-channel retailers is the ability to integrate processes, systems and infrastructure across multiple channels (Anonymous, 2001). The multi-channel retailer has to address challenges such as brand extension (Ernst & Young, 2001) as it is difficult to provide the same kind of brand image across all the channels. Multi-channel retailers must also provide a seamless consumer experience in all the channels. Another multi-channel challenge is to perfect strategies for driving consumers from one channel to the other without switching to another retailer (Ernst & Young, 2001). Retailers will also have to combine more functions in order to streamline their organizations (Loeb, 1998). Multi-channel retailers have not been able to correctly address the channel strategy. Many retailers are afraid of cannibalizing their existing business (Hancock, Rigby, & O'Sullivan, 2000). Some of the retailers have been tempted by potential market valuations into creating another channel without a coherent channel strategy; and most retailers have been misled by

retailers only with Internet presence into thinking that price is the only way to compete in a multi-channel format (Hancock, Rigby, & O'Sullivan, 2000).

Summary of the Literature Review

Today, the retailing industry has been diversified into more than one channel of business. Consumers are inundated with choices in all aspects of retailing and the multi-channel retailer format is one of them. Consumers are shopping across all the three channels (i.e., brick-and-mortar stores, catalogs and the Internet), and may use a combination of the three retail channels during the purchase decision process. Consumers seek to maximize their shopping benefits and minimize their shopping costs and both of them together predict their purchase intention. Consumers are concerned with the shopping benefits and costs associated with each channel. Thus, retailers will be positioned better if they understand how their customers' perceived shopping benefits and costs predict purchase intention.

The multi-channel retailer faces opportunities and challenges as they try to achieve synergy. It appears that the retailers with the broadest channel representation are best positioned to improve consumer loyalty and retention rates, because cross selling to consumers across multiple channels increases profit margin per consumer (Pulliam, 1999). On the other hand, multi-channel retailers face a number of challenges including cannibalization of higher margin sales, channel conflict, high cost of implementation, and customer-retention issues (Schoenbachler & Gordon, 2002).

Retailers need to coordinate their activities between the Internet and conventional retail channels in order to maximize the benefits such as increase in profitability and customer retention (Peterson, Balasubramanian, & Bronnenberg, 1997).

Multi-channels provide retailers with strategic opportunities to increase their business and leverage existing variables such as brand equity, marketing and advertising expertise and expense, distribution networks and real estate. Multi-channel retailers are able to access the same demographic group of shoppers across channels and therefore drive cross-traffic to multiple sales channels.

CHAPTER 3

METHODS

The retail industry is undergoing a major change with more and more retailers following the multi-channel format of brick-and-mortar stores, catalogs and the Internet as distribution channels. Consumers are also becoming informed of the various options available and are frequently using more than one channel to satisfy their shopping needs. Thus, it is important for retailers to determine whether consumers have the same shopping needs in different retail channels, and to use this information in developing their multi-channel marketing strategies.

In this chapter, the research objectives are described followed by instrument development, description of the population and sample, data collection, and data analysis.

Research Objectives

This study focused on multi-channel retailing and was designed to understand the effect of consumers' perceived shopping benefits and costs on their purchase intention. This study also estimated the synergic effect among three multi-channels (brick-and-mortar stores, catalogs and the Internet). The objectives of this study were:

1. To examine the effects of shopping benefits and costs on purchase intention for:
    (a) Brick-and-mortar stores,
    (b) Catalogs, and
    (c) the Internet.
2. To explore retailers' perception of synergy in multi-channels in terms of:

(a) Degree of similarity in using parameters through three channels (i.e., brick-and-mortar stores, catalog, and the Internet),

(b) Degree of synergy in the three channels of operation, and

(c) Importance of synergy in the three channels of operation.

Instrument Development

Self-administered questionnaires for both consumers and retailers were developed based on the literature. For consumers, the questionnaire consisted of shopping benefits and costs for each of the three shopping channels (i.e., brick-and-mortar stores, catalogs, and the Internet), purchase intention for each of the three channels, and demographic variables including gender, age, annual household income, marital status, ethnicity, and number of children (Table 4). Professors in the area of merchandising established the content validity of the instrument. The questionnaire for multi-channel retailers consisted of (1) whether parameters concerning the various aspects of the retailer's operation should be same or different across the three channels, (2) the degree of synergy in their existing channels, and (3) the importance of synergy in their existing channels of operation (Table 5). The retailers' questionnaire was developed on the basis of personal interviews with the multi-channel retailers who operated at least two of the three channels (i.e., brick-and-mortar stores, catalogs, and the Internet).

Consumer Instrument

Independent measures in this study were shopping benefits and shopping costs. Purchase intention was a dependent variable.

Independent Measures

Shopping benefits. Shopping benefits were measured for each of the three retail channels (i.e., the brick-and-mortar stores, the catalogs, and the Internet). Thirteen items of shopping benefits for the consumer's questionnaire were primarily based on two studies (Jarvenpaa & Todd, 1997; Shim, Eastlick, & Lotz, 2000). Three items (access to variety of same kind of products, access to different products, and good customer service) were adapted from Shim, Eastlick and Lotz (2000) and Jarvenpaa and Todd (1997). Four items (layout of the store and product, saving time, availability of national or designer brands, and easy return of item) were adapted from Shim, Eastlick and Lotz (2000). Six items (up-to-date and unique items, convenience, good quality of product, reasonable price, privacy, and security) were adapted from Jarvenpaa and Todd (1997). The consumers were asked to indicate the level of importance for the thirteen items when they decided to purchase goods from each of the three channels (i.e., brick-and-mortar stores, catalogs and the Internet). Shopping benefits were measured on a 5-point rating scale (1 "very unimportant" to 5 "very important").

Shopping costs. Shopping costs consisting of money, time, and energy (Downs, 1961) were measured for all the three channels (i.e., brick-and-mortar stores, catalogs and the Internet). Money was measured on such parameters as cost of goods purchased, cost of transportation used including parking fees (Downs, 1961), shipping costs and handling costs. Time was measured on the basis of amount of time spent on traveling including time spent parking, completing a transaction, browsing through product categories, and time spent on returning products. Energy was defined as the amount of effort required for shopping, going through various categories, and returning

products. Shopping costs were measured for each of the three channels (i.e., brick-and-mortar stores, catalog and the Internet). The consumers were asked how much each of the three shopping costs (money, time and energy) was spent while shopping and their responses were measured on a 5-point rating scale (1 “I spend a minimal amount”; 2 “I spend a small amount”; 3 “ I spend a reasonable amount”; 4 “ I spend more than I should”; and 5 “I spend far too much”).

Dependent Measures

Purchase intention. Consumers’ future purchase intentions in all the three channels (brick-and-mortar stores, catalog, and the Internet) were measured as a consumer’s purchase intention in the next six months. It was measured on a 7-point rating scale (0 “never” to 6 “6 or more times”). Purchase intention was measured based on the following product categories: (1) books, magazines or greeting cards, (2) clothing, jewelry, shoes or accessories, (3) collectibles/arts and crafts, and gifts, (4) health and beauty products, (5) home furnishings, (6) music tape or CD, (7) small electronics, and (8) sporting goods.

Consumer Demographic Characteristics

Consumer demographic characteristics were measured for a descriptive purpose. Demographic variables were gender, age, income, marital status, ethnicity and number of children. Age was measured as a continuous variable and the respondents filled in their age. Income was measured as total household income in the past year before taxes. The scale included eleven levels: (1) less than $10,000, (2) $10,001 - $20,000, (3) $20,001 - $ 30,000, (4) $30,001 - $40,000, (5) $40,001 - $50,000, (6) $50,001 - $60,000, (7) $60,001 - $70,000, (8) $70,001 - $80,000, (9) $80,001 - $90,000,

(10) $90,001 - $100,000, and (11) Over $100,000. Marital status was measured in three categories: (1) single, never married, (2) married, living with a partner, and (3) separated, widowed, divorced. Ethnicity was measured in six categories: (1) native American, (2) African American, (3) Asian, (4) Hispanic, (5) Caucasian, and (6) other. Respondents were asked to indicate the number of children living with them in four categories (1) none, (2) 1-2 children, (3) 3-4 children, and (4) 5 or more children.

Retailer Instrument

Synergy is the degree of compatibility between the three channels- brick-and-mortar stores, catalogs and the Internet. Synergy consisted of three sets of questions.

Micro parameters. The first set of questions was related to a multi-channel retailers' opinion regarding twenty-one items in terms of whether these micro parameters should be same or different for all three channels at all times. The twenty one items for the three channels (i.e., brick-and-mortar stores, catalogs and the Internet) included company entity (e.g., name of the company, corporate address), organizational structure, heads of department, functionaries (e.g., buyers, logistics supervisor, marketing manager), company logo, promotional strategy, communication strategy (e.g., ad copy, direct mailers, newsletters), advertisement agency, product range/categories, size and color range, new merchandise, return policy, product information, customer product delivery policy, vendor, payment terms, vendor product delivery policy, distribution center, distribution methods (e.g., road, air, rail), pricing strategy (e.g., cost + mark up, amount of margin), and transaction method for consumer (e.g., cash or credit). It was measured on a 7-point rating scale (0 " same" to 6 "different").

Macro parameters. The second set of questions measured the degree of synergy in the retailers' existing channels for six macro parameters: company/organizational structure, marketing strategy, merchandising strategy, service strategy, distribution and supplier networks and financial strategy. The level of synergy in the existing channels was measured on a 7-point rating scale (0 " very low" to 6 "very high"). Finally the importance of synergy to the retailer was measured for the same six parameters used for degree of synergy based on a 7-point rating scale (0 " very unimportant" to 6 "very important").

Population and Sample

All consumers who purchased products or services on the three channels (i.e., brick-and-mortar stores, catalogs and the Internet) were the population for this study. Telephone numbers of 5,000 consumers who had purchased products or services through the Internet and catalogs were purchased from a leading marketing firm. The list was restricted only to consumers who purchased from two channels (i.e., catalogs and the Internet) as it was assumed that all the consumers would have purchased products from brick-and-mortar stores. For probability sampling, every 10^{th} number was selected until 500 numbers were completed. Consumers who were not reached after three calls were replaced randomly from the unselected numbers.

All retailers in the United States who had presence in at least two of the three channels (i.e., brick-and-mortar stores, catalogs and the Internet) comprised the sample frame. The samples of retailers were those who agreed to participate in this study. The retailers included a variety of retail formats including chain department stores, specialty department stores, discount stores, and specialty chain stores. A total of 25 retailers

were contacted via the telephone and asked to complete a survey instrument. Only 10 retailers agreed to participate in the study. Respondents were screened according to whether they had experience with at least two channels of the company.

Data Collection

Focus Group Interview

A focus group interview was conducted in March 2001 with 7 individuals (2 males and 5 females) in order to generate items of shopping benefits, costs, and products or services for measuring purchase intention beyond those identified through the literature review. The participants were contacted over the phone before the actual interview. All the participants were employees of a national multi-channel retailer and had purchased products/services in all the three channels of brick-and-mortar stores, catalogs and the Internet.

The focus group was asked the following questions: (1) Which channel do you generally shop? (2) What are the costs and benefits involved in each channel? (3) What kind of products do you purchase from each channel? (4) What are the main factors that influence your patronage intention of each channel? (5) What are the synergies that you are looking for among the various channels of the same retailer (e.g., width of products, depth of products, customer service, and convenience)?, and (6) Would you buy from a pure play online retailer or from one that has a physical store and/or catalog? The focus group discussions were tape-recorded and transcribed.

The major findings of the focus group interview were as follows: (1) Brick-and-mortar stores were the most preferred way of shopping; (2) Shipping and handling costs were a major concern in the case of catalogs and the Internet; (3) Return policy and

product availability were crucial for synergy among three channels; (4) Price was an important issue because the respondents always shopped across the channels for the best deals; and (5) The "product brand," not the retailer's brand, was important to shopping. These findings were consistent with the current literature review and the focus group re-confirmed the variables of shopping benefits and costs.

Pre-testing

The survey instrument was pre-tested for content validity and minor adjustments were made prior to main data collection. In November 2001, the survey instrument was pre-tested with consumers (*N* = 115). It was assumed that these consumers had used at least one channel (i.e., catalog or the Internet). These consumers were comprised of students, faculty members, and staff of University of North Texas, Denton, Texas. Based on the pretest, items were revised to ensure readability and a logical flow of questions. Other minor adjustments were made to the survey instrument based on the comments of the respondents. The survey instrument was transcribed for the telephonic interview.

The Quantitative Phase: Multi-Channel Consumer

Data were collected from the consumers via Computer Aided Telephone Interview (CATI) during February 2002. The calls were on an average of 15-20 minutes duration and were made either between 12:30 – 4:00 p.m. or 4:30 – 8:30 p.m. At the outset of each call, the interviewer began by introducing the project as a major university's research study. This preface was known to significantly increase the response rate by distinguishing itself from telemarketing efforts (Kim & Kang, 1997). Given the nature of this study, only those respondents who indicated they had used the catalog and the Internet for purchases at least once were eligible to participate in the

survey. Forty-three percent of the respondents had purchased products from catalogs 1-5 times. Approximately, forty-one percent of the respondents had purchased products from the Internet 1-5 times. Only the respondents who had used catalogs or the Internet were asked to take part in the telephone interview.

