Determining the cross-channel effects of informational web sites

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1 Introduction

This dissertation investigates the effects of an informational Web site on offline behavior, specifically with regard to customer buying behavior in a “traditional” store. This chapter serves to introduce the literature on informational Web sites (§1.2) and the multichannel environment (§1.3). It also highlights that this dissertation contributes to existing literature by providing insights into (1) the effects of informational Web sites, (2) the sequential process of search and purchase in multiple channels, (3) differences in the process across segments and product categories, (4) the effects of free-riding behavior, and (5) methodologies that can be used to measure these effects (§1.4). We provide a number of definitions in Section 1.5 that we use throughout this dissertation. In Section 1.6, we describe the empirical setting of this dissertation. The introductory chapter ends with an overall outline of the dissertation and an overview of the research issues to which it pertains (§1.7).

1.1 INTRODUCTION

One of the biggest changes to society during the past decade has been the introduction the Internet. Initially, most companies started their Internet activities in a rush rather than as the result of deliberate strategic planning. To determine how to use the Internet as part of a (multichannel) strategy, insight is needed into the possible functions, e.g., communication, transaction and distribution, and the effects on customer behavior. Over the last seven years (1998-2005) an impressive body of marketing literature on the topic has appeared. Most of these top marketing journal publications focus on the transactional function of the Internet.

Regardless of this academic focus, firms sooner adopt an informational Web site than a transactional Web site due to the capabilities and investments required (Lee & Grewal 2004). Research also shows that consumers experience obstacles to buying online, such as privacy, trust and technology anxiety (e.g., Meuter, Ostrom, Bitner & Roundtree 2003; Schlosser, Barnett White & Lloyd 2006). Gupta, Su and Walter (2004) conclude that many companies make it very difficult for visitors to search their Web sites for information and then conduct a transaction. Moreover, the relative size of online purchases reflects the strong position of offline transactional channels. Even though e-commerce retail sales in the United States slowly increase, the percentage of retail sales originating from the Internet is still only 2.8 % in the third quarter of 2006 (US Census Bureau). The percentage of
retail sales originating from the Internet has risen with 2% over the last 6 years. In 2004, of retail sales in the Netherlands, only 1.7% originated from the Internet (CBS 2006).

Some studies have focused on the comparison and the combined effect of online and offline transaction channels (e.g., Gensler, Dekimpe & Skiera 2007), but not so much on the effects of online informational channels. A few recent studies (Nicholson, Clarke & Blakemore 2002; Verhoef, Neslin & Vroomen 2007) show that customers tend to use online and offline channels as complements, in many cases customers search online and purchase offline. To our knowledge, the effects of using an informational Web site on offline customer behavior are uninvestigated.

1.2 INFORMATIONAL WEB SITES

1.2.1 Definition

For firms, the Internet provides a new channel for communication, transaction, or distribution. A plethora of firms in different industries currently uses the Internet to sell their products or services. Moreover, most firms provide a lot of information, both commercial and noncommercial, via the Internet (e.g., Huizingh 2000). Peterson, Balasubramanian and Bronnenberg (1997) indicate that the Internet is best suited for communication, in that it has been designed to deliver information and foster connectivity.

Web sites can therefore be classified on the basis of the functionality of Internet usage for a given firm. Hoffman, Novak and Chatterjee (1995) similarly distinguish Web sites into six categories of commercial activity:

- **Online storefronts** are Web sites that offer direct sales through an electronic channel.
- **Internet presence sites** are those that provide a virtual presence for a firm and its offerings.
- **Content sites** offer particular content, such as news, for which the visitor have to pay (distinguished as fee-based versus sponsored content sites).
- **Malls** are collections of online storefronts, each of which may contain many different categories of goods for sale.
- **Incentive sites** try to attract customers to visit the commercial site behind it.
• Search agents, like Google, offer visitors the opportunity to search the Web for other Web sites with particular information.

Hoffman and Novak (1996) indicate that Internet presence sites, or informational Web sites (Dann & Dann 2001), dominate commercial activity by providing detailed information about a firm’s offerings or creating an image to attempt to build ongoing relationships with customers. Hoffman and Novak claim that informational Web sites represent a form of nonintrusive advertising through which the customer actively chooses to visit and interact with the firm’s marketing communication efforts.

