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Modeling Shopping Channel Perceptions in the Context of Clothing or Book Purchases: The Impact of Product Type and Other Variables

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ABSTRACT

This paper investigates shopping channel perceptions using data collected from a custom-designed internet-based survey of two university towns in Northern California (N=967). We first factor-analyze shoppers' perceptions of the store and internet channels with respect to the purchase decision for one of two product types: books/CDs/ DVDs/videotapes, or clothing/shoes. Eight factors are identified: *convenience*, *product risk*, *enjoyment*, *financial/ identity risk*, *efficiency/inertia*, *cost savings*, *store brand independence*, and *post-purchase satisfaction*. The perceptions for all factors, except financial/identity risk for store, differ significantly between book and clothing ($p < 0.07$), illustrating the dangers of eliciting general channel perceptions without regard to product type. We then develop models of the internet-specific factor scores on the product risk, financial/identity risk, and cost savings perceptions, as a function of general shopping-related attitudes, product type, experience with internet and store channels, and sociodemographics. The results clearly demonstrate the contributions of general shopping attitudes and product type to explaining the three selected perceptions, as well as more conventional variables such as age and gender. We also identify recurring "reality check" and "dissonance reduction" interpretations accounting for the roles of numerous experience and several other variables.

Keywords: B2C e-commerce, internet shopping, online shopping, attitudes, factor analysis

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1. Introduction

Since becoming a reality in the late 1990s, online shopping has shown a sturdy growth. Internet-based retail sales in the US constituted about 1.1% of total retail sales[1] in 2001 and 2.0% of total retail sales in 2004. By 2008, online retail, at $142 billion, accounted for 3.6% of total retail sales[2]. Accordingly, there is considerable interest, within the retail industry and among researchers in marketing and transportation, in better understanding the nature of online shopping adoption, particularly in relationship to the traditional channels of store and catalog. In work preliminary to the present study, an extensive review of empirical studies of online shopping was performed (Cao and Mokhtarian, 2006). That review showed that studies of the choice to shop online grouped explanatory variables into three categories: characteristics of the channel, the consumer, and the product/vendor. The research team directed by the first author of the present paper designed a survey to measure each of those types of variables (described in more detail in Section 2), and collected usable data from 967 residents of two communities in Northern California. An earlier paper analyzing this data set (Mokhtarian et al., 2009) focused on attitudinal and personality characteristics of the consumer. The current study focuses on characteristics of the store and internet channels (as perceived by the consumer), while controlling for product type.

Although many studies of e-shopping adoption have been conducted in which channel perceptions have been measured, most of those studies have at least one of two limitations: (1) they tend to focus only on the perceptions of the internet (e.g. Ahn et al., 2004), or at best on a directly comparative judgment of the internet relative to stores (e.g. Farag et al., 2006; Levin et al., 2005); and (2) the perceptions are typically gathered either with respect to a single product type, or without specifying a product type (e.g., Belanger et al., 2002; and see the discussion in Verhagen et al., 2010). With respect to the first issue, we believe it is important to view shopping behavior not just as a choice of e-shopping or not, but as a choice among multiple shopping channels, where traits of each channel can be separately perceived, and perhaps only indirectly compared, by the consumer in making the choice. Further, the various channels (online, store, and catalog shopping) are possibly complementary to each other. A consumer can shop through any or all of them over time, so the "chosen" alternatives are not mutually exclusive. Because of that, it is quite important for the analyst to explicitly compare advantages and disadvantages between shopping channels and understand the circumstances under which one channel is likely to be more preferred or chosen over the others. Accordingly, in the present study we ask for separate but parallel judgments on the channels of interest.

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[1] Figures exclude food service before 2004, due to data unreliability.

[2] http://www.census.gov/compendia/statab/cats/wholesale_retail_trade/online_retail_sales.html (Table 1054), accessed January 6, 2011.

With respect to the second issue, it seems clear that at least some channel perceptions are likely to differ for different types of products. For example, where an item (such as a book) is essentially uniform regardless of its retail source, and where its basic nature can be assumed, the perceived risk of purchasing over the internet may be much lower than when a generic item (such as a blouse) can vary widely on quality of fabric, workmanship, and fit. On the other hand, perhaps other perceptions, such as the ability to save money, will be similar across product type. In any case, it seems important to determine whether perceptions differ by product type rather than to act as though they do not. In the present study, each survey respondent provides channel-specific perceptions in the context of purchasing one of two product types: clothing/shoes (henceforth "clothing"), or book/DVD/videotape/CD (henceforth "book").

While (as mentioned above) it is common to treat channel perceptions as *explanatory* variables in models of channel choice, it is rare to find studies that treat such perceptions as *dependent* variables, and endeavor to explain those perceptions (some exceptions are Childers et al., 2001; Vijayasarathy and Jones, 2000; and Levin et al., 2005). Yet this is an interesting question in its own right: controlling for expertise with, and access to, the internet (e.g. whether one has convenient broadband access), why would channel perceptions differ? Presumably due to inherent personality traits or fundamental attitudes, but perhaps also due to sociodemographic traits such as gender or household size (e.g., the presence of children to shop for may create time pressure and thereby make the internet a more attractive alternative). Thus, an explanatory model of a given channel perception in which multiple variables are allowed to control for confounding factors could be very informative.

Accordingly, the goals of this study are to (1) identify the appropriate dimensions for channel perceptions, through factor-analyzing sets of 28 channel-specific attitudinal statements in the survey; (2) test whether these perceptions differ, on average, by product type; and (3) model selected perceptions (product risk, financial/identity risk and cost savings for internet) as a function of product type, general attitudes/personality traits, sociodemographic characteristics, and experience with the store and internet channels.

The remainder of this paper is organized as follows. In the next section we briefly describe the survey and the data. In Section 3 we present the factor analysis of the channel perceptions, and test the mean channel-specific factor scores for differences by product type. In Section 4 we present some models of selected channel perceptions, while Section 5 provides some concluding remarks.

2. Empirical Context

2.1 The Sample

The data analyzed in this study were collected from an internet-based survey of Northern California residents (an example version of the survey is included in the appendix; for additional details on the data collection and initial cleaning activities, see Ory and Mokhtarian, 2007). Some 8,000 recruitment letters were mailed in June 2006 to randomly-selected households in two university communities, namely Davis (home to a University of California campus of around 30,000 students) and Santa Clara (home to a private university of about 8,000 students). Davis

has a population of nearly 60,000 and is separated by about 16 kilometers of farmland and floodplains from the regional employment center and state capital, Sacramento (regional population about 2 million). Santa Clara has a population around 100,000 and is located in the heart of Silicon Valley, just north of San Jose (regional population about 7 million). These cities were targeted because they contain a high proportion of internet-literate residents, thus enriching the sample with regular e-shoppers, as well as younger-than-average residents, who may be harbingers of future adoption patterns. We surveyed both cities, rather than one or the other, to achieve at least a limited amount of diversity with respect to urban context, which (though not a central feature of the present analysis) has been found important in other studies (Farag et al., 2006; Krizek et al., 2005).

Approximately 6,500 letters apparently reached their intended addressee and of those, about 1,000 respondents went to the website and completed the survey. We also offered a paper version of the survey if desired, and 72 respondents requested and completed the survey on paper. The overall response rate was 16%, which we considered reasonable for an internet survey of this length (the paper version was 19 pages long) and complexity. Babbie (1998) indicates that response rates of 10-40% are typical for mail-out/mail-back surveys of the general public; we presume the higher end of that range to be unlikely for a survey as long as ours, with the additional barrier of being administered over the internet.