The Qualitative Phase: Multi-Channel Retailer

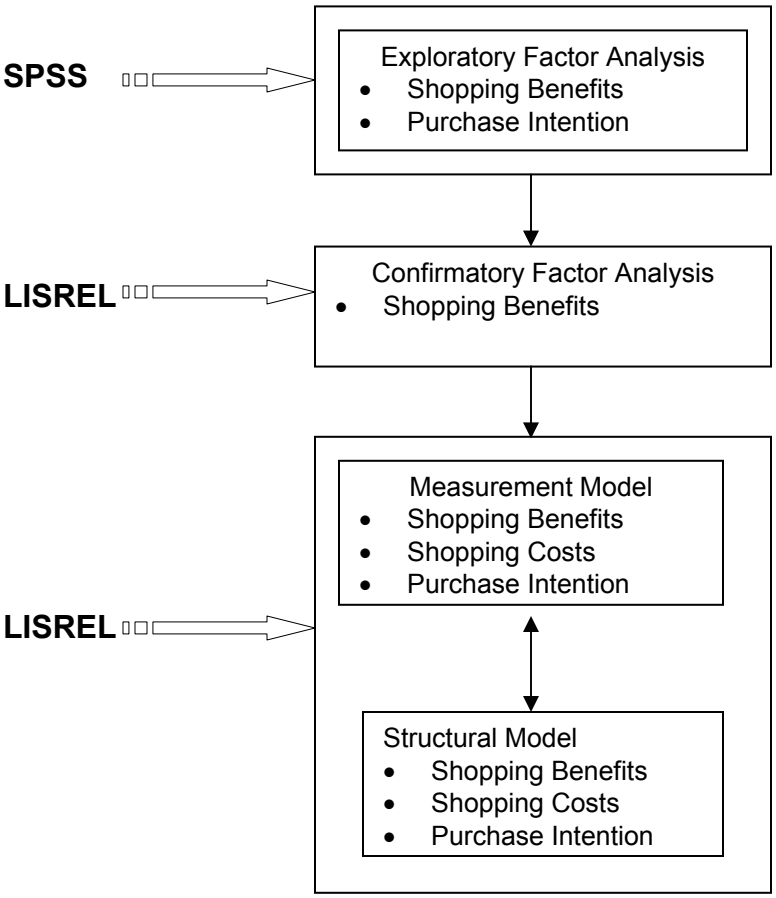
A comprehensive list of multi-channel retailers was generated using trade publications as well as Internet research. Convenience sampling method was used to initially contact twenty-five retailers. These retailers were contacted via telephone to solicit their participation in the study, only ten retailers agreed to participate. The surveys were either faxed or electronically mailed to each of the ten retailers. The retailers recorded their response and either faxed them or sent them back electronically. Each of the ten retailers was asked to indicate the degree of similarity or difference in various parameters such as company entity, organizational structure, product information among the three channels (i.e., brick-and-mortar stores, catalogs, and Internet). Additionally, retailers were asked the question for the degree of synergy and the level of importance of synergy in their business concerning the marketing, merchandising, and financial strategy.

Both upper and middle management personnel completed the survey questionnaire. Their positions included: President, Senior Vice President, Distribution Manager, Senior VP for Cyber, Chief Operating Officer, District Team Leader, Store Manager, and Manager of Catalog Expansion. All of the respondents operated in both the brick-and-mortar and Internet formats, and six of the respondents operated in all three channels. All 10 questionnaires that were returned were usable.

Data Analyses

The data collected for this study were analyzed using Statistical Package for the Social Sciences (SPSS) for descriptive and factor analysis purposes, and LISREL 8 for testing the measurement model and structural model. The summary of statistical data analyses for consumers is presented in Table 6. This is also depicted diagrammatically in Figure 2.

Figure 2: Consumer Data Analyses Summary



Factor Analyses: Consumers

Data reduction techniques were applied to the variables of shopping benefits and purchase intentions to convert the individual variable items into a smaller number of

dimensions. For identifying underlying dimensions, the thirteen items of Shopping Benefits at each channel level (i.e., brick-and-mortar stores, catalogs, or the Internet) were factor analyzed using principal components analysis with varimax rotation. The same factor analysis approach was utilized for the eight-product/service items measuring Purchase Intention at each channel level. The factors were loaded for eigen values equal to or greater than one. Cronbach's alpha was acceptable within the range of 0.40 and 1.0.

Descriptive Statistics: Retailer

Descriptive statistics were used to analyze the data for the retailer (Table 7). Mean scores were calculated for similarities and differences in multi-channel parameters across all the channels, the degree of synergy in the existing channels, and the importance of synergy in the existing channels.

LISREL Model Testing

Linear Structural Relations Model

Linear Structural Relations (LISREL) Model was used to specify the phenomenon under study in terms of hypothetical, cause-and-effect variables and their indicators. The LISREL model consisted of two parts, the measurement model and the structural equation model. The measurement model specifies how the latent variables or hypothetical constructs are measured in terms of observed variables (i.e., indicators), and it describes the measurement properties (validities and reliabilities) of the observed variables. Latent variables are the unobserved constructs or factors, which are measured by their respective indicators. "Exogenous" variables are independents with no prior causal variable. "Endogenous" variables are mediating variables and pure dependent variables.

The LISREL model for the study is based on the assumption that shopping benefits and costs will directly affect the purchase intention. The measurement model and the structural model were estimated simultaneously for testing the objectives by using LISREL 8. The maximum likelihood estimation (ML) with correlation matrix was used via LISREL 8 to test the measurement model and the structural model (Jöreskog & Sörbom, 1993) for the three channels (i.e., brick-and-mortar stores, catalogs and the Internet). The measurement model assessed how the latent variables (i.e., shopping benefits and shopping costs) were measured in terms of observed indicators (x and y variables) and the structural model determined causal relationships among these latent variables to test the model.

In this study, structural equation modeling specifies the causal relationships among the latent variables (i.e. benefits, costs, and purchase intention). The structural equation model is a set of two exogenous variables such as benefits (ξ_1) and costs (ξ_2) and an endogenous variable, purchase intention (η_1) with direct effects (straight arrows) connecting them.

The LISREL model for the study illustrated in Figure 3 is a combination of a structural equation system among latent variables η's and ξ's,

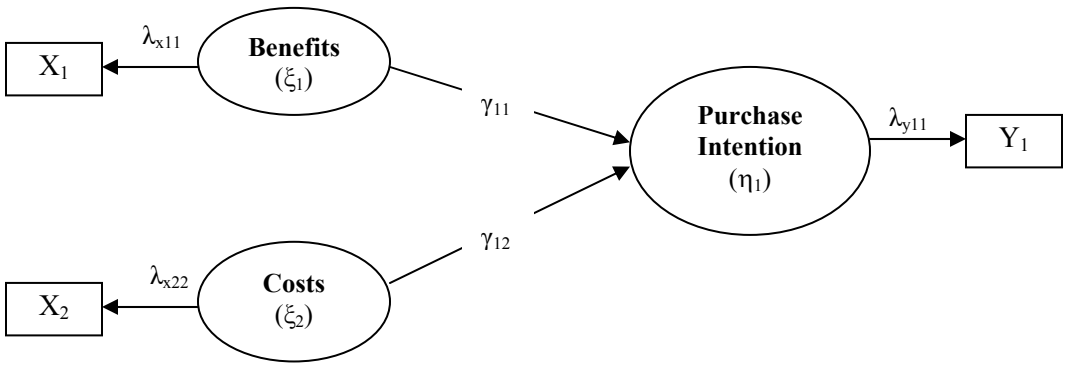
$$\eta = \beta\eta + \tau\xi + \zeta \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

and measurement models for y's and x's.

$$y = \lambda_y\eta + \varepsilon \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

$$x = \lambda_x\xi + \delta, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

Figure 3: LISREL Model for the Study



In the model,

X: Observed indicator for ξ

Y: Observed indicator for η

ξ: Latent exogenous variable

η: Latent endogenous variable

γ: Coefficient for path ξ to η

where all variables, observed and latent, are measured in deviations from their means. The full model therefore involves the following variables:

Observed Variables:	$y = (y_1, y_2, \ldots\ldots y_p)$	$x = (x_1, x_2, \ldots\ldots x_q)$
Latent Variables:	$\eta = (\eta_1, \eta_2, \ldots.\eta_m)$	$\xi = (\xi_1, \xi_2, \ldots.. \xi_n)$
Error variables:	$\varepsilon = (\varepsilon_1, \varepsilon_2, \ldots\ldots \varepsilon_p)$	$\delta = (\delta_1, \delta_2, \ldots \delta_q)$
	$\zeta = (\zeta_1, \zeta_2, \ldots.. \zeta_m)$	

The ε's and the δ's are called error variables or measurement errors, and the ζ's are called errors in equations or structural disturbance terms.

Assessment of model fit. An important part in the application of LISREL is the assessment of fit model and the detection of lack of fit of a model. LISREL provides several powerful tools for this purpose. The assessment of fit must be made with careful subjective judgment based on what is already known about the substantive area and

the quality of the data (Jöreskog & Sörbom, 1993). In general, the overall fit of the model is assessed by several statistic indices such as: Chi-square (χ^2), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Square Error of Approximation (RMSEA).

The value of χ^2 is regarded as a goodness of fit measure in the sense that a large chi-square value corresponds to a bad fit, the smaller chi-square value, better the fit. The χ^2 measure is sensitive to sample size and very sensitive to departures from multivariate normality of the observed variables (Jöreskog & Sörbom, 1993). Therefore, the test may be misleading and hence requires using other goodness-of-fit measures such as GFI, AGFI, and RMSEA.

The goodness-of-fit measures such as GFI and AGFI do not depend on sample size explicitly and measure how much better the model fits as compared to no model at all. Both of these measures, in general, should be between zero and one, with values equal to or greater than 0.90 to prove a good model.

Root mean square error of approximation, RMSEA, is also called RMS or RMSE or discrepancy per degree of freedom is one of the fit indexes less affected by sample size, compared to chi-square. By convention, if RMSEA is less than or equal to 0.05, it indicates a good model fit. The value of RMSEA ranging from 0.08 to 0.05 indicates an adequate fit.

CHAPTER 4

RESULTS

The data for this study consisted of 500 responses from multi-channel consumers and 10 responses from multi-channel retailers. The consumer demographics are described in the first section, which is followed by preliminary data analysis for the consumers. Measurement model and structural model are described in the following section. The chapter is concluded with a section on qualitative analysis of the synergy variable for the retailers.

Characteristics of Respondents

Consumer Demographics

A demographic profile of the respondents, summarized in Table 8, indicated that approximately sixty-five percent of the respondents were males and thirty five percent were female. The percentage of respondents between 30 and 59 years of age was 69%, and annual household income that was spread across the categories with fairly even distributions, with 51% in the range of $30,001 - $70,000. Eighty percent of the respondents were married or living with a partner. The respondents were predominantly Caucasians (93%). Fifty-five percent of the respondents reported no children living with them, followed by 1-2 (36%) and 3-4 children (9.1%).

Other External Variables

Table 9 summarizes the descriptive statistics of catalog and Internet usage. Among the respondents who had purchased from catalogs, 43% of them had purchased 1 to 5 items; approximately 35% had purchased 10 or more times. In case of the Internet shopper, 41% of them had purchased products via the Internet 1 to 5 times;

35% had purchased 10 or more times. Internet service was mainly used at home (42.7%) or both at home and/or work (53.5%). Approximately, two-thirds (63.5%) of the respondents used dial-up to connect to the Internet.

Preliminary Data Analyses

Dimensions of Shopping Benefits

Identifying underlying dimensions of shopping benefits entailed using both an exploratory factor analysis and a confirmatory factor analysis. Principal component factor analysis using varimax rotation was initially performed on the thirteen shopping benefits items for each retail channel (i.e., brick-and-mortar stores, catalogs, and the Internet). A confirmatory factor analysis was used to verify the factor structure of shopping benefits.

Shopping Benefits: Brick-and-Mortar Stores

An exploratory factor analysis revealed four factors of shopping benefits in brick-and-mortar stores whose eigen-values were greater than 1, and four factors explained 56.21% of the total variance of shopping benefits (Table 10).

For verifying the result of exploratory factor analysis of shopping benefits in brick-and-mortar stores, a confirmatory factor analysis was conducted. As shown in Table 11, Factor 1 (Value/Service) was composed of three shopping benefits items: good quality of product, good customer service, and reasonable price. The standardized factor loading for the factor was in the range of 0.42 to 0.74. The item of easy return in the Value/Service factor was removed, as this item did not fit conceptually with the rest of the items of the factor. Factor 2 (Security) included two items of shopping benefits: privacy, and security. The standardized factor loadings were in the

range of 0.70 to 0.74. The item of saving time in the Security factor was not included for further analyses due to a low factor loading (0.48). Factor 3 (Assortment) included three items of shopping benefits: availability of national or designer brands, up-to-date and unique Items, and layout of the store and the product. The standardized factor loadings were in the range of 0.53 to 0.57. Factor 4 (Product Access) consisted of three factors: access to a variety of same kind of products, access to different products, and convenience. In the factor of Product Access, the item of convenience was eliminated due to a factor loading below 0.40. The standardized factor loadings were in the range between 0.63 and 0.73.

As illustrated in Table 11, the factor loadings ranged from 0.42 to 0.74, and Cronbach's Alphas of the factors ranged from 0.57 to 0.67. Several fit indexes were used to test the goodness of the model. The χ^2 - value was 99.75 with 29 degrees of freedom (p = 0.00). Because χ^2 - value is very sensitive to the large sample size, other fit statistics were used to evaluate the goodness of model fit. Those other fit indexes were good enough to accept the factor structure model (GFI = 0.96, AGFI = 0.93, RMSEA = 0.06). Therefore, it was deemed that the factor structure of shopping benefits in Brick-and-mortar was valid and reliable.

Shopping Benefits: Catalogs

In terms of shopping benefits related to catalogs, an exploratory factor analysis revealed three shopping benefits factors whose eigen-values were greater than 1 and explained 56.16% of the variance (Table 12).