Similarly, Teo and Pian (2004) provide a Web adoption model in which they classify Web sites according to four levels. The third and fourth level, business integration and transformation, of their model are transactional Web sites. The first and second level, Web presence and prospecting, are informational Web sites. They describe prospecting as Web sites that provide extensive information about the organization and its products, feedback forms, e-mail support, and simple search but not the possibility to purchase (Teo & Pian 2004). Their research shows that the majority of firms are still in levels one and two and that especially larger firms have high levels of Web adoption (Teo & Pian 2004).

Lee and Grewal (2004) show that firm performance (i.e. Tobin’s Q) improves from adopting the Internet as an informational channel. The adoption of the Internet as a transactional channel is beneficiary to firms that have preexisting catalog operations (Lee & Grewal 2004). Considering these previous studies, we define an informational Web site (or channel) as follows.

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**Informational Web sites provide information about the firm, the firm’s offering, create an image, and/or attempt to build an ongoing relationship but do not offer the customer any purchase opportunities.**

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1.2.2 Use of Informational Web Sites

Informational Web sites make sense as a response to consumers’ reasons for using a Web site, namely, to collect information and find an offline channel to buy a product. In general, the drivers of online
search/offline purchase may relate to (1) the product, (2) situational influences, (3) the consumer, and/or (4) the channel.

**The product.** Several studies show, in both more traditional and Internet-related settings, that product categories are associated with particular channels (e.g., Schoenbachler & Gordon 2002; Inman, Shankar, & Ferraro 2004). Prior research provides several product classifications that marketers may use to determine whether products are suitable for online selling (e.g., Peterson et al. 1997). For example, Broekhuizen (2006) indicates that the sale of physical products depends on factors such as additional delivery time and difficulties in returning faulty merchandise, which can inhibit consumers from buying online.

**Situational influences.** Nicholson, Clarke, and Blakemore (2002) argue that the reasons consumers use a particular channel depend on five dimensions of situational influence. First, the physical setting refers to the environment of the channel, such as store atmospherics or Web design. Second, the social setting focuses on the absence or presence of others, together with their social roles. Third, the temporal perspective refers to time constraints that affect shopping behavior. Fourth, the task definition is specific to the person and includes cognitive and motivational elements of the shopping situation. Fifth, antecedent states represent temporary conditions, such as moods, that may influence the use of a particular channel.

**The consumer.** Various consumer-related factors also might influence the decision to buy online. These factors include risk perceptions, preference for an offline channel, technology anxiety, and/or the need for tactile information. Forsythe and Shi (2003) show that Internet browsers (who do not buy online) are much more sensitive to the risks associated with Internet shopping. Hoffman, Novak, and Peralta (1999), Roy and Ghose (2006), and Schlosser, Barnett White, and Lloyd (2006) also indicate that privacy and trust are major barriers to purchases over the Internet. Järveläinen and Puhakainen (2004) demonstrate the influence of a consumer's distrust in his or her own Web skills, as well as the effect of being accustomed to and satisfied with service through traditional channels. Keen, Wetzels, De Ruyter, and Feinberg (2004) suggest that for consumers, traditional offline stores remain the first choice to buy products. Technology anxiety, or managing technology paradoxes, provides another major barrier to consumers using self-service technologies, which includes shopping online (Mick & Fournier 1998; Meuter, Ostrom, Bitner, & Roundtree
Citrin, Stem, Spangenberg, and Clark (2003) posit that consumers with high levels of tactile needs mainly use the Internet to browse, not to shop.

**The channel.** Verhoef, Neslin, and Vroomen (2007) provide three channel-related explanations for the searching online/buying offline phenomenon. First, the Internet tends to have a strong search attribute advantage, whereas a traditional store has a strong purchase attribute advantage. Noble, Griffith, and Weinberger (2005) confirm this search advantage of the Internet. Second, the Internet’s lack of channel lock-in—or a channel’s ability to retain customers across different stages, including search and purchase, during their decision-making processes—might prompt the searching online/buying offline phenomenon. Third, cross-channel synergies might occur between the Internet and traditional stores. Cross-channel synergy takes place if attitudes or behavior in one channel have a positive effect on attitudes or behavior in another. These three reasons offer focus specifically on multichannel environments.