After eliminating surveys with incomplete responses on important questions and filling very small amounts of missing data with category-specific means (further described in Section 3 for the variables of greatest interest to the present study), a working sample of 967 cases containing relatively complete data was established. A sociodemographic summary of the sample is included in Table 1. Overall, the sample is fairly balanced in terms of gender. Higher incomes are overrepresented compared to Census data for the populations of the sampled areas, which is common for self-administered surveys in general, and almost inevitable for one administered over the internet. As the focus of the study is to model the impact of income and other variables on shopping channel perception and choice decisions, rather than purely to ascertain the population distribution of such measures, it is more important simply to have a reasonable spread of incomes than that they be exactly representative (Babbie, 1998; see the extended distinction in Groves, 1989, between the descriptive and modeling purposes of data collection). In general, the inclusion of multiple explanatory variables in a model allows them to serve as controls or conditioning mechanisms: given a person of such-and-such type (this income, that age, and so on), the average impact of X on Y can be appropriately estimated – leaving it to other, external sources to determine the proper distribution of people of each type.

Nevertheless, it is certainly possible that the sample is biased in relevant ways. In addition to the sampling bias induced by the conscious choice of study locations, a non-response bias may also limit the generalizability of the findings – especially the descriptive results, but potentially even the model-based relationships. For example, people who view the internet more favorably than average will be more likely to participate in an online survey, thereby exaggerating the perceived difference between store and internet on dimensions for which internet is generally superior, and diminishing the difference on dimensions for which store is generally superior.

[Table 1 goes about here]

2.2 The Survey Contents

The survey started with a welcome question, followed by seven parts. Each of these parts is briefly described below.

General shopping-related attitudes: In Part A, the survey presented a series of 42 general shopping-related Likert-type scale statements (1 = "strongly disagree"; 5 = "strongly agree"). Common factor analysis was used to extract the 13 (obliquely-rotated) factors (see Mokhtarian et al., 2009 for the detailed results). Table 2 presents the strongly-loading statements for each factor. While some of these factors (e.g. impulse-buying, materialism, shopping enjoyment) could apply about equally well to either shopping channel (and were developed primarily for models of shopping frequency), we expect many of them (e.g. pro-technology, pro-environmental, caution, time consciousness, trustingness, pro-exercise and store enjoyment) to differentially affect individuals' shopping channel intentions.

[Table 2 goes about here]

Purchase experiences: In Part B, respondents were asked whether they had purchased each of 15 kinds of products in the past year, separately by internet, store and catalog.

Recent purchase of clothing or book: Part C began by directing respondents to recall a recent purchase using a specific channel, of clothing, shoes, book, DVD, videotape, or CD. If they could not recall a recent purchase by the first channel presented, they were asked with respect to a second channel, and then, if necessary, a third. The order in which the channels were presented was manipulated to ensure sizable purchase shares for both internet and store channels (and thus, those shares are not intended to be representative; the sample is in essence choice-based). For some length of time during the survey administration period, internet was presented first, followed by store then catalog. Afterwards, internet and store were reversed, so that store was presented first (catalog was always placed last due to the decision to focus primarily on the first two channels).

After identifying the channel by which the recent purchase was made (referred to as "key channel"), the specific item purchased was identified (referred to as "key item" or "key purchase"). Respondents then were directed to one of six Part C tracks representing the item-channel combination of their key purchase, that is, book-internet, clothing-internet, book-store, clothing-store, book-catalog and clothing-catalog. At that point, several questions related to the recent purchase were asked, such as how much money was spent, how the item was obtained, the purchase location, the availability of alternative channels for that specific purchase, and the involvement of other channels during pre-purchase stages (awareness, information, trial). All these are situation/context variables possibly relevant to one's channel-specific perceptions.

We chose the clothing category to represent (in the terminology of Peterson et al., 1997) an "experience" good (i.e. one for which experiencing the product before purchasing it is important to many people), and the book category to represent a "search" good (i.e. one which can often be satisfactorily evaluated on the basis of externally-provided information alone), with the

expectation that channel-specific perceptions, as well as the weights given those perceptions in making a choice, could differ depending on the nature of the product. We chose specifically these two relatively low-cost and frequently-purchased product categories to ensure the presence of sufficient recent purchase occasions in the sample.

Channel-specific perceptions: In Part D, respondents were asked to agree or disagree (on a five-point Likert-type scale) with 28 channel-specific statements, assuming they were to make a purchase similar to the one discussed in Part C. To reduce fatigue, they were asked to complete such a set of statements for two of the three main shopping channels (store, internet, and catalog) – the channel chosen for the key purchase, and one alternative. The store channel was presented to every individual, as a benchmark with which it was presumed all respondents would be familiar. Thus, most (927) respondents completed the store-internet pair (465 with respect to clothing and 462 with respect to book), with those (40) choosing catalog for the key purchase reporting for store and catalog (38 and 2 for clothing and book, respectively). Given the small sample sizes for catalog, this study will focus on the store and internet channels. These perceptions are the main focus of the present study, and will be described in more detail in Section 3.

Frequency of shopping for the key item: In Part E, more general questions were asked about the frequency of shopping, by channel, for the key item discussed in parts C and D.

Use of internet and communication technology: In Part F, the survey asked some general questions about the respondent's use of the internet, as well as other communication technologies. These characteristics can be expected to affect one's perception of the internet shopping channel in particular.

*Sociodemographic characteristics***:** Part G of the survey captured an extensive set of sociodemographic variables such as gender, age, employment status (part time or full time), available work arrangements, educational background, household income, household size, and number of clothing and book stores near home and work.

3. Factor Analysis of Channel Perceptions

3.1 Selection of Best Factor Solution

The 28 channel-specific items were chosen to reflect 13 potential perceptual dimensions (see Table 9 of Ory and Mokhtarian 2007 for those dimensions) identified through a review of the literature and the research team's judgment. Those 28 statements were winnowed from an original list of 50, some obtained from previous studies and some original to this study. In keeping with guidance from the survey design literature (e.g. Baumgartner and Steenkamp, 2001; Ellard and Rogers, 1993), we diversified the directionality of the final list of statements, to reduce the tendency to fall into an automatic response mode. We made an effort to include at least one positively-oriented and one negatively-oriented statement for each construct, but where we could not readily produce satisfactory statements by that guideline, we did not force it. The factor analysis literature (e.g. Fabrigar et al., 1999) further advises including 3-5 items (statements) for each hypothesized construct, but in view of the large number of constructs we considered important to our context, and the interconnectedness of many of them (thus leading to

their merging or overlapping in an exploratory factor analysis), we limited the number of statements per original construct to two in most cases – again as a design compromise to reduce respondent fatigue.

After discarding cases missing more than three responses to either of the two sets of items completed by each respondent, about 7% of the remaining cases still had missing data. Only about 1% of cases were missing two or three responses for a given channel; most were missing only one. These missing data were filled with geographic- and product-specific means for the item in question; this process affected no more than 0.3% of the total number of perceptions. The resulting sample had complete information for both channels for all 967 cases.

To condense these numerous interrelated items into a smaller set of more distinct constructs suitable for inclusion in later models, an exploratory factor analysis was performed on 27 of the 28 items[3], using the Statistical Package for the Social Sciences (SPSS). To ensure that the resulting factors reflected the same construct across all channels, we treated the data as if there were (967 x 2 =) 1934 observations on 27 variables, rather than treating each item-channel combination as a separate variable. (For the same reason, we included the relatively small number of catalog observations in with the store and internet ones). Of course, this (conventional) practice assumes that perceptual spaces are constructed similarly (have the same axes, or factors) regardless of channel – an assumption that is subject to testing in future confirmatory analyses.