For verifying an exploratory factor analysis of shopping benefits derived from using catalogs, a confirmatory factor analysis was conducted (Table 13). Factor 1

(Variety/Convenience) was composed of six items: availability of national or designer brands, up-to-date and unique Items, access to different products, access to a variety of same kind of products, layout of the catalog, and saving time. One item of convenience in the Value/Service factor was removed due to a low factor loading (0.49). All of the standardized factor loadings were in the range of 0.45 to 0.70. Factor 2 (Value/Service) included four factors: easy return, good quality of merchandise, good customer service, and reasonable price. The standardized factor loadings were in the range between 0.60 and 0.73. Factor 3 (Security) was composed of two factors: privacy, and security with factor loadings of 0.75.

As presented in Table 13, the factor loadings ranged from 0.45 to 0.75 at the level of 0.001, and the Cronbach's Alphas of the factors ranged from 0.72 to 0.77. χ^2 - value was 203.19 with 51 degrees of freedom (p = 0.0), which entailed using other fit statistics to evaluate the goodness of the model fit. Other indexes of fit statistics were within acceptable ranges (GFI = 0.94; AGFI = 0.90; RMSEA = 0.07). Therefore, the factor structure consisting of three factors was deemed to be valid and reliable.

Shopping Benefits: The Internet

An exploratory factor analysis revealed three factors of shopping benefits for the Internet. Eigen-values were greater than one, and these factors explained 57.96% of the total variance (Table 14).

For verifying exploratory factor analysis of shopping benefits on the Internet, a confirmatory factor analysis was conducted (Table 15). Factor 1 (Service/Quality) was composed of five items: security, easy return, privacy, good customer service, and good quality of product. All of the standardized factor loadings were in the range of 0.55 to

0.67. Factor 2 (Variety) contained three items: availability of national or designer brands, access to different products, and access to a variety of same kind of products. The standardized factor loadings were in the range of 0.54 to 0.84. Factor 3 (Convenience) was composed of three items: convenience, reasonable price and saving time. The standardized factor loadings were in the range 0.48 to 0.55. The items, layout of the Web page and ease of navigation were not included in further analyses due to cross loading. For the factor of Variety, one item, up-to-date and unique Items was removed, because it did not fit conceptually with the rest of the items in this factor. The item of reasonable price in the Convenience factor was also removed due to a low factor loading (below 0.55).

As illustrated in Table 15, the factor loadings ranged from 0.48 to 0.84, and the Cronbach's Alphas of the factors ranged from 0.72 to 0.77. The χ^2 - value was 259.24 with 32 degrees of freedom (p = 0.0). Other indexes of fit statistics were within acceptable ranges (GFI = 0.91; AGFI = 0.84; RMSEA = 0.12). Therefore, the factor structure consisting of three shopping benefits factors was deemed to be valid and reliable for the Internet.

Purchase Intention

A factor analysis using principal component analyses with varimax rotation was conducted to determine underlying factors of purchase intention for each channel.

Brick-and-mortar stores. As summarized in Table 16, an initial list of eight product items loaded on two factors with eigen-values greater than 1, which explained for 49.12% of the variance. Factor 1 (Personal Product) included four items: health and beauty products, clothing, jewelry, shoes or accessories, books, magazines or greeting

cards, and collectibles/arts and crafts. Factor loadings were in the range of 0.55 to 0.73. The Cronbach's Alpha for this factor was 0.64. Factor 2 (Home/Leisure) consisted of four items: small electronics, home furnishings, sporting goods, and music tape or CD. Factor loadings were in the range of 0.54 to 0.81. The Cronbach's Alpha for this factor was 0.63.

Catalogs. The purchase intention variables in the catalog channel revealed two factors, whose eigen-values were greater than 1. Two factors accounted for 50.29% of the total variance (Table 17). Factor 1 (Home/Leisure) contained four items: mall electronics, home furnishings, sporting goods, and health and beauty products. Factor loadings were in the range of 0.54 to 0.74. The Cronbach's Alpha for this factor was 0.67. Factor 2 (Personal Products) also had four items: books, magazines or greeting cards, collectibles/arts and crafts, music tape or CD, and clothing, jewelry, shoes or accessories. Factor loadings were in the range of 0.49 to 0.83. The Cronbach's Alpha for this factor was 0.63.

Internet. For purchase intention at the Internet level, eight items loaded on only one factor whose eigen-value was greater than 1 and thus the solution could not be rotated (Table 18). Factor loadings were in the range of 0.53 to 0.76. The Cronbach's Alpha for this factor was 0.79. The single factor accounted for 42% of the total variance of purchase intentions. The items that belonging to this factor included: small electronics, home furnishings, sporting goods, health and beauty products, books, magazines or greeting cards, collectibles/arts and crafts, music tape or CD, and clothing, jewelry, shoes or accessories. A single factor indicates that consumers' purchase intention to buy via the Internet is homogenous across products.

Measurement Model and Structural Model Testing

The full LISREL model consisted of measurement model and structural model. The measurement model assessed how latent variables of shopping benefits (X-variables), costs (X-variables), and purchase intentions (Y-variable) are measured in terms of observed indicators for each channel. For the measurement model of shopping benefits, costs, and purchase intention, one arbitrarily selected observed indicator of each factor for shopping benefits, costs, and purchase intention was fixed at 1.0 in order to give the latent variable a referent, while the others were set free. The structural model was to estimate causal relationships among latent constructs of shopping benefits, costs, and purchase intention for each channel. To examine the effect of shopping benefits and costs on purchase intention for each channel (i.e., brick-and-mortar stores, catalogs, and the Internet), the measurement model and the structural model were estimated simultaneously.

The Effect of Shopping Benefits and Costs on Purchase Intentions: Brick-and Mortar Store

Measurement Model

As illustrated in Table 19, the coefficients of λ_{ij} for latent constructs ranged from 0.42 to 0.78 ($p < .001$), suggesting that all the observed indicators are valid to measure latent variables of shopping benefits, costs, and purchase intention in the model. The reliabilities for the latent constructs ranged from 0.57 to 0.67. Therefore, the measurement model for brick-and-mortar stores was confirmed to be valid and reliable for testing research objectives.

The measurement model of *Purchase intention* was tested based on the result of the exploratory factor analysis that revealed two constructs: *Personal Products* and *Home/Leisure*. The constructs of *Personal Products* (η_1) consisted of three observed indicators such as health and beauty products, clothing, jewelry, shoes or accessories, and books, magazines, and greeting cards. The constructs of *Home/Leisure* (η_2) included three observed indicators of small electronics, home furnishings, and sporting goods. Two items, collectibles/art and craft and music/tape or CD, were eliminated from Personal Product and Home/Leisure respectively because of the low level of conceptual fit. All standardized factor loadings ranged from 0.47 to 0.78 and Cronbach's Alphas for Personal Products and Home/Leisure were 0.62 and 0.62 respectively. The descriptive analysis provided the mean scores for the two purchase intention groups: personal products (M = 2.90) and home/leisure (M = 1.16).

Shopping benefits included four latent factors: *Value/Service* (ξ_1) measured by three indicators, *Security* (ξ_2) measured by two indicators, *Assortment* (ξ_3) measured by three indicators, and *Product Access* (ξ_4) measured by two indicators. The items for these factors were derived from confirmatory factor analysis. The coefficients of λ_{ij} for latent constructs ranged from 0.42 to 0.74, and the reliabilities for the latent constructs ranged from 0.57 to 0.67 suggesting that all the observed indicators were valid to measure latent variables of shopping benefits in the model. The descriptive analysis of shopping benefits reveals that consumers place greatest importance on Value/Service (M = 3.23), followed by Assortment (M = 2.99), Security (M = 2.94), and Product Access (M = 2.16).

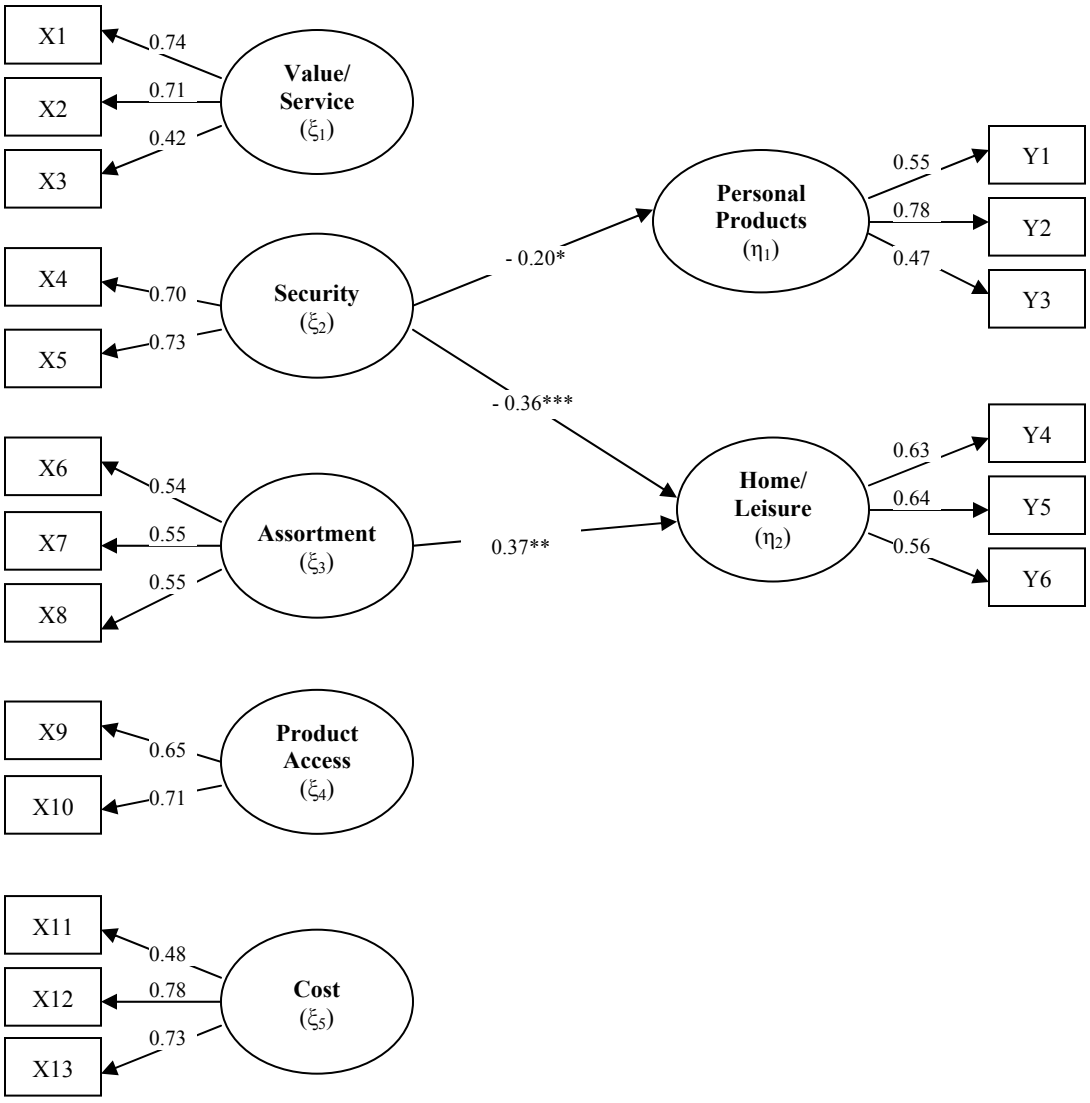
Shopping costs (ξ_5) included three items: “money spent on s store,” “time spent on brick-and-mortar stores,” and “energy spent on brick-and-mortar stores.” The standardized coefficients ranged from 0.69 to 0.84 and Cronbach’s Alpha for the factor was 0.69. The descriptive analysis of shopping costs (M = 2.41) revealed that the consumer placed more importance on costs than Product Access, but it was still lower than Value/Service, Assortment, and Security.

Structural Model

The structural model for brick-and-mortar stores in Figure 4 reported significant path coefficients. Overall fit statistics of the proposed model suggested that the χ^2 - value of 195.77 was significant (*d.f.* = 131, *p* = 0.00021). Other fit indices suggested that the model was good (GFI = 0.96, AGFI = 0.94, and RMSEA = 0.030).

As shown in Figure 4, Security and Assortment factors significantly influenced future purchase intention. More specifically, Security affected the purchase intention of Home/Leisure products (γ_{22} = - 0.32) and purchase intention of Personal Products (γ_{12} = - 0.16). Security (i.e., privacy and security) had a negative effect on the purchase of Personal Products as well as Home/Leisure products, which is in accordance with the findings of Jarvenpaa & Todd (1997). Assortment factor had a positive effect on the purchase intention of Home/Leisure products (γ_{23}= 0.43). More specifically, availability of national and designer brands and up-to-date and unique items along with layout of the store and product has a positive effect on the purchase intention of Home/Leisure products, which is in accordance with the study conducted by Shim, Eastlick and Lotz (2000).

Figure 4: The Path Diagram the Effect of Benefits and Costs on Purchase Intention – Brick-and-Mortar Stores



X1: Good quality of merchandise
X2: Good customer service
X3: Reasonable price
X4: Privacy
X5: Security
X6: National brands
X7: Up-to-date items
X8: Layout
X9: Access - same products
X10: Access – different products
X11: Money
X12: Time
X13: Energy

Y1: Health and beauty products
Y2: Clothing, jewelry, shoes or accessories
Y3: Books, magazines, greeting cards
Y4: Small electronics
Y5: Home furnishings
Y6: Sporting Goods

Goodness of Fit Statistics
$\chi^2 = 195.77$ (*d.f.* = 131, $p = 0.00021$)
Goodness of Fit Index (GFI) = 0.96
Adjusted Goodness of Fit Index (AGFI) = 0.94
Root Mean Square Approximation (RMSEA) = 0.030

Note: $*p < .05$ $**p < .01$ $***p < .001$

The Effect of Shopping Benefits and Costs on Purchase Intentions: Catalog Measurement Model

As illustrated in Table 20, the coefficients of λ_{ij} for latent constructs ranged from 0.45 to 0.85 ($p < .001$), suggesting that all the observed indicators are valid to measure for latent variables in the model. The reliabilities for the latent constructs ranged from 0.61 to 0.77. Therefore, the measurement model for catalog was confirmed to be valid and reliable for testing research objectives.