**1.3 Multichannel Environment**

As a result of continuous technological progress, consumers can use a variety of channels during their decision-making processes. In addition to the traditional retail stores, consumers have access to the Internet, home shopping networks, catalogs, call centers, and kiosks. This increase in the number of channels produces new challenges with respect to managing a multichannel environment (for a review, see Neslin, Grewal, Leghorn, Shankar, Teerling, Thomas & Verhoef 2006), which has resulted in a new stream of research focused on multichannel customer management. In this section, we provide an overview of relevant studies in this area. We indicate in subsequent chapters how our study contributes to this literature. In this context, we define a “channel” as a customer contact point or medium through which the firm and the customer interact (Neslin et al. 2006). As such, an informational Web site is also considered as a channel.

Multichannel consumer behavior reflects how consumers choose channels during the different stages of their decision-making processes as well as how this choice affects their buying behavior. We consider informational Web sites as informational channels that influence consumer behavior in the offline (traditional store) channel. Hence, previous research in the area of multichannel consumer behavior
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provides the framework for interpreting our findings. Research in this area focuses on channel choice, channel migration, multichannel search, and buying behavior and the effects of acquisition channels. Appendix I provides an overview of selected multichannel consumer behavior studies.

The studies into channel choice suggest that multichannel customers are more valuable than single channel customers and that the choice of a particular channel depends on demographics, shopping traits, perceived channel integration and marketing efforts (Bendoly, Blocher, Bretthauer, Krishnan & Venkataramanan 2005; Knox 2005; Kushwaha & Shankar 2005). However, according to studies focused on channel migration, customer use of the Internet may lead to fewer purchases (Ansari, Mela & Neslin 2006; Gensler, Dekimpe & Skiera 2007). Moreover, the use of a combination of channels does not automatically signal profitability for the firm (Sullivan & Thomas 2004). This area of research also indicates that distinct segments prefer one channel over another (Thomas & Sullivan 2005). In line with this finding, Dholakia, Zhao and Dholakia (2005) demonstrate that customers prefer to add an Internet channel rather than replace their old (usually offline) channel.

Studies investigating multichannel search and buying behavior are usually forced to work with survey data, and collecting actual customer information about actual search behavior in one channel and buying behavior in another channel remains a significant challenge (Sullivan & Thomas 2004). Previous research in this field shows that the majority of consumers combine channels during their decision-making process (Nicholson et al. 2002) and prefer the Internet for information search (Burke 2002). Furthermore, customers can free ride (i.e., use the provided information in their decision-making process but purchase elsewhere) on online-provided information (Van Baal & Dach 2005).

Multichannel consumer behavior is an emerging field of research, but extant studies indicate some major knowledge gaps. For example, marketers lack a clear understanding of actual usage behavior across channels (Nicholson et al. 2002; Montoya-Weiss, Voss, & Grewal 2003; Dholakia et al. 2005). Several studies have emphasized the need to measure and manage cross-channel influences when search occurs in one channel but purchase takes place in another (Sullivan & Thomas 2004; Thomas & Sullivan 2005; Kushwaha & Shankar 2005). Another area open to further investigation is determining differences in behavior
across customer segments or product categories (Gupta, Su, & Walter 2004). Finally, marketers require further research into multichannel behavior from a single firm perspective, as well as into the sequential process of search and purchase in different channels (Verhoef et al. 2007).

1.4 INFORMATION SEARCH

Information search research demonstrates that the average search is limited and that it continues until the value of an additional unit of information equals its cost (e.g., Newman & Staelin 1972). Consumers increase their search if the purchase is important, there is a need to learn more or if the information is easily obtained (Punj & Staelin 1983). Also, previous research makes the distinction between internal search, i.e. retrieving previously acquired information from memory, and external search, i.e. retrieving new information (Beales, Mazis, Salop & Staelin 1981). It is also shown that (1) seller provided information is the least costly external source, (2) it is inherently one-sided and (3) it combines factual data with nonfactual persuasive appeals (Beales et al. 1981). Apparent from these references, information search research is the foundation of current internet-related research.

Wu and Rangaswamy (2003) demonstrate how web site features can either decrease or increase the amount of search and subsequently influence consumers’ consideration sets. The availability of the Internet can also lead to less information search in offline sources. Ratchford, Lee and Talukdar (2003) test this for the automotive industry. They show that consumers, who searched on the net, spent substantially less time with not only the dealer but also with other sources.