In keeping with the admonition (Widaman, 1993) that common factor analysis (called principal axis factoring in SPSS) is more appropriate than principal components analysis (PCA) when the purpose of the procedure is to identify latent constructs, we used common factor analysis (CFA). (Note that factor loadings, and thence percent variance explained by the factor solution, are generally lower with CFA than with PCA, but Widaman indicates that the apparent superiority of PCA on these grounds is spurious, since the PCA loadings are more biased estimators of the true population values than are the CFA loadings). Oblique rather than orthogonal rotation was used to more faithfully reflect the conceptual relationships among the factor dimensions.

Several criteria were used in selecting the preferred 8-factor solution. Application of the conventional eigenvalue-one rule (to initial eigenvalues, per Fabrigar et al., 1999) identified six factors with eigenvalues greater than one; the 7th was 0.96. The "elbow" or "scree rule" (finding the elbow in a plot of number of factors against percent of variance explained) pointed to five or possibly seven factors. In view of these considerations and the fact that 13 constructs were originally identified, we then undertook a detailed examination of the obliquely rotated solutions for number of factors ranging between 5 and 13, to enable the final choice to be made on conceptual interpretability grounds. The 8-factor solution was preferred over the 7-factor solution because it separated the post-purchase satisfaction and product risk factors, while the solutions involving fewer than 7 or more than 8 factors were clearly inferior conceptually. The literature (e.g. Fabrigar et al., 1999) also advises that all else equal, too many factors is preferred over too few, and we believe that if our 8-factor solution errs, it errs on the side of overfactoring rather than underfactoring.

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[3] One item was dropped due to ambiguity in interpretation.

The important pattern matrix loadings for the obliquely-rotated 8-factor solution are presented in Table 3. The solution explained 45% of the total variance in the statements, on the high side of the typical range of 30-50% for common factor analysis reported by Widaman (1993).

[Table 3 goes about here]

The first factor is labeled *convenience*; it combines the items relating to the original constructs of availability/ selection, convenience, and ease of use (see Table 9 of Ory and Mokhtarian 2007), together with two logical items ("easy to check availability" and "saves time") from other categories (search costs and time savings, respectively). The *product risk* factor contains the two items hypothesized for that construct, logically joined by a third, drawn from the trust construct: "concern that unfamiliar [retailers] will fail to meet expectations".

The *enjoyment* factor also contains the two items expected for it, plus two others that fit as well, albeit with double loadings elsewhere: "often frustrating" (from the ease of use construct, and loading less strongly on convenience), and "always on the lookout for a new [retailer]" (loading more strongly on store brand independence). The latter was (correctly) hypothesized to be negatively associated with a store brand attachment construct, but it is also natural that one who enjoys the act of shopping would tend to be on the alert for new ways to achieve that enjoyment.

The *financial/identity risk* and *cost savings* factors exactly reproduce their hypothesized constructs. The *efficiency/inertia* factor, on the other hand, draws its three items from three different constructs. Especially the first two items can refer either to a desire to be efficient by limiting the retail outlets one patronizes, or to a desire for the familiar, i.e. an inertia against experimentation. While the third item ("can experience products to the extent I want to") has only a moderate loading, it also relates to a sense of satisfaction with the status quo.

The *store brand independence* factor took one item ("always on the lookout for a new [retailer]" from the expected store-brand attachment construct; its second item ("prefer independent [retailers] rather than national chains") had been associated with the trust construct (lack of trust being a common reason for shoppers to stick to well-known store brands; Jarvenpaa et al., 2000) but fits quite naturally here. Finally, the *post-purchase satisfaction* factor combines the items from the customer service and gratification delay constructs, together with (having a relatively small loading) the "difficult to compare products" item from the search costs construct, which may point to a fear that the purchased product will be unsatisfactory because it could not be researched easily in advance.

In general then, although the factors do not always reproduce the hypothesized constructs exactly, the deviations are logical and the resulting factors are quite interpretable.

Prompted by recent empirical experience, we computed factor scores by multiple methods for the purposes of comparison – specifically, we compared the default regression factor scores to the Bartlett scores (Beauducel, 2007; Grice, 2001; McDonald & Burr, 1967). Counterpart scores from each method have very high correlations with each other (ranging from 0.94 to 0.99), indicating that the two methods do not produce dramatically different solutions. However, the

regression solution has substantially larger "highest correlations" of scores within method (0.68 and 0.70 between the cost savings and convenience factor scores for the store and internet channels respectively) than does the Bartlett solution (0.42 between the convenience and post-purchase satisfaction scores for store, and 0.50 between the convenience and enjoyment scores for internet). Accordingly, we decided to use Bartlett factor scores to reduce potential collinearity problems in future modeling where these factors would be explanatory variables. Although the Bartlett highest correlations of 0.42 and 0.50 are moderately high and an issue to monitor in future models containing both factors as explanatory variables, given our reasonably large sample size we are not overly concerned about a collinearity problem. Other factor pairs that are moderately correlated are convenience with cost savings for store/internet (0.34/0.39) and cost savings with enjoyment for internet (0.38). No other pair has a correlation above 0.3 in magnitude.

3.2. Tests for Differences in Mean Factor Scores by Product Type

Figure 1 portrays the mean product-specific factor scores for store and internet channels, with the p-values of independent-samples t-tests between clothing and book shown next to each factor label. It should be noted that scores on a given factor are standardized across channel and product type, and thus should be interpreted in relative terms. Although we focus on the comparison by product type within a given channel, the comparison across channel for a given product type is also relevant. For example, for book, the perceptions of store as inconvenient and not saving money are relative to the perceived convenience and cost savings, respectively, of the internet. Another point to keep in mind is that clothing and book are being rated by different people. Thus, to some extent the differences found in mean factor scores could be a function of systematic differences in the two subgroups (some of which are indicated by Table 1).

[Figure 1 goes about here]

Turning first to the traditional store channel, we note that mean scores differ significantly (at the 4% level or better) by product type on all dimensions except financial/identity risk, which is perceived as similarly low for both products. For five of the remaining factors, mean scores have the same sign, even if differing in magnitude. The post-purchase satisfaction and efficiency/inertia scores are higher (more positive) when the product type is clothing. Interestingly, clothing is perceived as having slightly less product risk than book ($p = 0.022$), though in practical terms the difference is small. The result is plausible, however – once the garment has been tried on in the store, product risk is relatively small (though post-purchase regret is still possible), whereas a book that is picked up in a store could still disappoint upon reading. On the other hand, the preference for store brand independence is higher when the product is book, and store rates as considerably less convenient when the product is book. For the remaining two factors, the mean scores actually differ in sign by product type: store rates positively on enjoyment and cost savings when the product is clothing, but negatively when the product is book.

With respect to the internet, mean scores differ significantly (at the 6.4% level or better) by product type on all eight dimensions. For six factors the means are different in magnitude but have the same sign, and for two factors the means have opposite signs. The differences are generally as expected: when the product is clothing, the internet is perceived as offering much

higher product risk, somewhat higher financial/identity risk, higher store brand independence and considerably less convenience than when the product is book. Clothing also rates substantially lower on the efficiency/inertia score, indicating a greater inclination to explore a variety of clothing websites than book websites. Unexpectedly, the internet offers a slightly higher (less negative) mean post-purchase satisfaction score for clothing than for book, but the significance is borderline ($p=0.056$), and the result could be due to random sampling error, or to the systematic differences between the raters of each product type. The two factors for which the product means have opposite signs are enjoyment and cost savings, where in both cases clothing rates negatively while book rates positively. These results are the mirror image of their counterparts for store, and all are plausible.