The measurement model for *Purchase intention*, was tested based on the result of exploratory factor analysis that revealed two dimensions: *Home/Leisure* and *Personal Products*. The constructs of *Home/Leisure* (η_1) consisted of three observed indicators of small electronics, home furnishings, and sporting goods. The constructs of *Personal Products* (η_2) consisted of three observed indicators of books, magazines, greeting cards, collectibles/arts and crafts, and music, tape or CD. Two items, health and beauty products and clothing, jewelry, shoes or accessories, were eliminated from the Home/Leisure and Personal Product constructs respectively because of the low level of conceptual fit. All of the standardized factor loadings were in the range of 0.47 to 0.81 and Cronbach's Alphas for Home/Leisure and Personal Products were 0.64 and 0.61 respectively.

Shopping benefits included three latent factors: *Variety/Convenience* (ξ_1) measured by six indicators, *Value/Service* (ξ_2) measured by four indicators, and *Security* (ξ_3) measured by two indicators. The items for these factors were derived from a confirmatory factor analysis. The coefficients of λ_{ij} for latent constructs ranged from 0.45 to 0.75 and the reliabilities for the latent constructs ranged from 0.72 to 0.77. The

descriptive analysis of shopping benefits revealed that the consumers place greatest importance on Value/Service (M = 3.37) followed by Security (M = 3.23), and finally Variety/Convenience (M = 2.36).

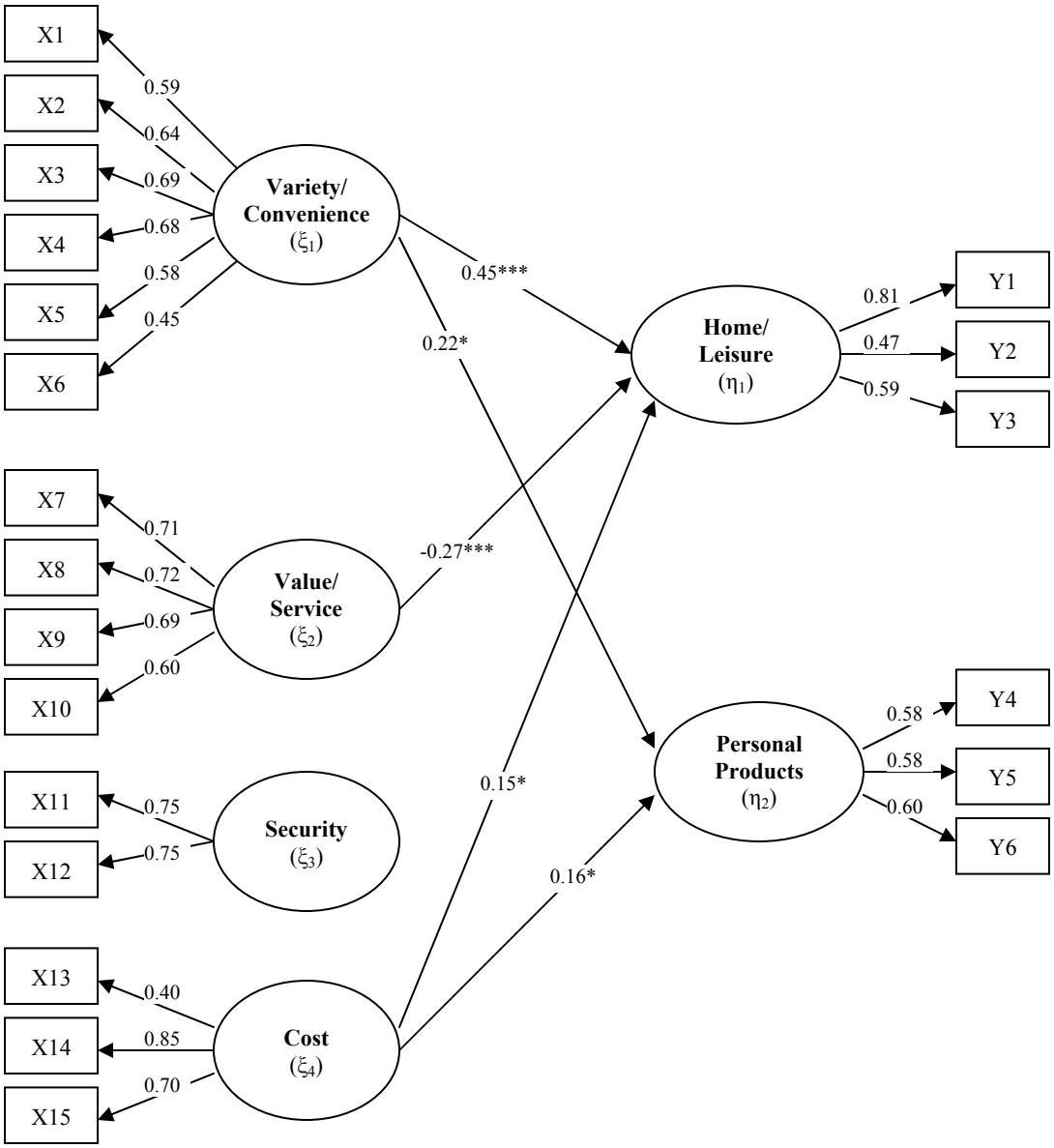
Shopping costs (ξ_4) included three items: “money spent on catalog,” “time spent on catalog,” and “energy spent on catalog.” The standardized coefficients ranged from 0.40 to 0.85 and Cronbach’s Alpha for the factor was 0.77. The descriptive analysis of shopping costs (M = 2.24) revealed that the consumer placed the least importance on Cost.

Structural Model

The structural model for catalogs in Figure 5, reported significant path coefficients. Overall fit statistics of the proposed model suggested that the χ^2 - value of 353.07 was significant (*d.f.* = 174, *p* = 0.00) and that other fit indices suggested a good model fit (i.e., GFI = 0.94, AGFI = 0.92, RMSEA = 0.045).

As shown in Figure 5, Variety/Convenience and Cost factors affected the future purchase intention of both Home/Leisure and Personal Product categories. The results are significant ($p < 0.5$ and $p < 0.01$, respectively) indicating that the consumer’s purchase intention with a catalog will be affected by these two factors. More specifically, Variety/Convenience significantly affected the purchase intention of Home/Leisure products ($\gamma_{11} = 0.61$) and purchase intention of Personal Products ($\gamma_{21} = 0.22$). Variety/Convenience (i.e., availability of national or designer brands, up-to-date and unique Items, access to different products, access to a variety of same kind of products, layout of the store, and saving time) had a positive effect on the purchase of Personal Products as well as Home/Leisure products, which is consistent with the findings of

Figure 5: The Path Diagram the Effect of Benefits and Costs on Purchase Intention – Catalog



X1: National Brands
X2: Up-to-date items
X3: Access-different products
X4: Access-same products
X5: Layout
X6: Saving time
X7: Easy return
X8: Good quality of merchandise
X9: Good customer service
X10: Reasonable price
X11: Privacy
X12: Security
X13: Money
X14: Time
X15: Energy

Y1: Small electronics
Y2: Home furnishings
Y3: Sporting Goods
Y4: Books, magazines, greeting cards
Y5: Collectibles and crafts
Y6: Music tape or CD

Goodness of Fit Statistics
$\chi^2 = 353.07$ (*d.f.* = 174, $p = 0.00$)
Goodness of Fit Index (GFI) = 0.94
Adjusted Goodness of Fit Index (AGFI) = 0.92
Root Mean Square Approximation (RMSEA) = 0.045

Note: $*p < .05$ $**p < .01$ $***p < .001$

Jarvenpaa and Todd (1997) and Shim, Eastlick and Lotz (2000). The Value/Service factor had a negative effect on the purchase intention of Home/Leisure products (γ_{12}= -0.31). The Cost factor had a positive effect on the purchase intention of both Home/leisure (γ_{14} = 0.30) and Personal products (γ_{24} = 0.23).

The Effect of Shopping Benefits and Costs on Purchase Intentions: Internet Measurement Model

As illustrated in Table 21, the coefficients of λ_{ij} for latent constructs ranged from 0.44 to 0.98 ($p < .001$), suggesting that all the observed indicators are valid to measure latent variables in the model. The reliabilities for the latent constructs ranged from 0.72 to 0.79. Therefore, the measurement model for the Internet was confirmed to be valid and reliable for testing research objectives.

The measurement model for *Purchase intention* was tested based on the result of exploratory factor analysis that revealed only one construct: *Internet purchase*. The constructs of *Internet purchase* (η_1) consisted of eight observed indicators. The descriptive analysis provided the mean score for Internet purchase (M = 0.70).

Shopping benefits included three latent variables: *Service/Quality*, *Variety*, and *Convenience*. The shopping benefits consisted of three latent factors: *Service/Quality* (ξ_1) measured by five indicators, *Variety* (ξ_2) measured by three indicators, and *Convenience* (ξ_3) measured by two indicators. The coefficients of λ_{ij} for latent constructs ranged from 0.51 to 0.86 and the reliabilities for the latent constructs ranged from 0.72 to 0.77. The descriptive analysis of shopping benefits revealed that consumers placed greatest importance on Convenience (M = 3.40) followed by Service/Quality (M = 3.08), and finally Variety (M = 2.84).

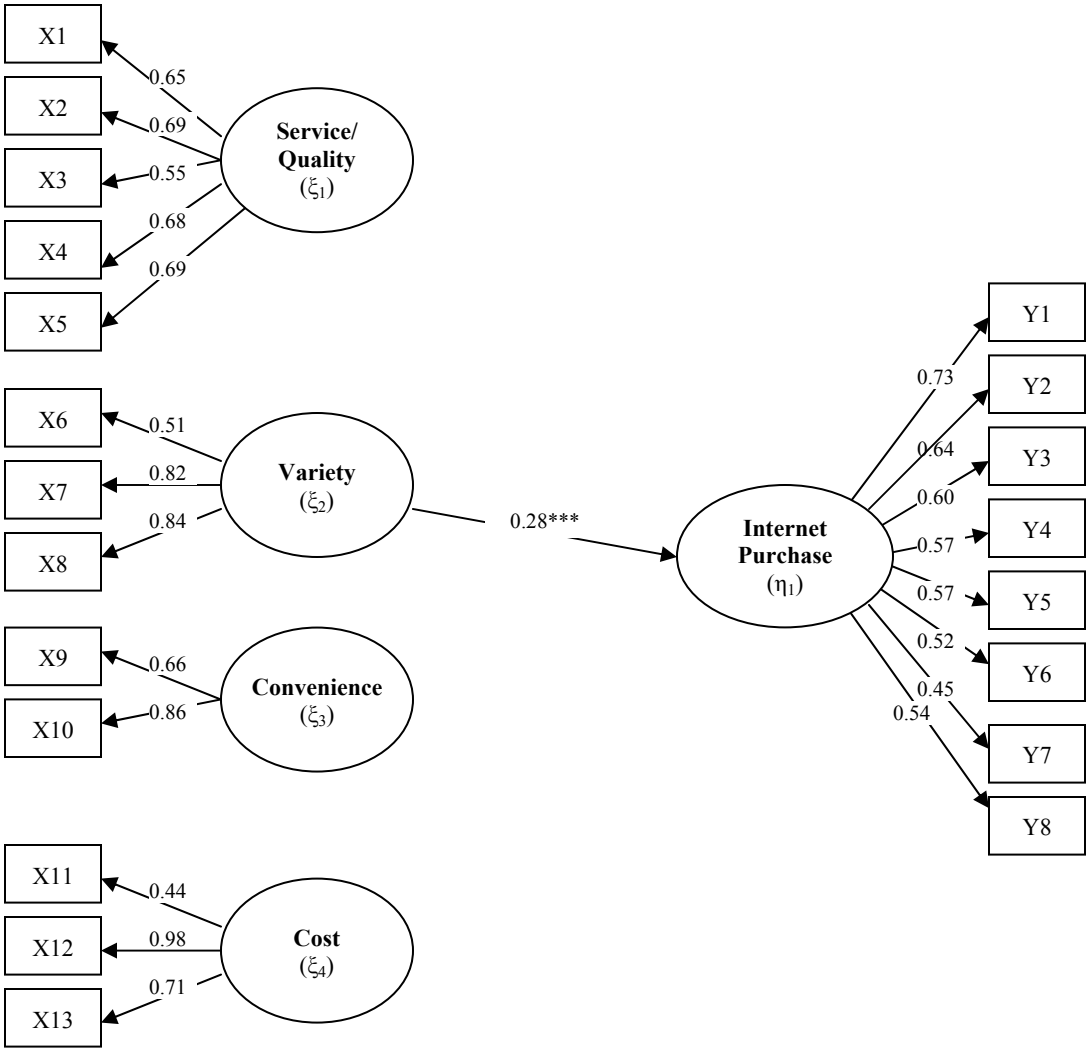
Shopping costs (ξ_4) included three items: “Money spent on Internet,” “Time spent on Internet,” and “Energy spent on Internet.” The standardized coefficients ranged from 0.44 to 0.98 and Cronbach’s Alpha of the construct was 0.73. The descriptive analysis of shopping costs (M = 2.53) revealed that the consumer placed the least importance on costs.

Structural Model

The structural model for the Internet in Figure 6 reported a significant path coefficient. Overall statistics of the proposed model suggested that the χ^2 - value of 468.12 was significant (*d.f.* = 179, *p* = 0.0). Other fit indices suggested that the model was good (GFI = 0.91, AGFI = 0.89, and RMSEA = 0.059).