With respect to searching online, two types of visitors are distinguished, namely goal-directed and experiential Internet users (e.g., Hoffman & Novak 1996). Goal-directed consumers focus on the task at hand and try to find the required information as efficiently as possible. These customers are more likely to be driven by external search. Experiential consumers browse the Internet for fun and may accidentally run into content, which is of interest to them. It is likely that experiential customers at some later point in time use internal search to access this information. Hence, the two types of consumers have completely different search strategies for the Internet that might be a result from the internal search versus external search distinction.
1.5 Problem Delineation

This dissertation contributes to fill gaps in existing knowledge about multichannel customer behavior by providing insights into the following aspects:

1. The effects of using informational Web sites on customer behavior,
2. The customer’s sequential process of search and purchase,
3. The specific effects of the introduction of an informational Web site for different customer segments and product categories,
4. Customer free-riding behavior, and
5. A methodology that can be used to measure these effects.

Effect from an informational Web site. Determining the effects of using an informational Web site is a crucial effort, because customers may sense a necessity to buy offline depending on (1) the product, (2) situational influences, (3) the consumer or (4) the channel. Moreover, with informational Web sites customers will have to go elsewhere (another channel or firm) to buy products. Given that most firms use the Internet for information and communication purposes (see e.g., Dutta & Segev 1999; Huizingh 2000; Carroll 2002), insight into these types of Web sites are valuable. We therefore investigate both attitudinal and behavioral effects of the use of an informational Web site.

Sequential process of search and purchase. We measure the sequential process of search and purchase over time and study actual behavior in multiple channels, i.e. in an informational Web site and an offline store. We determine the cross-channel effects of searching in the online channel on buying in an offline channel. Furthermore, we determine the cross-channel effects of marketing efforts.

Customer segments and product categories. We describe the effects of using an informational Web site and the sequential process of search and purchase for different (1) customer segments, (2) product types (sensory versus nonsensory) and (3) product categories (e.g., clothing versus books). Given previous studies on transactional Web sites, we are interested in determining if previous findings hold in this particular setting.

Free-riding behavior. With our single-firm perspective, we show how free riding on online information affects offline customer buying behavior. Van Baal and Dach (2005) show, using survey data, that providing online information stimulates free-riding behavior, i.e.
customers use the online information but buy elsewhere. We add to this new phenomenon by investigating the free-riding behavior of customers through behavioral data.

**Methodology.** We provide several different methods to capture the effects of using an informational Web site on offline attitudes and behavior. Furthermore, we provide a method to capture the cross-channel effects over time, specifically, the sequential process of search and purchase.

The contributions of this dissertation emerge from the answers to the following main research questions:

1. How do online attitudes influence offline attitudes and behavior, and what are the effects of moderators on these relationships (Chapter 2)?
2. How does online behavior influence individual offline customer behavior (Chapter 3)?
3. What sequential cross-channel effects take place, and given an informational Web site/ offline store setting, what are the cross-channel effects of marketing efforts? How do these effects differ across customer segments and product types (Chapter 4)?

The first study, which we present in chapter 2, examines the effects of an informational Web site on customer attitudes and behavior. With this study, we want to answer the question how online attitudes, collected some time after the introduction of the Web site, effect offline attitudes and behavior. The use of attitudes and behavior collected a year after the introduction of the Web site reduces a potential novelty bias. Besides this main effect, we are interested in possible moderators of these relationships. The Internet provides managers with many opportunities to target specific customer segments. Testing for moderators shows whether an informational Web site is more suitable for certain customer segments. Hence, this study aims to offer insight into how attitudes towards the informational Web site influence attitudes towards and behavior in the traditional store, how behavior in the informational Web site influences behavior in the traditional store and how these relationships are moderated by certain customer traits.

In chapter 3, we present the second study, which details how online behavior influences offline customer behavior, with a focus on shopping trips and money spent at the category level. The underlying question is
what happens at an individual customer level if an organization provides online information to its customers. Do customers spend more or less and do they go to the store more often or not? Previous research shows both positive and negative effects at the firm performance level (e.g., Biyalogorski & Naik 2003; Lee & Grewal 2004), however results at the individual customer level are scarce. For transactional Web sites, effects on spending may vary depending on product category (Gensler et al. 2007). Hence, we investigate whether customers change their spending across product categories due to the use of an informational Web site. This study offers further insights into the same-period effects of an informational Web site, effects at the product category level and free-riding behavior.