4. Models of Selected Internet Perceptions

As indicated in Section 1, we are interested in modeling channel-specific perceptions (i.e. the factor scores described in the previous section) as a function of general shopping attitudes, sociodemographic variables, context variables, and usage of ICT as well as product type. With time and space limitations precluding presenting models for all 16 channel-specific factor scores, after some preliminary analysis we chose three internet perceptions as the most promising and interesting: product risk, financial/identity risk and cost savings. To incorporate product type, we first developed entirely separate segmented models (i.e. models for each selected perception estimated separately on the book and clothing subsamples), and then combined the two models into a single hybrid model (i.e. where some coefficients were allowed to differ by product type while others were constrained to be equal, as appropriate), and improved the "combined" model through several rounds of trial and error.

One key model specification issue is whether to include indicators of prior channel-specific shopping experience as explanatory variables. We would certainly expect one's channel-specific attitudes to be affected or explained by one's prior shopping experiences by that channel (e.g., Schoenbachler and Gordon, 2002), and thus from that perspective it is reasonable to include experience variables in the explanatory variable pool. On the other hand, to the extent that attitudes are somewhat stable across time, it would also be reasonable (certainly consistent with common practice) to include channel-specific attitudes as explanatory variables in models of channel-specific shopping experience (e.g. frequency or proportion of shopping via a given channel). In view of this endogeneity issue, we present two sets of models: without and with shopping experience variables. The results are provided in Tables 4 and 5 respectively, and discussed in the subsections below.

In analyzing both sets of models, two different effect mechanisms began to appear repeatedly, each with either possible sign. We refer to the first mechanism as a "reality check", meaning that familiarity or experience with a channel can alter one's perceptions to be more realistic – whether for better or worse (while acknowledging a certain subjectivity in the assessment of "reality"; Hoch and Deighton, 1989). The second mechanism is the familiar psychological phenomenon of "dissonance reduction" (Festinger, 1957; Cummings and Venkatesan, 1976; Shang et al., 2005), i.e. resolving cognitive inconsistencies or dissonance. We see this mechanism appearing in two forms: (1) experience with a given channel may improve the perception of that channel (or degrade the perception of a competing channel), as a form of

confirmation effect or post-purchase rationalization (Ehrlich et al., 1957; Cohen and Goldberg, 1970); and (2) a certain image of a given channel (whether positive or negative) may be "required" to be consistent with one's own self-image in some respect (see Sirgy, et al., 2000 for an analysis of this concept with respect to stores in particular; Kang et al., 2009 with respect to online service continuance). Some of the instances in our models of these various mechanisms are summarized in Table 6. Note that the same variable can have multiple interpretations in a given model (e.g. trendsetting), or even opposite effects in different models (income, internet buying pattern). In fact, it is quite possible that other variables are not significant in the final models because they represent effects in both directions that essentially cancel out across the sample.

4.1 Models without Experience Variables

Table 4 shows regression results for the three selected perceptions of the internet. Adjusted R^2 values for these models lie between 0.125 and 0.202, a typical range for disaggregate linear models. Collectively, nine out of our 13 general attitudes appear in the models, testimony to the relevance of these general shopping-related predispositions to the formation of specific channel-based perceptions. The models also include variables related to product type and sociodemographic traits (age, education, income, gender, and credit card possession). We briefly explain each equation below.

[Table 4 goes about here]

4.1.1 Internet Product Risk Perception

Three general attitudes enter the product risk model: cautious, trend setting and time conscious. Both cautious and time conscious show positive signs, which have ready explanations. It is quite natural for cautious people to be more inclined than others to think that the novel, technology-based, "long-distance" method of online shopping entails some risks. Time conscious people may make quick purchase decisions, without much effort to know the products better, which consequently may cause more product risk. Alternatively, simply because they are pressed for time, the hassle of potentially having to return an unsatisfactory product may be more salient to them than to a less time-constrained person. Trend setting shows a negative sign, which is also reasonable. People who have a high trend setting score are likely to be more familiar with new technologies and services, and thus to have a more informed judgment about the level of risk involved. Because they may perceive online shopping to be more "cool" than conventional store shopping, they may also be motivated to downplay any potential disadvantages of online shopping, to provide an outwardly consistent explanation for their choice of that channel.

Two product type-related variables enter the model: a dummy variable for book, and education interacted with clothing. Book, as a "search" good (Tang and Mokhtarian, 2009), naturally involves less product risk when purchasing online. The education variable indicates that the more education a respondent has, the greater internet product risk is perceived to be – but only for the clothing product type. This variable may be a proxy for socioeconomic status, and accordingly a greater weight being placed on clothing quality by higher-status individuals.

In addition to the education variable just discussed, two other sociodemographic variables are included, both with positive signs. The explanation for income may in part be similar to that for education (except that it is not product type-specific), and may also reflect a greater number of purchases and hence a greater exposure to product risk. The female dummy variable may partly reflect a product type interaction of its own, since Table 1 shows that women are overrepresented in the clothing subsample. Other explanations may be that (1) women are more risk-averse in general (Hartog et al., 2002), and (2) women in our sample are more likely to be impulse buyers (the mean on the impulse buying general attitude is 0.111 for women and -0.120 for men, p-value for the difference test = 0.000), which may have led to some ill-considered purchases in the past and thus raised the salience of product risk for those individuals.

4.1.2 Internet Financial/Identity Risk Perception

Six general attitudes (time conscious, store enjoyment, pro-technology, shopping enjoyment, materialistic and pro-credit card), household income, and a dummy variable for having a credit card are significant in the financial/ identity risk model. The first two coefficients have positive signs; the remainder are negative.

Similarly to the product risk model, the positive sign of the time conscious coefficient in this model probably reflects that time-pressured people are more sensitive than others to the prospective hassle and time required to resolve a theft of their identity. Interestingly, this is the only attitude common to both risk models. The positive sign of store enjoyment may reflect a confirmation effect, in that people tend to play up the disadvantages of the less-preferred alternative.

Turning to the negative coefficients, we note that it is reasonable to expect that the more positively disposed toward technology people are, the less they will worry about its risks – in particular risks associated with online shopping. Along the same lines, people who generally enjoy shopping, or who are positively disposed toward the use of credit cards, may be less worried about the downsides of shopping – in this case no matter which channel they use. The negative effect of a materialistic attitude may reflect a more "now-focused" person who focuses on consumption more than on saving or on planning for the future, and therefore does not worry too much about the many things that could go wrong.

In contrast to the product risk model, here household income shows a negative coefficient. It is quite possible that the more extensive online shopping experience suggested by a higher income could have opposite impacts on perceptions of these two forms of risk: fears of financial/identity risk could have been assuaged, while product risks may well have materialized. Those with higher incomes are also better able to absorb financial losses. The interpretation of the coefficient for the dummy variable indicating credit card possession is essentially similar to that of the pro-credit card attitude.