As shown in Figure 6, Variety is the only factor that affected the future purchase intention. More specifically, Variety significantly affected the purchase intention of Internet purchase products positively (γ_{12} = 0.40). The result supports Shim, Eastlick and Lotz’s (2000) finding that the consumer’s intention to purchase on the Internet increased, as more information about the products was available.

Figure 6: The Path Diagram the Effect of Benefits and Costs on Purchase Intention – Internet



X1: Security
X2: Easy return
X3: Privacy
X4: Good customer service
X5: Good quality of merchandise
X6: National brands
X7: Access-same products
X8: Access-different products
X9: Saving time
X10: Convenience
X11: Money
X12: Time
X13: Energy

Y1: Small electronics
Y2: Home furnishings
Y3: Music tape or CD
Y4: Health and beauty products
Y5: Books, magazines, greeting cards
Y6: Clothing, jewelry, shoes, or accessories
Y7: Shopping Goods
Y8: Collectibles/arts and crafts

Goodness of Fit Statistics
$\chi^2 = 468.12$ (*d.f.* = 179, $p = 0.00$)
Goodness of Fit Index (GFI) = 0.91
Adjusted Goodness of Fit Index (AGFI) = 0.89
Root Mean Square Approximation (RMSEA) = 0.059

Note: $*p < .05$ $**p < .01$ $***p < .001$

Qualitative Analysis: Retailers

The data for retailers were analyzed using descriptive statistics. The qualitative content analysis of the retailers is summarized in terms of similarities and differences of multi-channel parameters, degree of synergy, and importance of synergy in the existing channels.

Multi-Channel Parameters: Similarities and Differences

As presented in Table 22, the degree of similarities and differences among multi-channels varied by multi-channel parameters. Retailers identified that the following parameters should be same for all three channels: company logo (M = 0.22), return policy (M = 0.78), company entity (M = 0.89), product information (M = 1.00), vendor product delivery policy (M = 1.00), payment terms (M = 1.33), distribution center (M = 1.44), pricing strategy (M = 1.56), customer product delivery policy (M = 1.56), vendors (M = 2.00), promotional strategy (M = 2.11), distribution methods (M = 2.11), advertisement agency (M = 2.11), transaction method for consumer (M = 2.11), and communication strategy (M = 2.22). However, multi-channel retailers reported that merchandise selection parameters, new merchandise (M = 3.11), size and color range (M = 3.22), and product range/categories (M = 3.44) across the channels should be neither the same nor different. Retailers identified that the following parameters should be somewhat different across all three channels: organizational structure (M = 3.56), functionaries (M = 3.67), and heads of department (M = 4.33).

Degree of Synergy

The degree of synergy illustrated in Table 23, indicated an overall high degree of synergy in their channels in the following items: company/organizational structure,

marketing strategy, merchandising strategy, customer service, distribution and supplier networks, and financial strategy. The degree of synergy was highest in customer service (M = 5.33) and lowest in financial strategy (M = 4.56). The result implies that the degree of synergy is highest in customer service and thus it can be concluded that all the three channels have the same customer service strategy. Financial strategy has the lowest score, that is, the lowest degree of synergy in the three channels.

Importance of Synergy

Retailers also rated the level of importance for the same items measured for the degree of synergy. The highest mean was obtained by customer service (M = 5.22), followed by company (M = 5.11), distribution and supplier networks (M = 4.78), marketing strategy (M = 4.67), financial strategy (M = 4.67) and merchandising strategy (M = 4.56) (Table 24). Therefore, the finding suggests that customer service is the most important parameter of synergy in the existing channel followed by company/organization structure. Importance of synergy in the marketing strategy and financial strategy was the same as shown by the results. Importance of synergy for the merchandising strategy exhibited the lowest rating.

CHAPTER 5

SUMMARY AND DISCUSSION

Consumers today are time-starved and are looking for options that would help them manage their time better. Consumers are willing to pay more for desired products and services if they are able to save time. Consumers are also driving the entire marketing process forcing retailers to recognize the way they do business. Consumers want to extract maximum shopping benefits while spending minimum shopping costs (i.e., time, money and energy). Therefore, retailers need to deliver the shopping experience that can maximize shopping benefits and minimize shopping costs.

Consumers are increasingly shopping across channels using a combination of brick-and-mortar stores, catalogs and the Internet to fulfill their shopping needs. In this scenario, it has become essential for retailers to understand how and why a consumer switches channels. Retailers need to answer questions regarding a consumer's multi-channel shopping behavior. Do consumers look for the same benefits and costs across all three channels or do they differ for each channel? Do consumers' purchase intentions for a channel change with the category of goods? These issues were examined for multi-channel consumers.

With the growth of multi-channel retailers, it is necessary to examine the importance of synergy in the channels. To what extent should the various multi-channel parameters be the same or different for all the channels? What is the degree of synergy in their existing channels? How important is it to have synergy in the existing channels? These issues were examined for multi-channel retailers.

The purpose of this study were to examine whether consumers' perceived benefits and costs led to their purchase intention and whether synergy existed among the three multi-channels (brick-and-mortars stores, catalogs, and the Internet) of a multi-channel retailer. Data were collected from multi-channel consumers and multi-channel retailers.

Summary

For consumers, thirteen shopping benefits (e.g. number of categories, alternatives per category, ease of shopping, access to a variety of brands, layout of the channel and the product, up-to-date and unique items, saving time, privacy, security, quality of merchandise, customer service, easy return of goods, and reasonable price) were developed for each of the three channels (i.e., brick-and-mortar stores, catalogs, and the Internet). Shopping costs (i.e., money, time, and energy) were also examined for each of the three channels. Future purchase intentions were analyzed across eight product categories (e.g., books, magazines or greeting cards, clothing, jewelry, shoes or accessories, collectibles/arts and crafts, and gifts, health and beauty products, home furnishings, music tape or CD, small electronics, and sporting goods) for each of the three channels.

The thirteen shopping benefit items were factor analyzed to determine underlying dimensions to be used for further analysis for each retail channel (i.e., brick-and-mortar stores, catalogs, and the Internet). The same factor analysis technique was applied to the eight items measuring purchase intention for each channel. The factor structure of shopping benefits was verified by a confirmatory factor analysis. The confirmatory factor analyses of shopping benefits of the three channels were validated by fit indices such

as χ^2 – value GFI, AGFI, and RMSEA. It was deemed that the factor structure of shopping benefits in each channel was valid. The shopping benefits consisted of four factors (Value/Service, Security, Assortment, and Product Access) for brick-and-mortar stores, three factors (Variety/Convenience, Value/Service, and Security) for catalogs, and three factors (Service/Quality, Variety, and Convenience) for the Internet.

The eight items of purchase intentions were also factor analyzed for each retail channel (i.e., brick-and-mortar stores, catalogs, and the Internet). Purchase intention items related to brick-and-mortar stores was classified into two dimensions: Personal Products, and Home/Leisure. Purchase intention items for catalogs were classified into two dimensions: Home/Leisure, and Personal Products. Only one dimension was generated in the case of the Internet. To examine the effect of shopping benefits and costs on purchase intention for each channel (i.e., brick-and-mortar stores, catalogs, and the Internet), a measurement model and structural model were estimated simultaneously.

Brick and mortar stores. The structural model for brick-and-mortar stores included four latent exogenous variables of shopping benefits (i.e., Value/Service, Security, Assortment, and Product Access) derived from the confirmatory factor analysis, one latent exogenous variable of Cost, and two latent endogenous variables of purchase intention (i.e., Personal Products, Home/Leisure). Descriptive analyses of shopping benefits and costs indicated that consumers' perceived importance was greatest for Value/Service factor (i.e., good quality of merchandise, good customer service, and reasonable price), followed by Assortment (i.e., availability of national and designer brands, up-to-date and unique items, and layout of the product), Security (i.e.,

privacy and security), Costs (i.e., money, time, and energy), and finally Product Access (i.e., access to a variety of same kind of products, and access to different products).

The estimated structural model for brick-and-mortar stores revealed that Security and Assortment factors significantly influenced future purchase intention. More specifically, Security had negative effects on the purchase intentions of Home/Leisure products (i.e., small electronics, home furnishings, and sporting goods) and purchase intention of Personal Products (i.e., health and beauty products, clothing, jewelry, shoes or accessories, and books, magazines, greeting cards). The Assortment factor had a positive effect on the purchase intention of Home/Leisure products. Product Access and shopping costs did not affect consumer's purchase intention of brick-and-mortar stores.

Catalogs. The measurement and structural models for catalogs included three latent exogenous factors for shopping benefits (i.e., Variety/Convenience, Value/Service, and Security), one latent exogenous variable of Cost, and two latent endogenous variables of purchase intention (i.e., Home/Leisure and Personal Products). The descriptive analyses of shopping benefits revealed that the consumers placed the greatest importance on Value/Service (i.e., easy return, good quality of product, good customer service, and reasonable price) followed by Security (i.e., privacy and security), Variety/Convenience (i.e., availability of national or designer brands, up-to-date and unique items, access to different products, access to a variety of same kind of products, layout of the catalog, and saving time), and finally Costs (Money, time, and energy).

The estimated structural model of catalogs indicated that Variety/Convenience and Cost factors affected the future purchase intention of both Home/Leisure (i.e., small

electronics, home furnishings, and sporting goods) and Personal Product categories (i.e., books, magazines, greeting cards, collectible/ arts and crafts, and music tape or CD). Variety/Convenience and Cost had positive effects on the purchase of Personal Products as well as Home/Leisure products. However, Value/Service factor had a negative effect on the purchase intention of Home/Leisure products. Security factor did not affect the purchase intention on the catalogs.

Internet. The measurement and structural models for the Internet included three latent exogenous variables of shopping benefits (i.e., Service/Quality, Variety, and Convenience), one latent exogenous variable of Cost, and one endogenous variable of purchase intention. The descriptive analyses of shopping benefits and costs revealed that consumers placed the greatest importance on Convenience (i.e., saving time, and convenience) followed by Service/Quality (i.e., security, easy return, privacy, good customer service, and good quality of product), Variety (i.e., availability of national and designer brands, access to a variety of same kind of products, and access to different products), and finally Cost (i.e., Money, Time, and Energy). The estimated structural model for the Internet revealed Variety as the only factor that affected the future purchase intention. Variety positively affected the purchase intention on the Internet.

Multi-channel retailers. In the case of the multi-channel retailers, twenty-one retail parameters at the micro level (i.e., company entity, organizational structure, heads of department, functionaries, company logo, promotional strategy, communication strategy, advertisement agency, product range/categories, size and color range, new merchandise, return policy, product information, customer product delivery policy, vendor, payment terms, vendor product delivery policy, distribution center, distribution

methods, pricing strategy, and transaction method for consumer) were analyzed in terms of whether they should be same or different across the three channels. The degree of synergy in the existing channels was determined in terms of six retail parameters (at the macro level) such as company/organizational structure, marketing strategy, merchandising strategy, service strategy, distribution and supplier networks and financial strategy. Finally, importance of synergy in the existing channels was determined in terms of these same six parameters.

The data for multi-channel retailers were analyzed using descriptive statistics. Retailers indicated that the following parameters should be same at the micro level: company logo, return policy, company entity, product information, vendor product delivery policy, payment terms, distribution center, pricing strategy, customer product delivery policy, vendors, promotional strategy, distribution methods, advertisement agency, transaction method for consumer, and communication strategy. It is also suggested that merchandise selection parameters such as new merchandise, size and color range, and product range/categories should be neither the same nor different across the channels. Additionally, retailers believed that the organizational parameters - organizational structure, functionaries, and heads of department – should be different across the three channels.

The parameters at the macro level were also examined in terms of degree of synergy and importance of synergy perceived by multi-channel retailers. Most of the retailers had a high degree of synergy in their channels of operation. The degree of synergy was highest in customer service, followed by merchandising strategy, company entity, distribution and supplier networks, marketing strategy, and financial strategy. The

greatest importance in synergy was perceived for customer service, followed by company, distribution and supplier networks, marketing strategy, financial strategy, and merchandising strategy.

Conclusions and Implications

Today's consumers are increasingly shopping across multi-channels and are trying to maximize their shopping benefits and minimize their shopping costs. Hence, it is critical for retailers to understand their customers' needs across channels and across different product categories. Also, retailers need to project a synergetic image by encouraging their customers' loyalty irrespective of the channel of shopping.

This study attempted to understand what shopping benefits and costs for each channel affect consumers' purchase intention of various product categories. Also, the research endeavored to get a perspective of how retailers perceived synergy in terms of the degree as well as importance in their channels of operation for parameters at both a micro and macro level.

The result of consumer data analyses suggests that the perceived shopping benefits and costs are different between channels. In the case of brick-and-mortar stores, consumers considered Value/Service shopping benefits to be the most important factor for their purchases followed by Assortment, Security and Product Access. The result also indicated that consumers are not concerned with shopping costs when shopping in brick-and-mortar stores.

Although Value/Service was the most important shopping benefits factor, it did not affect the purchase intention of brick-and-mortar stores. Security negatively impacted purchase intention, implying that the consumers perceived risks of providing

their financial information (i.e., credit cards, checks) while purchasing in a store. Merchandise assortment in terms of brands, unique items, and layout affects the purchase intention of home/leisure products, which was comprised of small electronics, sporting goods and home furnishings. This finding implies that a wider selection of merchandise in this product category and layout of the store would encourage customers to buy from brick-and-mortar stores. On the other hand, the shopping costs that a customer encounters in brick-and-mortar stores did not affect purchase intentions. In other words, for shopping in traditional stores, costs (e.g., saving time, saving money or energy) were not major concerns in making purchase decisions. The consumers did not consider the shopping costs important and hence the future purchase decision may be independent of the shopping costs involved. It can be concluded that consumers expect a high level of service, good quality of merchandise at a reasonable price when shopping in brick-and-mortar stores.