The third study gives more insight into cross-channel behavior and appears in Chapter 4. More specifically, we investigate the sequential process of search and purchase in the context of an informational Web site and a traditional store. We also investigate how the marketing efforts affect this process. Lastly, is it possible to distinguish context characteristics that influence these cross-channel effects? With this third and final study, we describe (1) the cross-channel effects in the sequential process of search and purchase in different channels, (2) how customer segments and product types influence cross-channel effects, and (3) how firms can manage cross-channel effects.

1.6 Definitions

We use the following definitions throughout this dissertation:

- **Channel** = customer contact point or medium through which the firm and the customer interact (Neslin et al. 2006).
- **Channel cannibalization** = the extent to which the sales in channel a erode sales in channel b.
- **Channel integration** = the extent to which customers perceive the different channels of a firm to be linked and experience seamless interactions across these channels.
- **Channel lock-in** = the ability of a channel to retain customers during the different stages (i.e. search and purchase) of the decision-making process.
- **Cross-channel effects** = the effects of a change in behavior in channel a on behavior in channel b.
Chapter 1: Introduction

- Cross-channel synergy = when attitudes or behavior in channel \( a \) have a positive effect on attitudes or behavior in channel \( b \).
- Incumbent (traditional) channel = the channel the firm originally used to sell its products or services.
- Informational channel = a channel that offers information, possibly related to products, brands, and/or services but no opportunity to buy.
- Multichannel customer behavior (or multichannel behavior) = customers’ choice and use of multiple channels during the decision-making process.
- Multichannel environment (setting) = a variety of channels available to customers during the different stages of the decision-making process.
- Offline attitudes (or store attitudes) = customers’ perceptions of the “traditional” store.
- Offline behavior (or store/buying behavior) = the buying behavior of customers in traditional stores.
- Online attitudes (or site attitudes) = customers’ perceptions of the informational Web site.
- Online behavior (or site/search behavior) = customers’ (search) behavior on the informational Web site.
- Same-channel effects = the extent to which activities in channel \( a \) influence customer attitudes or behavior in channel \( a \).
- Transaction channel = channel that offers information and the possibility to purchase products or services.

1.7 Empirical Setting

1.7.1 Firm

The research project described herein pertains to a retail environment. The available data were collected from customers of a large, well-known, national retailer in the Netherlands that offers 68 department stores in major urban areas. In general, each outlet comprises 13 different departments, such as clothing, interior design, books, and cosmetics. The data are used for the empirical studies described in Chapters 2 – 4.

This firm is a member of a national joint loyalty program of 21 partner firms in the Netherlands. Customers collect credits by
purchasing from these different firms, which range from retail stores to banks to gasoline stations. In turn, they may exchange these credits to receive discounts on products sold by the member firms or theatre or airline tickets. This popular program was established in the early 1990s, and at the time of the data collection, half of all Dutch households were members of this loyalty program.

1.7.2 Informational Web Site

The focal firm introduced an informational Web site in March 2001. Prior to then, the firm had focused solely on a single channel, namely, its offline stores. The introduction of the Web site was its first activity in terms of a multichannel approach. With respect to communication, the firm previously relied on mass advertising, such as door-to-door, television, and outdoor advertising and occasionally some direct mail. The informational Web site was designed to support the firm’s offline activities, improve store image, and increase the likelihood that customers would buy in the various stores of the national retailer. To gain access to the site, customers had to register during their first online visit using their loyalty card number. Table 1-1 shows an overview of typical Web pages, information, types of products, and features of the informational Web site.

The site specifically provides customers with information about lifestyle issues, products offered in the stores, and promotions. Furthermore, it is not simply an electronic brochure but a theme-oriented site. The theme orientation translates into specific topics, such as personal care, interior design, and events. In addition, it offers opportunities for entertainment (e.g., sending an e-mail card to a friend). The site also offers customers the possibility to generate ideas about desired products online and then fulfill these desires in the store.