4.1.3 Internet Cost Savings Perception

Aside from the constant term, there are only five variables in the cost savings model: pro-technology and pro-environment attitudes, dummy variables for book product type and for being

female, and the respondent's age. Coefficients of the first two variables show positive signs, as expected, because online shopping (compared to store shopping) is clearly a high-tech channel, and often perceived to be a "green" channel with respect to the environment (although the extent to which that is true can depend very much on packaging and transportation decisions; Matthews et al., 2001); Since the "search" product type of book lends itself well to online price comparisons (more so than clothing, where a given item may be more unique or harder to find on many sites), it is also not surprising that those purchasing books were more inclined than those purchasing clothing to see the internet as cost-saving.

The negative sign on respondent's age is reasonable as well: older people may be less familiar with online shopping, and thus less likely to perceive the internet as a cost-saving channel. As for the negative sign of the female dummy variable coefficient, there may be some further interaction with product type (since they are more likely to be in the clothing subsample, according to Table 1). Women may also be more savvy consumers: in our sample women are more price-conscious than men, on average (0.106 versus -0.116, p=0.000), and since some studies show that online shopping does not always save money (Lal and Sarvary, 1999; Palmer, 2000; Lindsey-Mullikin and Grewal, 2006), women's greater skepticism in this respect may be justified. We additionally found that women enjoy store shopping more than men, on average (0.235 versus -0.270, p=0.000), so there may be a further confirmation effect at work here: overall, those who prefer store may tend to exaggerate the perceived relative disadvantages of the internet, compared to those who prefer the internet.

4.2 Models with Shopping Experience Variables

Table 5 shows the counterparts of the three models in Table 4 when taking shopping experience variables into consideration. We can clearly see that adding those variables improves the models' goodness of fit (GOF) substantially (with adjusted R^2 values increasing from 0.202 to 0.213, 0.125 to 0.175 and 0.181 to 0.348, respectively). Especially for the cost savings model, the adjusted R^2 almost doubled. For the product risk and financial/identity risk models, most of the variables in the previous models remain when the experience variables are added. However, for the cost savings model, almost the entire set of explanatory variables changed. When we took a further look at the correlations between the two sets of variables, we found that the two general attitudes which dropped out are significantly correlated with several newly-entered variables (e.g. 0.389 between pro-technology and the number of categories purchased online; -0.382 between pro-technology and internet buying pattern; 0.135 between pro-environment and internet buying frequency), indicating that at least some of their explanatory power is still reflected in those new variables.

[Table 5 goes about here]

4.2.1 Internet Product Risk Perception

In the product risk model, household income and the interaction term between education and clothing dropped out, and two new variables entered: internet buying pattern and store buying share. Generally speaking, the larger the internet buying pattern index, the less often one has purchased online (see notes on Table 5), so the negative sign of its coefficient may reflect a

degree of exposure: those who purchase online less often have less opportunity to be exposed to the product risk of internet shopping. In view of the endogeneity issue discussed earlier with respect to these experience variables, it is worth noting that the sign in this particular case is more in keeping with the modeled direction of causality than with the opposite direction: if we were modeling the opposite direction, i.e. the influence of perceived product risk on e-shopping frequency, we would expect a positive coefficient (reflecting the hypothesis that those who perceive a higher product risk would purchase online less often, i.e. have a higher internet buying pattern index).

On the other hand, the store buying share coefficient shows a positive sign, which *could* reflect the opposite direction of causality (higher perceived internet product risk leads to a greater share of store buying). Alternatively, however, it could be another example of the dissonance reduction, or post-purchase rationalization, effect. Since channel shares are constrained by summing to 100%, the bigger the store shopping share, the lower the internet shopping share (the correlation is -0.906). Thus, the result could mean that the more committed people are to shopping in stores, the more negatively they perceive the store's competitive alternative (i.e. the internet)[4].

4.2.2 Internet Financial/Identity Risk Perception

Compared to the previous financial/identity risk model, the materialistic factor, pro-credit card factor and the dummy variable for credit card possession dropped out when the experience variables were allowed in. Meanwhile, three new variables appeared: internet buying pattern, internet usage diversity index and number of categories purchased in a store. All these variables showed reasonable signs. The internet buying pattern coefficient has the opposite sign to its counterpart in the product risk equation, but the relevant interpretation is equally plausible here: the larger the internet buying pattern variable, the lower the frequency of shopping online, and the lesser experience may mean that the perceived financial/identity risk is exaggerated.

As for the remaining two variables, the first serves a reality check function – the more diverse the ways in which the internet is used, the more favorable its perception as a shopping channel will be; while the second offers a post-purchase rationalization interpretation – the more categories of items that are purchased in a store, the more negatively the competing channel is viewed (the higher the perceived financial/identity risk of the internet).

4.2.3 Internet Cost Savings Perception

In the cost savings model, as noted above, almost all the explanatory variables change. All variables showed plausible signs: variables related to or indirectly indicating a high frequency of internet buying (internet buying pattern, internet buying frequency, internet buying share and number of categories purchased on the internet) increase the perceived cost-saving advantage of

[4] Internet buying pattern and store buying share are moderately strongly correlated at 0.545. We experimented with removing each of those two variables and finding new "best" models, but ultimately preferred the presented model on goodness of fit and conceptual grounds.

the internet channel, whereas variables related to or indirectly indicating a high frequency of store buying (namely store buying frequency and number of categories purchased in store) decreased the perceived advantage of the competing (internet) channel.

[Table 6 goes about here]

5. Summary and Conclusions

This study analyzed channel-specific perceptions for more than 900 residents of two university towns in Northern California (Davis and Santa Clara), with special attention to the differences between two product types (book/CD/DVD/videotape and clothing/shoes). Using oblique rotation with common factor analysis of 27 statements, eight channel-specific attitudinal factors were extracted: convenience, product risk, enjoyment, financial/ identity risk, efficiency/inertia, cost savings, store brand-independence and post-purchase satisfaction. We then conducted independent sample t-tests between book and clothing for each factor, separately by channel. We found that the perception scores for all factors, except financial/identity risk for the store channel, are significantly different between book and clothing at 93% confidence or higher (Figure 1). For two factors (enjoyment and cost savings), perceptions of each channel differ in sign between the two product types: the store is perceived to offer above-average enjoyment and cost savings for clothing and below-average for book, whereas the opposite is true for the internet. These results quite clearly illustrate the dangers of eliciting general channel perceptions (or comparative judgments not distinguished by individual channel) without regard to product type.

In addition, we developed two sets of regression models (with and without the inclusion of shopping experience variables) on three selected channel-specific perceptions: internet scores on product risk, financial/identity risk, and cost savings (Tables 4 and 5). General shopping attitudes (cautious, time conscious, store enjoyment, pro-environment and so on), sociodemographic variables (education, age, gender and household income) and product-specific variables all showed significant effects on the three perceptions. Last but not least, shopping experience variables (such as internet or store buying frequency or share) are also significant and show reasonable signs. Particularly (but not exclusively) with respect to the latter type of variable, we identified several recurring interpretations of their effects (Table 6): (1) reality (as measured by or inferred from experience-related variables) could either (a) improve one's perception of a channel (by "correcting" faulty misperceptions) or (b) degrade it (by increasing the exposure to negative outcomes); and (2) dissonance reduction mechanisms could also either (a) improve perception (e.g. a heavier commitment to a channel could prompt a post-purchase rationalization that it is better than competing channels, or a certain self-image could shape perceptions to be consistent with that self-image) or (b) degrade it (e.g. a heavier commitment to a *competing* channel prompts the rationalization that the channel in question is worse).