For catalogs, Value/Service also was perceived the most important factor in terms of shopping benefits from catalogs. In other words, easy return of products, good quality of products, customer service, and reasonable price were the items that consumers are looking for while shopping through catalogs. The Value/Service factor influenced the purchase of small electronics, sporting goods and home furnishings. The quality and price of the product along with easy return influenced consumers' decision to buy these products via catalogs. Even though Security was of concern to consumers while shopping via catalogs, this factor did not affect the purchase intention. Also Variety/Convenience was considered as an important shopping benefits factor on the catalog, and it affected the purchase intention of both Home/Leisure products and

Personal Products. Therefore, it can be concluded that the width and depth of these products as well as the layout of the catalog can be important marketing stimuli to increase purchase intention of those products.

Cost affected the purchase intention of catalog shoppers and hence, the more costs consumers perceived in terms of money, time, and energy to be expended, the more likely it was for consumers to shop through the catalog. It can be discussed that the consumers who do not have time or energy to shop from brick-and-mortar stores may opt to shop through the catalogs in order to save time and energy.

For the Internet, Convenience was rated as the most important factor while shopping over the Internet. This is in accordance with the observation that consumers are looking at options to save time and convenience and the Internet provided them with a fast method to shop. However, Convenience did not affect purchase intention via the Internet. Service/Quality (i.e., security and privacy concerns, customer service and returns, and product quality) was rated as the second most important factor while shopping online. Variety including access to a variety of same kind of products and access to different products was not perceived as an important shopping benefit itself, while it was the only factor that affected the purchase intention over the Internet. This results supports that consumers prefer to shop via the Internet due to a large number of choices available. Service/Quality and Cost factors did not affect purchase intention via the Internet, which indicated that consumers may not consider these factors while shopping on the Internet.

It was interesting to note that, in cases of brick-and-mortar stores and the Internet channels, shopping costs did not affect consumers' purchase intentions. Variety

and Assortment of merchandise was a critical factor that influenced consumer's purchase decision across three channels indicating consumers wanted choices in terms of brands, width and depth of merchandise, and unique items. The availability of national and designer branded merchandise was an especially important shopping benefit across all the three channels. Unique and up-to-date items were also an important factor across all the three channels. Access to different products and to a variety of the same kind of products was important for both catalogs and the Internet indicating that consumers wanted more choices while shopping from the catalog or the Internet. Layout of the store and the catalog was also important shopping benefit that affected the purchase intention. Hence it suggests that a better layout of the store as well as catalog may induce the consumer to "shop-around" and hence increase the chances of purchase from these two channels.

At the micro level, multi-channel retailers placed a great importance on synergy except for organizational, functionaries, and heads of department parameters. It may imply that the retailers preferred to have different individuals heading the channels of operation within the same organization. Also, the results indicated that the merchandise strategy parameter across the channels should be neither the same nor different. It can be concluded that the retailers do not have a standardized merchandising strategy across channels. At the macro level, customer service was rated highest in terms of degree of synergy and importance of synergy across all the three channels. This result suggested that the retailers are striving to achieve the same level of customer service in all channels of operation. Merchandising strategy had a high degree of synergy in the existing channels of operation but was rated the lowest in terms of importance of

synergy in the existing channels. The result indicated that the three channels might carry different merchandise, as similar merchandising strategy was not of high importance. This strategy can result in customer dissatisfaction as consumers expect similar variety/assortments across the channels. Company, distribution and supplier networks, marketing strategy and financial strategy were rated in the same order both in terms of degree of synergy as well as importance of synergy in the existing channels of operation. The results indicated that these parameters have the same level of importance across channels.

Study Limitations and Recommendations

The findings from this study may not be generalized to the study population because the sample was not normally distributed in terms of demographic characteristics. About 69% of the respondents were between 30 and 59 years of age; 80% of the respondents were married or living with a partner; and the respondents were predominantly Caucasians (93%). It is suggested that future study should be expanded to include other ethnic groups as well as age groups.

The list of product categories/services did not encompass items available online and thus a more comprehensive listing should be considered for future studies. Further, the interaction between different shopping benefits and costs parameters could also be studied to facilitate a better understanding of how each parameter eventually affects the purchase intention. Consumers may use a specific channel for both information gathering and purchasing. However, the purchase intention is examined for purchasing and not for browsing for information, which does not provide a complete picture of consumers' use of each channel. Hence, a study incorporating information-gathering

habits of consumers will provide a better insight as to how consumers use a combination of resources to reach a purchase decision across all the three channels. In addition, if a study includes information available as to when and why consumers switch channels, it can help retailers to formulate strategies that will prevent the consumer from switching channels.

In the case of retailers, only 10 multi-channel retailers agreed to participate in the study. The sample size was too small to be representative of the population. It is suggested that the future study should be expanded to include a larger sample group. The questionnaire did not contain open-ended questions, which prevented the retailers from expressing freely their views regarding how they are implementing synergy across all the three channels together. Future studies should incorporate more open-ended questions to ensure better quality of data.

There is no comprehensive listing of the various parameters of synergy. The research conducted in the field of multi-channel retailing suggests at the concept of synergy but none of the studies defined or listed the variables of synergy. Hence, a comprehensive study that analyzes the synergy and the parameters of synergy would prove extremely helpful to the retailers to incorporate the right strategy across their micro and macro parameters. Multi-channel retailing is a relatively new phenomenon and more research is required to create exchanges that satisfy both consumers as well as organizations.

APPENDIX

February 2002

Dear Customer:

The School of Merchandising and Hospitality Management at the University of North Texas, is conducting a survey on **Customers' attitudes and intentions regarding shopping on the Internet, catalogs, and brick-and-mortar stores**. This research will help retailers to better understand the trends in customer behavior and help them to serve you better. Since you are an important customer, we are requesting that you participate in the study by answering a series of questions on shopping.

Your participation in this study is voluntary and all the responses will be kept **confidential**.

Please answer **all** of the survey questions. Incomplete surveys have to be excluded from data analysis. This survey will take approximately 10-15 minutes of your time.

We value your opinion and would like to thank you for taking the time to fill out the survey. If you have any questions concerning this project, please do not hesitate to contact Dr. Kim at (940) 565-2439.

Sincerely,

Dr. Youn-Kyung Kim

Associate Professor
School of Merchandising and
Hospitality Management,
University of North Texas

Sanjukta Arun Pookulangara

Graduate Student
School of Merchandising and
Hospitality Management,
University of North Texas

This project has been reviewed and approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research 940-565-3940.

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1. How many times in the past two years have you purchased a product from a catalog? Please circle any one.

None 1 to 5 times 6 to 10 times 10 or more times

2. How many times in the past two years have you purchased a product through the Internet? Please circle any one.

None 1 to 5 times 6 to 10 times 10 or more times

3. How seriously do you consider each of the following items when you decide to purchase goods at **STORE**?

	very unimportant				**very important**
Access to a variety of same kind of products (styles, color, sizes)	1	2	3	4	5
Access to different products	1	2	3	4	5
Convenience	1	2	3	4	5
Availability of national or designer brands	1	2	3	4	5
Layout of the store and the product	1	2	3	4	5
Good customer service	1	2	3	4	5
Good quality of product	1	2	3	4	5
Reasonable price	1	2	3	4	5
Privacy (e.g. privacy to buy products like lingerie, etc)	1	2	3	4	5
Security (personal security)	1	2	3	4	5
Saving time (e.g., no lines, no traffic)	1	2	3	4	5
Up-to-date and unique items	1	2	3	4	5
Easy return of items	1	2	3	4	5

4. How seriously do you consider each of the following items when you decide to purchase goods **CATALOG**?

	very unimportant				**very important**
Access to a variety of same kind of products (styles, color, sizes)	1	2	3	4	5
Access to different products	1	2	3	4	5
Convenience	1	2	3	4	5
Availability of national or designer brands	1	2	3	4	5
Layout of the catalog	1	2	3	4	5
Good customer service	1	2	3	4	5
Good quality of product	1	2	3	4	5
Reasonable price	1	2	3	4	5
Privacy (e.g. privacy to buy products like lingerie, etc)	1	2	3	4	5
Security (credit card information is secure)	1	2	3	4	5
Saving time (e.g., finding the right product/product category)	1	2	3	4	5
Up-to-date and unique items	1	2	3	4	5
Easy return of items	1	2	3	4	5

5. How seriously do you consider each of the following items when you decide to purchase goods **ONLINE**?

	very unimportant				**very important**
Access to a variety of same kind of products (styles, color, sizes)	1	2	3	4	5
Access to different products	1	2	3	4	5
Convenience	1	2	3	4	5
Availability of national or designer brands	1	2	3	4	5
Layout of the Web page and ease of navigation (e.g., clicking links)	1	2	3	4	5
Good customer service	1	2	3	4	5
Good quality of product	1	2	3	4	5
Reasonable price	1	2	3	4	5
Privacy (e.g. privacy to buy products like lingerie, etc.)	1	2	3	4	5
Security (credit card information is secure)	1	2	3	4	5
Saving time (e.g., finding the right product/product category)	1	2	3	4	5
Up-to-date and unique items	1	2	3	4	5
Easy return of items	1	2	3	4	5

6. When you shop for goods at the **STORE**, how much money, time and effort do you spend on shopping?

Your answer will be based on the following:

1. I spend almost nothing.
2. I spend a small amount.
3. I spend a reasonable amount.
4. I spend more than I should.
5. I spend far too much.

The **money** you spend for product and other shopping related costs such as gas, parking, and childcare	1	2	3	4	5
The **time** you spend traveling to store, parking, checking out at cash register, etc	1	2	3	4	5
The **effort** you spend for the trip to the store, finding a parking space, and taking care of children while shopping	1	2	3	4	5

7. When you shop for goods on the **CATALOG**, how much money, time and effort do you spend on shopping?

Your answer will be based on the following:

1. I spend almost nothing.
2. I spend a small amount.
3. I spend a reasonable amount.
4. I spend more than I should.
5. I spend far too much.

The **money** you spend for product and other shopping related costs such as shipping and handling	1	2	3	4	5
The **time** you spend flipping the pages of the catalog, placing the order, waiting for the transaction to get through, etc	1	2	3	4	5
The **effort** you spend to flip through the pages, finding the right product, etc.	1	2	3	4	5

8. When you shop for goods on the **INTERNET**, how much money, time and effort do you spend on shopping?

Your answer will be based on the following:

1. I spend almost nothing.
2. I spend a small amount.
3. I spend a reasonable amount.
4. I spend more than I should.
5. I spend far too much.

The **money** you spend for product and other shopping related costs such as shipping and handling	1	2	3	4	5
The **time** you spend navigating the Web-site, waiting for the Web page to load, waiting for the transaction to get through, etc	1	2	3	4	5
The **effort** you spend to find the right Web-site, finding the product, etc	1	2	3	4	5

9. How many times do you intend to purchase these products via the **STORE** in **the next six months**?

	never						**6 or more times**
Books, magazines or greeting cards	0	1	2	3	4	5	6
Clothing, jewelry, shoes or accessories	0	1	2	3	4	5	6
Collectibles/arts and crafts	0	1	2	3	4	5	6
Health and Beauty products	0	1	2	3	4	5	6
Home furnishings	0	1	2	3	4	5	6
Music tape or CD	0	1	2	3	4	5	6
Small electronics	0	1	2	3	4	5	6
Sporting goods	0	1	2	3	4	5	6

10. How many times do you intend to purchase these products via the **CATALOG** in **the next six months**?

	never						**6 or more times**
Books, magazines or greeting cards	0	1	2	3	4	5	6
Clothing, jewelry, shoes or accessories	0	1	2	3	4	5	6
Collectibles/arts and crafts	0	1	2	3	4	5	6
Health and Beauty products	0	1	2	3	4	5	6
Home furnishings	0	1	2	3	4	5	6
Music tape or CD	0	1	2	3	4	5	6
Small electronics	0	1	2	3	4	5	6
Sporting goods	0	1	2	3	4	5	6

11. How many times do you intend to purchase these products via the **INTERNET** in **the next six months**?

	never						6 or more times
Books, magazines or greeting cards	0	1	2	3	4	5	6
Clothing, jewelry, shoes or accessories	0	1	2	3	4	5	6
Collectibles/arts and crafts	0	1	2	3	4	5	6
Health and Beauty products	0	1	2	3	4	5	6
Home furnishings	0	1	2	3	4	5	6
Music tape or CD	0	1	2	3	4	5	6
Small electronics	0	1	2	3	4	5	6
Sporting goods	0	1	2	3	4	5	6

12. ABOUT YOURSELF. The following background information questions are included only to help us interpret your responses in relation to other questions. Your responses here and throughout the questionnaire will be held strictly confidential.

Are you? _____ Male _____ Female

How old are you? _____

What is your annual household income from all sources before taxes?

____ Less than $9,999 ____ $30,000 - $49,999 ____ $70,000 - $89,999
____ $10,000 - $29,999 ____ $50,000 - $69,999 ____ $90,000 – and over

What is your marital status?

___ Single/never married ___ Married/living with a partner
___ Separated/widowed/divorced

Which of the following best describes your ethnicity?

____ Native American ____ Asian ____ Caucasian
____ African American ____ Hispanic ____ Other (_____)

For each age category, please fill in the number of children living with you.

____ None ____ Under 12 years ____ 13-18 years ____ Over 18 years old

Please provide additional thoughts or multi-channel retailing.

January 2002

Dear Retailer:

The School of Merchandising and Hospitality Management at University of North Texas, is conducting a survey on "**The degree of compatibility between the three channels; brick-and-mortar stores, catalog, Internet**." This research will help retailers to better understand the trends in consumer behaviors. As an important retailer, you are invited to participate in the study on retailing through the Internet, catalogs, or brick-and-mortar stores.