In addition to the permanent themes in Table 1-1, the site communicates price promotions, such as the annual Christmas promotions. The major promotions the department store offers during the year are also communicated by temporary site pages, which supplement traditional door-to-door features.
TABLE 1-1 OVERVIEW OF THEMES, INFORMATION AND FEATURES ON THE INFORMATIONAL WEB SITE

<table>
<thead>
<tr>
<th>Theme</th>
<th>Type of Information</th>
<th>Examples of Products</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome</td>
<td>Overview of new information.</td>
<td>Diverse</td>
<td>Help function, Web poll, personal information</td>
</tr>
<tr>
<td>Fashion and beauty</td>
<td>From fashion trends to optimizing your closet space.</td>
<td>Clothing, cosmetics</td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>From children fashion to a day out.</td>
<td>Clothing, toys</td>
<td></td>
</tr>
<tr>
<td>Holidays</td>
<td>From new destinations to packing a suitcase.</td>
<td>Suitcases, camping gear</td>
<td></td>
</tr>
<tr>
<td>Feeling fit</td>
<td>From sports to relaxation.</td>
<td>Equipment, clothing</td>
<td></td>
</tr>
<tr>
<td>Enjoying your house</td>
<td>From organizing to enjoying your home.</td>
<td>All interior design products</td>
<td></td>
</tr>
<tr>
<td>Present planner</td>
<td>Party and present tips for all kinds of occasions.</td>
<td>None except for present suggestions</td>
<td>Calendar, notice of events, present suggestions, and possibility to send an e-card.</td>
</tr>
<tr>
<td>Online brochure</td>
<td>No product unrelated information</td>
<td>Varies</td>
<td>Selection of products for a specific customer shopping list and product database.</td>
</tr>
<tr>
<td>Entertainment</td>
<td>N.A.</td>
<td>N.A.</td>
<td>Puzzles, games, sweepstakes, and polls.</td>
</tr>
</tbody>
</table>

1.7.3 Customer Panel

To answer the research questions formulated in Section 1.4, we collected extensive information about the customers of the department store. We collected both offline and online behavior as well as attitudes, and we gathered these data over an extended period.

The offline behavior—specifically, offline purchases by 8,847 customers—is available from January 2000 to May 2002. The online behavior—site visits by 6,594 of the 8,847 customers—is available for March 2001 to May 2002. Therefore, our data show that during this period, 2,253 customers did not use the Web site. To collect online and offline attitudes, we surveyed customers three months after the introduction of the Web site in May 2001 and again a year later, in May 2002. In total, approximately 749 customers completed both versions of
the online survey. In May 2001, 3,128 customers completed the online survey; in May 2002, 4,865 customers did so. The surveys also provide customer demographic information (6,289 customers), supplemented with data from Acxiom\(^1\) at the zip code level (8,647 customers).\(^2\)

Even though extensive information is collected about the customers of the department store, we acknowledge a number of limitations in the available information. Any organization is subject to competition, on which we have no data. Because we deal with many product categories sold in the department store, the potential competitors are many. Furthermore, the competitive profiles of the 58 outlets of the department store differ, which makes it impossible to collect data about all potential competitors. Besides given the department store its restrictions on the length of the survey, we were unable to collect potentially interesting variables such as customers their technology preferences. We do emphasize however that the aim of this dissertation is not to explain differences in the use of the Web site but to determine if using the Web site has an impact on the buying behavior in the offline stores.

1.8 Outline

The remainder of this dissertation pertains to three main chapters in which we address the research questions. Table 1-2 displays the research issues studied in the empirical chapters (Chapters 2–4). In Chapter 5, we draw conclusions on the basis of the studies described in these chapters and discuss some implications and further research.

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\(^1\) We express our gratitude to Acxiom for providing these data free of charge.

\(^2\) All the figures mentioned in this section pertain to precleaned data. Therefore, these figures may deviate in subsequent chapters.
### Chapter 1: Introduction

#### Table 1-2 Overview of research issues studies in this dissertation

<table>
<thead>
<tr>
<th>Effects of informational Web site</th>
<th>Chapter 2: Attitudinal Framework</th>
<th>Chapter 3: Individual Customer Behavior</th>
<th>Chapter 4: Cross-Channel Effects</th>
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</thead>
<tbody>
<tr>
<td>• Attitudinal</td>
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<td>• Behavioral</td>
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<td>Free-riding behavior</td>
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<tr>
<td>Decomposition of behavior</td>
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<tr>
<td>Sequential process of search and purchase</td>
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<tr>
<td>Product categories (types)</td>
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<tr>
<td>• Category-specific effects</td>
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<td>Moderators (segments)</td>
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<td>√</td>
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<td>Marketing efforts</td>
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<tr>
<td>• Cross-channel marketing effects</td>
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