Together, these results suggest several conclusions. (1) Product type matters: the significant differences in perception factor scores between product types, the appearance of the product type dummy variable in four of the six final models, and the presence of its interaction with another variable in one model, all supported the hypothesized differences in channel-specific perceptions between book and clothing. Accordingly, we should not ignore or blindly combine product types in this field of study. (2) Channel-specific perceptions can be affected by general shopping

attitudes, sociodemographics and channel-specific experience as well as product type. (3) In part because of this rich set of influences on channel-specific perceptions, it stands to reason that to better understand the influence, in turn, of those perceptions on people's shopping behavior, we should measure perceptions of each of the multiple shopping channels separately, not simply obtain direct comparative judgments (of the type "internet is [much worse than … much better than] store on such-and-such dimension").

Research in progress on this dataset involves examining how importance weights differ by channel and by personal characteristics in models of purchase channel intention. In addition, trivariate probit models of the choice of pre-purchase/purchase channel bundles (e.g. searching in stores and online, before eventually purchasing in a store) are underway. Looking to the future, and the possibility of collecting new data, several further developments would be worthwhile.

First of all, it would be highly desirable to include additional product categories (e.g. electronics, major appliances), to explore in greater detail how the channel-specific perceptions for these more expensive items might differ from those pertaining to the low-cost items studied here. Second, as mentioned in Section 2, the sampling and non-response biases of our sample limit confidence in the generalizability of the present results. Conducting a similar study on a larger, more representative sample would be instructive.

Finally, it would be valuable to conduct a repeated cross-sectional or panel study to examine how channel- and product-specific perceptions evolve over time with experience, technological improvements, and other factors, and in turn how shopping behavior evolves in response to those changes. The present data were collected in 2006, and given the pace of technological advancement in this field, the question inevitably arises as to how stable the results found in this study will be. On the other hand, although the adoption of online shopping has continued to increase since these data were collected, the technology of the typical online shopping experience does not appear to have materially changed in the interim (for example, virtual reality technologies enabling shoppers to remotely feel fabrics or try on garments have not yet become commonplace). So it can be argued that the data are still relevant to current conditions, and in any case they constitute a useful benchmark against which to measure future shifts in perception. Capturing those shifts with a panel dataset, paired with a dynamic structural equations approach to modeling perception and choice relationships, would be the ideal way to improve our understanding of the dynamic phenomenon of online shopping.

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Table 1: Selected Sociodemographic Characteristics of the Sample, by Product Type Subgroup

Characteristic (sample sizes)	Book	Clothing	T-test between book and clothing
	N (%)		
Number of cases	462	465	
Number of females	220 (48.1)	278 (59.9)	0.000
Number of people who have credit card (458, 462)	439 (95.9)	446 (96.5)	0.587
	Mean (s.d.)		
Average age (years) (452, 453)	45.5 (15.13)	46.9 (15.23)	0.186
Average educational level[a] (462, 465)	5.79 (1.43)	5.42 (1.58)	0.000
Annual household income[b] (445, 438)	4.29 (1.40)	4.39 (1.35)	0.246

[a] 1=Some grade school or high school; 2=High school diploma or equivalent; 3=Some college or technical school; 4=Two-year college associate's degree; 5=Four-year college/technical school degree; 6=Some graduate school; 7=Completed graduate degree(s).

[b] 1=Less than $15,000; 2=$15,000 to $29,999; 3=$30,000 to $49,999; 4=$50,000 to $74,999; 5=$75,000 to $124,999; 6=$125,000 or more.

Table 2. General Attitudes/Personality Traits/Values Factors [a]

Factor	Survey Statement	Loading [b]
Pro-credit card	Credit cards encourage unnecessary spending.	-0.573
	I prefer to pay for things by cash rather than credit card.	-0.514
Pro-environ-mental	We should raise the price of gasoline to reduce congestion and air pollution.	0.605
	To improve air quality, I am willing to pay a little more to use a hybrid or other clean-fuel vehicle.	0.556
	Shopping travel creates only a negligible amount of pollution.	-0.447
	A lot of product packaging is wasteful.	0.388
	Whenever possible, I prefer to walk or bike rather than drive.	0.354
Pro-exercise	I follow a regular physical exercise routine.	0.562
	Whenever possible, I prefer to walk or bike rather than drive.	0.540
Impulse buying	I generally stick to my shopping lists.	-0.586
	When it comes to buying things, I'm pretty spontaneous.	0.565
	I like a routine.	-0.289
	If I got a lot of money unexpectedly, I would probably spend more of it than I saved.	0.273
Caution	"Better safe than sorry" describes my decision-making style.	0.634
	Taking risks fits my personality.	-0.509
	I like a routine.	0.319
	I am generally cautious about accepting new ideas.	0.316
	I prefer to see other people using new products before I consider getting them myself.	0.265
Materialism	For me, a lot of the fun of having something nice is showing it off.	0.604
	I would/do enjoy having a lot of expensive things.	0.495
	Buying things cheers me up.	0.363
	My lifestyle is relatively simple, in terms of material goods.	-0.302
Price conscious-ness	It's too much trouble to find or take advantage of sales and special offers.	-0.648
	It's important to me to get the lowest prices when I buy things.	0.604
Time conscious-ness	I'm often in a hurry to be somewhere else when I'm shopping.	0.580
	I'm too busy to shop as often or as long as I'd like.	0.425
Trendsetting	I often introduce new trends to my friends.	0.604
	I like to track the development of new technology.	0.392
Trustingness	People are generally trustworthy.	0.469
	I tend to be cautious with strangers.	-0.408
	I enjoy the social interactions shopping provides.	0.343

Store enjoyment	Even if I don't end up buying anything, I still enjoy going to stores and browsing.	0.769
	I like to stroll through shopping areas.	0.752
	Shopping helps me relax.	0.586
	Shopping is fun.	0.529
	For me, shopping is sometimes an excuse to get out of the house or workplace.	0.427
	Shopping is usually a chore for me.	-0.389
	Buying things cheers me up.	0.293
	Shopping is too physically tiring to be enjoyable.	-0.285
Shopping enjoyment	Shopping is too physically tiring to be enjoyable.	-0.440
	Shopping is usually a chore for me.	-0.408
	My lifestyle is relatively simple, in terms of material goods.	-0.309
	"Variety is the spice of life".	-0.267
Pro-technology	Computers are more frustrating than they are fun.	-0.735
	The internet makes my life more interesting.	0.582
	I like to track the development of new technology.	0.478
	Technology brings at least as many problems as it does solutions.	-0.444