Your participation in this study is voluntary and all the responses will be kept **confidential**.

Please answer **all** the survey questions. Incomplete surveys have to be excluded from data analysis. This survey will take approximately 5 minutes of your time.

We value your opinion and would like to thank you for taking time to fill out the survey. If you have any questions concerning this project, please do not hesitate to contact me at (940) 565-2439.

Sincerely,

Dr. Youn-Kyung Kim
Associate Professor
School of Merchandising and
Hospitality Management,
University of North Texas

Sanjukta Arun Pookulangara
Graduate Student
School of Merchandising and
Hospitality Management,
University of North Texas

This project has been reviewed and approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research 940-565-3940.

1. To what extent do you think the following parameters should be **same or different for all three channels (brick–and-mortar-store, catalog and Internet) at all times**?

	same						different
Company entity (e.g., name of the company, corporate address)	0	1	2	3	4	5	6
Organizational structure	0	1	2	3	4	5	6
Heads of department	0	1	2	3	4	5	6
Functionaries (buyers, logistics supervisor, marketing manager)	0	1	2	3	4	5	6
Company logo	0	1	2	3	4	5	6
Promotional strategy	0	1	2	3	4	5	6
Communication strategy (e.g., ad copy, direct mailers, newsletters)	0	1	2	3	4	5	6
Advertisement agency	0	1	2	3	4	5	6
Product range/categories	0	1	2	3	4	5	6
Size and color range	0	1	2	3	4	5	6
New merchandise	0	1	2	3	4	5	6
Return policy	0	1	2	3	4	5	6
Product information	0	1	2	3	4	5	6
Customer product delivery policy	0	1	2	3	4	5	6
Vendor	0	1	2	3	4	5	6
Payment terms	0	1	2	3	4	5	6
Vendor product delivery policy	0	1	2	3	4	5	6
Distribution center	0	1	2	3	4	5	6
Distribution methods (e.g., road, air, rail)	0	1	2	3	4	5	6
Pricing strategy (e.g., cost + mark up, amount of margin)	0	1	2	3	4	5	6
Transaction method for consumer (e.g., cash or credit)	0	1	2	3	4	5	6

2. What are the channels **currently** operated by your company? Please circle the ones applicable.

Brick-and-mortar store Catalog Internet

3. What are the channels likely to be operated by your company **in the next financial year**? Please circle the ones applicable.

Brick-and-mortar store Catalog Internet

4. What is **the degree of synergy** in your existing channels (brick-and-mortar store, catalog, Internet)?

	very low						**very high**
Company/Organizational structure	0	1	2	3	4	5	6
Marketing Strategy	0	1	2	3	4	5	6
Merchandising Strategy	0	1	2	3	4	5	6
Consumer Service	0	1	2	3	4	5	6
Distribution and supplier networks	0	1	2	3	4	5	6
Financial strategy	0	1	2	3	4	5	6

5. **How important is it to have synergy** for the following items in your existing channels (brick-and-mortar store, catalog, Internet)? Synergy can be defined as *the level and/or degree of compatibility within the three channels.*

	very unimportant						very important
Company/Organizational structure	0	1	2	3	4	5	6
Marketing Strategy	0	1	2	3	4	5	6
Merchandising Strategy	0	1	2	3	4	5	6
Customer Service	0	1	2	3	4	5	6
Distribution and supplier networks	0	1	2	3	4	5	6
Financial strategy	0	1	2	3	4	5	6

6. ABOUT YOUR COMPANY. The following information questions are included only to help us interpret your responses in relation to other questions. Your responses here and throughout the questionnaire will be held strictly confidential. Please check/write for each question.

Name of your parent company: _____

Name of your sister companies: _____ _____ _____

How big is your company? Please indicate the number of employees. _____

In which of the job functions there is synergy between the three channels?

____ Buying ____Distribution ____Marketing and Promotion
____Finance ____Inventory Management ____Human resources
____Information Technology ____Other (_____)

What is your job title? _____

Please put any other information that is important to your company and multi-channel retailing OR any comments about this questionnaire (e.g., missing information or correction).

_____
_____
_____
_____
_____
_____
_____

TABLES

Table 1: Major Findings of Consumer Shopping Benefits and Costs and Purchase Intention on the Internet, Brick-and-mortar Stores and Catalogs.

Researchers (Year)	Sample	demographics	Significant variables	
			Shopping benefits & costs	Impact on purchase intention
Internet				
Jarvenpaa & Todd (1997)	184 female 36 male	sex, age employment experience, household income, average no. of people in household, education	product perceptions-variety, price and quality(-) effort compatibility and playfulness(-) responsiveness(-) tangibility(-) empathy, assurance, reliability performance risk(-) personal risk(-) economic, social & privacy risk(-)	catalog shopping better perceived than internet shopping greatest impact greatest impact
Internet				
Szymanski & Hise (2000)	1007	education race, income sex, age	convenience, merchandising Site design Security of financial transactions	greatest impact less practical significance second most important as important as site design
Brick-and-mortar stores in the mall				
Kim & Kang (1997)	796	age, marital status, employment, education, household income	economics service institutional image Convenience/safety atmosphere easy return selection money, time, energy	
Internet and brick-and-mortar stores				
Shim, Eastlick & Lotz (2000)	706	gender, age, highest educational level ethnicity, occupation, household income, the state of domicile	transaction services speedy shopping sales/money saving social shopping	Internet for purchasing cognitive products; cross shoppers- product situation specific; store shoppers-solely purchase from stores

Table 2. Brick-and-Mortar Stores versus Catalogs versus the Internet – Shopping Benefits and Costs*

		Brick-and-mortar store	Catalog	Internet
Benefits	Sensory Experience	Visual, sound, touch, smell and taste	Visual	Visual and sound
	Social Interaction	People watching; socializing with friends, talking with other shoppers	Chatting with others of common interest; Land phone	Chatting with others of common interest; Internet phone, electronic dating
	Convenience	One-stop shopping; multi-purpose shopping (e.g. garments, accessories, small electronics, beauty salon)	24- hour accessibility at any place; ease of ordering and payment	24- hour accessibility at any place; ease of ordering and payment; navigational capabilities; search engines
	Consumer Service	Synchronous one-to-one contact with consumers; knowledgeable sales associate; friendly service	Asynchronous contact via telephone; quick product advice; quick delivery; customization of product/service offerings	Asynchronous contact via e-mail; quick product advice; quick delivery; customization of product/service offerings
Cost	Money	Cost of product/service purchase; cost of transportation; income forgone by shopping	Cost of product/service purchase; shipping cost; catalog purchase cost	Cost of product/service purchase; shipping cost; Internet connection fee
	Time	Travel time to mall; time finding a parking place; time spent in the brick-and-mortar store	Time needed to locate the product; time spent ordering and payment and waiting for delivery.	Time needed to locate an on-line vendor's address; the time it takes to load information; time spent ordering and payment and waiting for delivery.
	Energy	Energy expended parking, pushy salespeople, finding product wanted and waiting in checkout lines.	Energy expended to find the right product	Navigating to find a specific item or address; broken links

*Data obtained from: Kim (2002)

Table 3: Multi-Channel Opportunities*

Opportunity	Incentive for:	To add channel:
Leveraging existing brand equity	Brick-and-mortar retailers	Online
	Brick-and-mortar retailers	Catalog
	Catalogers	Brick-and-mortar store
	Catalogers	Online
	Leading "pure play" Internet retailers	Brick-and-mortar store
Establish brand equity	Second tier Internet retailers	Brick-and-mortar store
Leverage advertising/ marketing expense	Brick-and-mortar retailers	Online
	Catalogers	Online
Leverage distribution and supplier networks	Brick-and-mortar retailers	Online
	Catalogers	Online
Access complementary demographic group of shoppers	All	All
Drive cross-traffic to multiple sales channel	All	All
Leverage real estate	Brick-and-mortar retailers	Online

* Data from: Baker (1999)

Table 4: Summary of Instrument Items by Variable and Type of Data – Consumers

Variable	Measures	Instrument item(s)	Type of data
Dependent	Purchase intention – Brick-and-mortar stores	8	Interval
Dependent	Purchase intention – Catalogs	8	Interval
Dependent	Purchase intention – Internet	8	Interval
Independent	Shopping Benefits – Brick-and-mortar stores	13	Interval
Independent	Shopping Benefits – Catalogs	13	Interval
Independent	Shopping Benefits – Internet	13	Interval
Independent	Shopping Costs – Brick-and-mortar stores	3	Interval
Independent	Shopping Costs – Catalogs	3	Interval
Independent	Shopping Costs – Internet	3	Interval
Descriptive	Demographics	6	
	Sex		Nominal
	Age		Ratio
	Annual Income		Interval
	Marital Status		Nominal
	Ethnicity		Nominal
	No. of children		Interval

Table 5: Summary of Instrument Items by Variable and Type of Data – Retailers

Variable	Measures	Instrument item(s)	Type of data
Descriptive	Company Parameters	1	Interval
Descriptive	Degree of Synergy	4	Interval
Descriptive	Importance of Synergy	5	Interval
Descriptive	Channel currently operated	2	Nominal
Descriptive	Channels operated in future	3	Nominal
Descriptive	Name of company	6 (i)	Nominal
Descriptive	Name of sister companies	6 (ii)	Nominal
Descriptive	Size of company	6 (iii)	Nominal
Descriptive	Job functions	6 (iv)	Nominal
Descriptive	Job title	6 (v)	Nominal

Table 6: Summary of Statistical Tests Used for Data Analysis – Consumers

Independent variables	Dependent variables	Statistical procedures
Demographics		Descriptive
Shopping Benefits		Factor analysis and measurement model
	Purchase Intention	Factor analysis
Shopping Benefits and Shopping Costs	Purchase Intention	Structural equation model

Table 7: Summary of Statistical Tests Used for Data Analysis – Retailers

Independent variables	Dependent variables	Statistical procedures
Similarities and differences of multi-channel parameters		Descriptive
Degree of synergy operated by company		Descriptive
Importance of Synergy in the existing channels		Descriptive

Table 8. Demographic Characteristics of the Consumer Respondents

Variables	Frequency (*N*=500)	Percent
Gender		
Male	173	65.4%
Female	327	34.6%
Age		
10 – 19*	2	0.4%
20 –29	52	10.6%
30 – 39	86	17.5%
40 – 49	117	23.8%
50 – 59	137	27.8%
60 – 69	66	13.4%
70 – 79	26	5.3%
80 - 89	6	1.2%
Household income		
Less than $10,000	5	1.1%
$10,001 - $20,000	14	3.1%
$20,001 - $30,000	43	9.5%
$30,001 - $40,000	55	12.2%
$40,001 - $50,000	62	13.7%
$50,001 - $60,000	53	11.7%
$60,001 - $70,000	59	13.1%
$70,001 - $80,000	42	9.3%
$80,001 - $90,000	27	6.0%
$90,001 - $100,000	18	4.0%
Over $100,000	74	16.4%
Marital status		
Single, never married	60	12.1%
Married, living with a partner	398	80.1%
Separated, widowed, divorced	39	7.8%
Ethnicity		
Caucasian	461	93.3%
African American	11	2.2%
Hispanic	3	0.6%
Asian	5	1.0%
Native American	5	1.0%
Other	9	1.8%
No. of children		
None	271	54.5%
1-2	179	36.0%
3-4	45	9.1%
5 or more	2	0.4%

* The respondents were of the ages 18 and 19 respectively.

Table 9. Descriptive Statistics of Catalog and Internet Usage

Variables	Frequency (*N*=500)	Percent
No. of times product purchased from catalog		
1 to 5 times	215	43.0%
6 to 10 times	112	22.4%
10 or more times	173	34.6%
No. of times product purchased from Internet		
1 to 5 times	207	41.4%
6 to 10 times	117	23.4%
10 or more times	176	35.2%
Internet service at home and/or work		
Work	20	4.0%
Home	212	42.7%
Both	261	52.5%
Neither	4	0.8%
Primary Internet connection speed		
Dial-up	300	62.5%
Cable modem	118	24.6%
DSL	35	7.3%
Satellite	4	0.8%
Network	23	4.8%

Table 10: Factor Analysis of Shopping Benefits – Brick-and-Mortar Stores

Factor items	Factor loading	Eigen value	% of variance	α
Value/Service		2.079	15.99%	0.65
Good quality of merchandise	0.80			
Good customer service	0.76			
Easy return	0.55			
Reasonable price	0.53			
Security		1.903	14.64%	0.61
Privacy	0.82			
Security	0.73			
Saving time (e.g. no queues, no traffic)	0.48			
Assortment		1.670	12.85%	0.57
Availability of national or designer brands	0.75			
Up-to-date and unique items	0.64			
Layout of the store and the product	0.53			
Product Access		1.655	12.73%	0.57
Access to a variety of same kind of products	0.76			
Access to different products	0.69			
Convenience	0.51			

Table 11: Confirmatory Factor Analysis of Shopping Benefits – Brick-and-Mortar Stores

Factor items	Factor loading (t-value)	Reliability	Mean (S.D.)
		0.63	
Value/ Service (ξ_1)			
X_1: Good quality of merchandise	0.74 (14.56)		4.76 (0.53)
X_2: Good customer service	0.71 (14.08)		4.57 (0.72)
X_3: Reasonable price	0.42 (8.21)		4.52 (0.69)
Security (ξ_2)		0.67	
X_4: Privacy	0.70 (12.26)		3.48 (1.23)
X_5: Security	0.74 (12.66)		4.15 (1.06)
Assortment (ξ_3)		0.57	
X_6: Availability of national and designer brands	0.54 (9.94)		3.05 (1.18)
X_7: Up-to-date and unique items	0.53 (9.71)		3.68 (0.98)
X_8: Layout of the store and the product	0.57 (10.34)		3.45 (1.08)
Product Access (ξ_4)		0.63	
X_9: Access to a variety of same kind of products	0.63 (11.35)		4.10 (0.99)
X_{10}: Access to different products	0.73 (12.37)		4.14 (0.96)