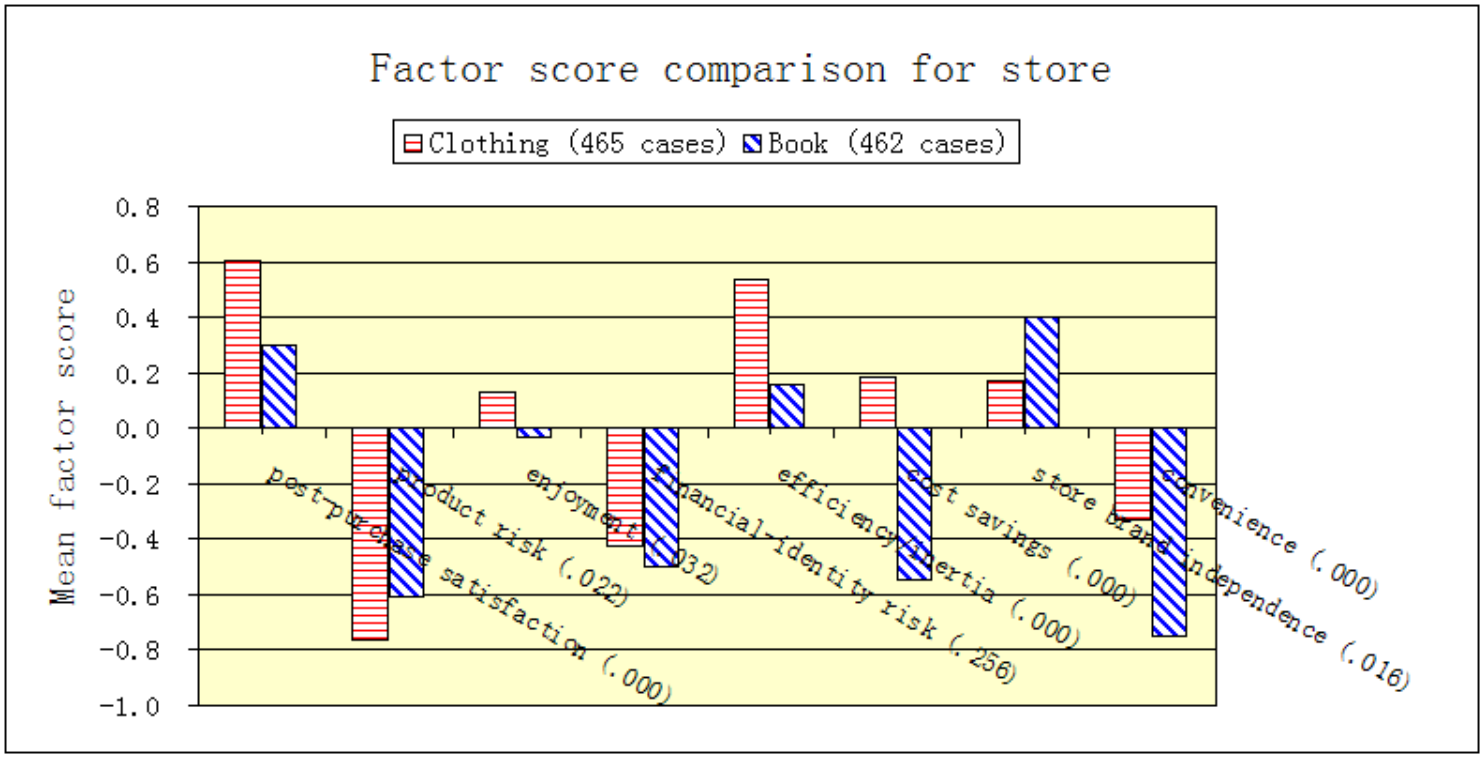
[a] Adapted from Mokhtarian et al. (2009). Based on oblique rotation of the common factor analysis solution (Rummel, 1970).

[b] Pattern matrix loadings, reflecting the contribution each factor makes to the variance of each observed variable (higher-magnitude loadings reflecting a greater association between variable and factor). Only loadings greater than 0.25 in magnitude displayed.

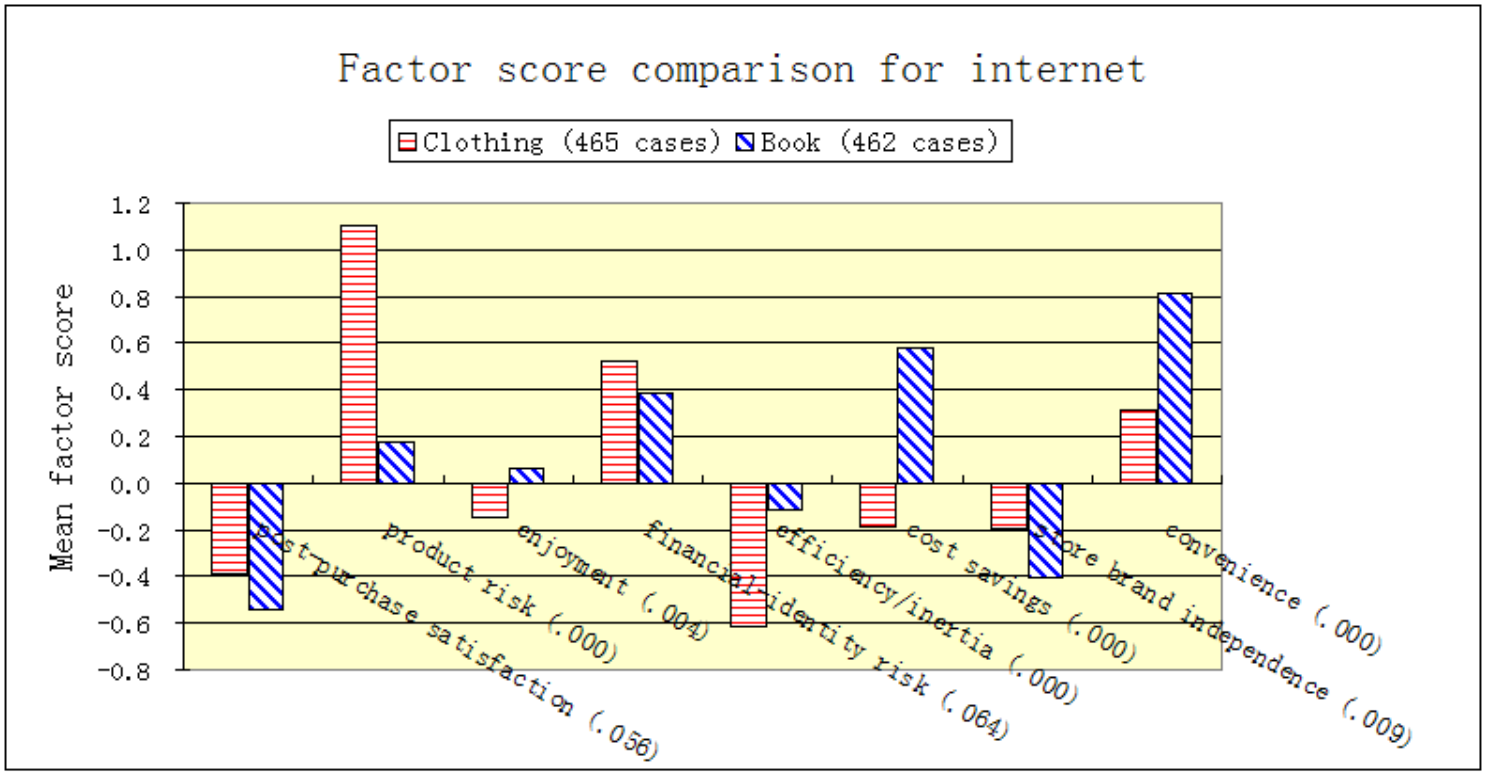
Table 3: Channel-specific Perceptual Factors