Goodness of Fit Statistics
$\chi^2 = 99.75$ (*d.f.* = 29, $p = 0.00$)
Goodness of Fit Index (GFI) = 0.96
Adjusted Goodness of Fit Index (AGFI) = 0.93
Root Mean Square Approximation (RMSEA) = 0.06
Comparative Fit Index (CFI) = 0.92

Table 12: Factor Analysis of Shopping Benefits – Catalogs

Factor items	Factor loading	Eigen value	% of variance	α
Variety/Convenience		2.975	22.89%	0.80
Availability of national or designer brands	0.75			
Up-to-date and unique items	0.74			
Access to different products	0.69			
Access to a variety of same kind of products	0.63			
Layout of the catalog	0.57			
Convenience	0.49			
Saving time	0.46			
Value/Service		2.559	19.69%	0.77
Easy return	0.77			
Good quality of product	0.76			
Good customer service	0.73			
Reasonable price	0.69			
Security		1.765	13.58%	0.72
Privacy	0.82			
Security	0.81			

Table 13: Confirmatory Factor Analysis of Shopping Benefits – Catalogs

Factor items	Factor loading (t-value)	Reliability	Mean (S.D.)
		0.77	
Variety/ Convenience (ξ_1)			
X_1: Availability of national and designer brands	0.58 (12.73)		3.20 (1.14)
X_2: Up-to-date and unique items	0.64 (14.22)		3.83 (1.02)
X_3: Access to different products	0.70 (16.09)		3.93 (1.00)
X_4: Access to a variety of same kind of products	0.69 (15.86)		3.84 (1.05)
X_5: Layout of the store and the product	0.57 (12.36)		3.24 (1.16)
X_6: Saving time	0.45 (9.41)		4.19 (1.05)
Value/ Service (ξ_2)		0.77	
X_7: Easy return	0.70 (15.77)		4.55 (0.85)
X_8: Good quality of product	0.73 (16.46)		4.70 (0.59)
X_9: Good customer service	0.69 (15.59)		4.50 (0.85)
X_{10}: Reasonable price	0.60 (13.01)		4.53 (0.70)
Security (ξ_3)		0.72	
X_{11}: Privacy	0.75 (15.12)		3.78 (1.30)
X_{12}: Security	0.75 (15.11)		4.14 (1.23)

Goodness of Fit Statistics
$\chi^2 = 203.19$ (*d.f.* = 51, *p* = 0.0)
Goodness of Fit Index (GFI) = 0.94
Adjusted Goodness of Fit Index (AGFI) = 0.90
Root Mean Square Approximation (RMSEA) = 0.07
Comparative Fit Index (CFI) = 0.91

Table 14: Factor Analysis of Shopping Benefits – Internet

Factor items	Factor loading	Eigen value	% of variance	α
Service/Quality		2.851	21.93%	0.77
Security	0.79			
Easy return	0.70			
Privacy	0.68			
Good customer service	0.62			
Good quality of product	0.58			
Variety		2.535	19.50%	0.79
Availability of national or designer brands	0.77			
Access to a variety of same kind of products	0.76			
Up-to-date and unique items	0.74			
Access to different products	0.71			
Convenience		2.149	16.53%	0.69
Saving time	0.78			
Convenience	0.77			
Reasonable price	0.53			

Table 15: Confirmatory Factor Analysis of Shopping Benefits – Internet

Factor items	Factor loading (t-value)	Reliability	Mean (S.D.)
		0.77	
Service/ Quality (ξ_1)			
X_1: Security	0.61 (13.44)		4.65 (0.85)
X_2: Easy return	0.56 (12.23)		4.60 (0.80)
X_3: Privacy	0.55 (11.78)		4.33 (1.13)
X_4: Good customer service	0.67 (15.00)		4.56 (0.82)
X_5: Good quality of product	0.57 (12.43)		4.71 (0.58)
Variety (ξ_2)		0.75	
X_6: Availability of national and designer brands	0.54 (11.88)		3.36 (1.21)
X_7: Access to a variety of same kind of products	0.81 (19.72)		3.99 (1.08)
X_8: Access to different products	0.84 (20.80)		4.07 (1.03)
Convenience (ξ_3)		0.72	
X_9: Saving time	0.48 (9.36)		4.33 (0.97)
X_{10}: Convenience	0.55 (10.34)		4.45 (0.84)

Goodness of Fit Statistics
$\chi^2 = 259.24$ (*d.f.* = 32, *p* = 0.0)
Goodness of Fit Index (GFI) = 0.91
Adjusted Goodness of Fit Index (AGFI) = 0.84
Root Mean Square Approximation (RMSEA) = 0.12
Comparative Fit Index (CFI) = 0.86

Table 16. Factor Analysis of Purchase Intention – Brick-and-Mortar Stores

Factor items	Factor loading	Eigen value	% of variance	α
Personal Products		1.965	24.57%	0.64
Health and beauty products	0.73			
Clothing, jewelry, shoes or accessories	0.72			
Books, magazines, greeting cards	0.70			
Collectibles/arts and crafts	0.55			
Home/Leisure		1.964	24.56%	0.63
Small electronics	0.81			
Home furnishings	0.70			
Sporting goods,	0.66			
Music tape or CD	0.54			

Table 17. Factor Analysis of Purchase Intention – Catalogs

Factor items	Factor loading	Eigen value	% of variance	α
Home/Leisure		2.055	25.69%	0.67
Small electronics	0.74			
Home furnishings	0.72			
Sporting goods	0.72			
Health and beauty products	0.54			
Personal Products		1.968	24.61%	0.63
Books, magazines, greeting cards	0.83			
Collectibles/arts and crafts	0.68			
Music tape or CD	0.61			
Clothing, jewelry, shoes or accessories	0.49			

Table 18. Factor Analysis of Purchase Intention – Internet

Factor items	Factor loading	Eigen value	% of variance	α
Internet Purchase		3.36	42.00%	0.79
Small electronics	0.76			
Home furnishings	0.70			
Music tape or CD	0.67			
Health and beauty products	0.65			
Books, magazines or greeting cards	0.64			
Clothing, jewelry, shoes or accessories	0.61			
Sporting goods	0.60			
Collectibles/ arts and crafts	0.53			

Table 19: The Measurement Model Result – Brick-and-Mortar Stores

Latent variable indicators	Standardized coefficients (λ_{ij})	Reliability	Mean (S.D.)
Purchase intention			
Personal Products (η_1)		0.62	2.90 (1.05)
Y1: Health and beauty products	0.55		3.94 (1.98)
Y2: Clothing, jewelry, shoes or accessories	0.78		4.11 (1.85)
Y3: Books, magazines, greeting cards	0.47		4.10 (1.98)
Home/Leisure (η_2)		0.62	1.16 (0.86)
Y4: Small electronics	0.63		1.51 (1.37)
Y5: Home furnishings	0.64		1.68 (1.62)
Y6: Sporting goods	0.56		1.67 (1.79)
Shopping benefits			
Value/ Service (ξ_1)		0.63	3.23 (0.35)
X1: Good quality of merchandise	0.74		4.76 (0.53)
X2: Good customer service	0.71		4.57 (0.72)
X3: Reasonable price	0.42		4.52 (0.69)
Security (ξ_2)		0.67	2.94 (0.78)
X4: Privacy	0.70		3.48 (1.23)
X5: Security	0.73		4.15 (1.06)
Assortment (ξ_3)		0.57	2.99 (0.60)
X6: Availability of national and designer brands	0.54		3.05 (1.18)
X7: Up-to-date and unique items	0.55		3.68 (0.98)
X8: Layout of the store and the product	0.55		3.45 (1.08)
Product Access (ξ_4)		0.63	2.16 (0.52)
X9: Access to a variety of same kind of products	0.65		4.10 (0.99)
X10: Access to different products	0.71		4.14 (0.96)
Shopping costs (ξ_5)		0.69	2.41 (0.66)
X11: Money	0.48		2.78 (1.03)
X12: Time	0.78		3.31 (1.06)
X13: Energy	0.73		3.11 (1.14)

Table 20: The Measurement Model Result – Catalogs

Latent variable indicators	Standardized coefficients (λ_{ij})	Reliability	Mean (S.D.)
Purchase intention			
Home/ Leisure (η_1)		0.64	0.50 (1.05)
Y1: Small electronics	0.81		0.60 (1.07)
Y2: Home furnishings	0.47		0.65 (1.13)
Y3: Sporting goods	0.59		0.80 (1.41)
Personal Products (η_2)		0.61	0.72 (0.84)
Y4: Books, magazines, greeting cards	0.58		1.03 (1.59)
Y5: Collectible/ arts and crafts	0.58		0.89 (1.50)
Y6: Music tape or CD	0.60		1.15 (1.67)
Shopping benefits			
Variety/ Convenience (ξ_1)		0.77	2.36 (0.47)
X1: Availability of national and designer brands	0.59		3.20 (1.14)
X2: Up-to-date and unique items	0.64		3.83 (1.02)
X3: Access to different products	0.69		3.93 (1.00)
X4: Access to a variety of same kind of products	0.68		3.84 (1.05)
X5: Layout of the catalog and the product	0.58		3.24 (1.16)
X6: Saving time	0.45		4.19 (1.05)
Value/ Service (ξ_2)		0.77	3.37 (0.43)
X7: Easy return	0.71		4.55 (0.85)
X8: Good quality of product	0.72		4.70 (0.59)
X9: Good customer service	0.69		4.50 (0.85)
X10: Reasonable price	0.60		4.53 (0.70)
Security (ξ_3)		0.72	3.23 (0.91)
X11: Privacy	0.75		3.78 (1.30)
X12: Security	0.75		4.14 (1.23)
Shopping costs (ξ_4)		0.66	2.24 (0.62)
X13: Money	0.40		3.21 (1.06)
X14: Time	0.85		2.79 (1.02)
X15: Energy	0.70		2.61 (1.06)

Table 21: The Measurement Model Result – Internet

Latent variable indicators	Standardized coefficients (λ_{ij})	Reliability	Mean (S.D.)
Purchase intention			
Internet Purchase (η_1)		0.79	0.70 (0.67)
Y1: Small electronics	0.73		0.92 (1.45)
Y2: Home furnishings	0.64		0.53 (1.04)
Y3: Music tape or CD	0.60		1.58 (1.91)
Y4: Health and beauty products	0.57		0.78 (1.49)
Y5: Books, magazines, greeting cards	0.57		1.50 (1.90)
Y6: Clothing, jewelry, shoes or accessories	0.52		1.63 (1.86)
Y7: Sporting goods	0.54		0.79 (1.48)
Y8: Collectible/ arts and crafts	0.45		1.01 (1.70)
Shopping benefits			
Service/ Quality (ξ_1)		0.77	3.08 (0.42)
X1: Security	0.65		4.65 (0.85)
X2: Easy return	0.69		4.60 (0.80)
X3: Privacy	0.55		4.33 (1.13)
X4: Good customer service	0.68		4.56 (0.82)
X5: Good quality of product	0.69		4.71 (0.58)
Variety (ξ_2)		0.75	2.84 (0.67)
X6: Availability of national and designer brands	0.51		3.36 (1.21)
X7: Access to a variety of same kind of products	0.82		3.99 (1.08)
X8: Access to different products	0.84		4.07 (1.03)
Convenience (ξ_3)		0.72	3.40 (0.62)
X9: Saving time	0.66		4.33 (0.97)
X10: Convenience	0.86		4.45 (0.84)
Shopping cost (ξ_4)		0.73	2.53 (0.74)
X11: Money	0.44		3.06 (1.13)
X12: Time	0.98		3.19 (1.17)
X13: Energy	0.71		3.19 (1.14)

Table 22. Similarities and Differences of Multi-Channel Parameters

Variables	Mean[1]	SD
Company logo	0.22	0.67
Return policy	0.78	1.99
Company entity (e.g., name of company, address)	0.89	1.36
Product information	1.00	1.32
Vendor product delivery policy	1.00	1.58
Payment terms	1.33	1.73
Distribution center	1.44	2.19
Pricing strategy (e.g., cost + mark up, amount of margin)	1.56	2.19
Customer product delivery policy	1.56	2.24
Vendors	2.00	1.41
Promotional strategy	2.11	1.69
Distribution methods	2.11	1.96
Advertisement agency	2.11	1.36
Transaction method for consumer (e.g., cash or credit)	2.22	2.49
Communication strategy (e.g., ad copy, direct mailers, newsletters)	2.67	2.00
New merchandise	3.11	2.09
Size and color range	3.22	2.22
Product range/categories	3.44	1.94
Organizational structure	3.56	1.33
Functionaries	3.67	2.06
Heads of department	4.33	1.41

[1]Mean score are based on a 7-point rating scale (0 “same”; 6 “different”).

Table 23. Degree of Synergy Operated by the Company

Variables	Mean[1]	SD
Customer service	5.33	0.71
Merchandising strategy	5.11	0.78
Company/organizational structure	5.00	0.71
Distribution and supplier networks	4.89	1.17
Marketing strategy	4.67	1.22
Financial strategy	4.56	1.01

[1]Mean score are based on a 7-point rating scale (0 “very low”; 6 “very high”).

Table 24. Importance of Synergy in the Existing Channels

Variables	Mean[1]	SD
Customer service	5.22	0.83
Company/organizational structure	5.11	0.60
Distribution and supplier networks	4.78	0.83
Marketing strategy	4.67	0.87
Financial strategy	4.67	1.22
Merchandising strategy	4.56	1.13

[1]Mean score are based on a 7-point rating scale (0 “very unimportant”; 6 “very important”).

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