Factor	Survey statement (clothing – store version)	Loading
Convenience	When it comes to buying clothing/shoes, I can find anything I want in stores.	0.640
	A lot of times, products I want are unavailable in stores.	-0.636
	The product information I need is easy to find in stores.	0.615
	Stores are open whenever I want to shop.	0.518
	When shopping in stores, it is easy to check the availability of products.	0.475
	The stores I want/need to shop at are conveniently located.	0.447
	All things considered, buying in stores saves me time.	0.413
	I often find shopping in stores to be frustrating.	-0.345
Product risk	I'm concerned that a product I purchase in a store will not perform as expected (e.g. quality, etc.).	0.469
	When shopping in stores, I am able to experience products before buying, to the extent that I want to.	-0.374
	I am concerned that unfamiliar stores will fail to meet my expectations.	0.334
Enjoyment	Shopping in stores is boring.	-0.768
	I enjoy shopping in stores.	0.760
	I often find shopping in stores to be frustrating.	-0.407
	With respect to buying clothes/shoes, I am always on the lookout for a new store to check out.	0.323
Financial/ identity risk	It is risky to release credit card information to stores.	0.838
	I am uncomfortable about providing personal information to stores.	0.627
Efficiency /inertia	I value stores that allow me to fulfill many of my shopping needs in just one location.	0.449
	When it comes to clothing/shoes, I have a strong preference for shopping at one or a few particular stores.	0.414
	When shopping in stores, I am able to experience products before buying, to the extent that I want to.	0.322
Cost savings	All things considered, buying in stores saves me money.	0.760
	Considering taxes and other costs, clothes/shoes are usually more expensive when purchased in stores.	-0.753
Store brand independence	I prefer to shop at independent stores rather than national chains.	0.561
	With respect to buying clothes/shoes, I am always on the lookout for a new store to check out.	0.389
Post-purchase satisfaction	I often have to wait too long for a store to obtain the product I want to purchase.	-0.594
	Stores typically provide poor after-purchase customer service.	-0.559
	If necessary, it is easy to return a product purchased at a store.	0.486
	When shopping in stores, I am able to immediately obtain the products I purchase.	0.412
	It is difficult to compare products at stores.	-0.316

Notes: Based on oblimin rotation of the principal axis factoring (common factor analysis) solution. Pattern matrix loadings greater than 0.30 in magnitude are displayed.



Note: Numbers in parentheses are p-values for independent-samples t-tests of differences between clothing and book means.



Note: Numbers in parentheses are p-values for independent-samples t-tests of differences between clothing and book means.

Figure 1: The Comparison of Factor Score Means by Product Type, for Store and Internet Channels

Table 4: Regression Models of Channel-Specific Perceptions (without shopping experience variables)

Variable name	Product risk		Financial/identity risk		Cost savings	
	Coefficient	**P-value**	**Coefficient**	**P-value**	**Coefficient**	**P-value**
Constant	0.379	0.089	1.178	0.000	0.214	0.122
Shopping attitudinal factors						
Cautious	0.159	0.001				
Trend setting	-0.167	0.001				
Time conscious	0.142	0.004	0.114	0.004		
Store enjoyment			0.199	0.000		
Pro-technology			-0.262	0.000	0.284	0.000
Shopping enjoyment			-0.152	0.002		
Materialistic			-0.144	0.004		
Pro-credit card			-0.174	0.001		
Pro-environment					0.142	0.001
Product type dummy variable (1=book)	-0.538	0.006			0.684	0.000
Interaction term of education * Clothing	0.0671	0.042				
Gender dummy variable (1=female)	0.192	0.011			-0.341	0.000
Have credit card			-0.313	0.097		
Respondent's age					-0.00419	0.088
Household income	0.0520	0.057	-0.0963	0.000		
Sample size		876		876		898
R^2		0.208		0.133		0.185
Adjusted R^2		0.202		0.125		0.181

Table 5: Regression Models of Channel-Specific Perceptions (with shopping experience variables)

Variable Name	Product risk		Financial/Identity risk		Cost savings	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Constant	1.131	0.000	-0.0662	0.777	0.474	0.124
Shopping attitudinal factors						
Cautious	0.154	0.002				
Trend setting	-0.152	0.004				
Time conscious	0.157	0.003	0.0902	0.073		
Store enjoyment			0.158	0.000		
Pro-technology			-0.126	0.012		
Shopping enjoyment			-0.208	0.000		
Product type dummy variable (1=book)	-0.851	0.000			0.232	0.007
Gender dummy variable (1=female)	0.136	0.081			-0.339	0.000
Internet buying pattern[a]	-0.256	0.000	0.347	0.000	-0.211	0.003
Store buying frequency[b]					-0.153	0.016
Store buying share[c]	0.00543	0.002				
Internet buying frequency[b]					0.245	0.000
Internet buying share[c]					0.00846	0.000
Internet usage diversity index[d]			-0.0261	0.050		
Number of categories purchased in store			0.0341	0.027	-0.0391	0.015
Number of categories purchased on internet					0.0316	0.082
Household income			-0.106	0.000		
Sample size		788		792		715
R^2		0.220		0.184		0.356
Adjusted R^2		0.213		0.175		0.348

[a] 1=I buy over the internet OFTEN; 2=I buy over the internet OCCASIONALLY; 3=I SELDOM buy over the internet; 4=I USED TO buy over the internet, but I do not any more; 5=I have NEVER bought over the internet.
[b] 1=Never; 2=Several times per YEAR; 3=Once or twice a YEAR; 4=Once a MONTH or more.
[c] Respondents were asked the approximate percentage of items (of the given product type) they purchased "in stores", "over the internet", "through a catalog" and "through some other means"; responses sum to 100%.
[d] The number of purposes, out of 14, for which the respondent ever used the internet (purposes include "email", "instant messaging", "chat rooms" and so on).

Table 6: Recurring Mechanisms Affecting Channel Perceptions

	Expected effect[a]	Example: (table number) dependent variable ← explanatory variable
Reality check		
Familiarity with X improves perception of X, because novices' perceptions of X's disadvantages are exaggerated (or X's advantages are undervalued)	+	(4 & 5) product risk ← trendsetting (4 & 5) financial/identity risk ← income (4) cost savings ← (younger) age (5) financial/identity risk ← (more frequent) internet buying pattern (5) financial/identity risk ← internet usage diversity index (5) cost savings ← (more frequent) internet buying pattern (5) cost savings ← internet buying frequency (5) cost savings ← internet buying share (5) cost savings ← number of categories purchased on internet
Familiarity with X degrades perception of X, because the greater the exposure to X, the greater the number of adverse outcomes that are experienced	–	(4) product risk ← income (4 & 5) product risk ← female (impulse buyer) (5) product risk ← (more frequent) internet buying pattern
Dissonance reduction		
Experience with/preference for X improves perception of X, as a post-purchase rationalization	+	potentially, the same effects as in the first category of the reality check mechanism could be interpreted in this light
Experience with/preference for Y degrades perception of X, as a post-purchase rationalization	–	(4 & 5) financial/identity risk ← store enjoyment (4 & 5) cost savings ← women (store enjoyment) (5) product risk ← store buying share (5) financial/identity risk ← number of categories purchased in store (5) cost savings ← store buying frequency (5) cost savings ← number of categories purchased in store
A certain self-image improves perception of X, as a positive view of X is assumed to be needed for consistency with one's self-image	+	(4 & 5) product risk ← trendsetting (4 & 5) financial/identity risk ← pro-technology
A certain self-image degrades perception of X, as a negative view of X is assumed to be needed for consistency with one's self-image	–	no such effect identified in this study; included for completeness

[a] The signs in this column represent a more (+) or less (–) favorable perception of "channel X" (the internet, for the three perceptions modeled here), which in the equations for product risk and financial/identity risk, means negative (–) and positive (+) coefficients, respectively. One exception is the internet buying pattern variable in Table 5, which is negatively oriented, so a negative coefficient means a less favorable perception in the risk equations (but a more favorable perception in the cost savings equation). The age variable in the cost savings equation of Table 4 is also negatively oriented (under the expectation that older people are less familiar with online shopping), so its negative coefficient means that younger people have a more favorable view of the internet as a cost-saving channel.

APPENDIX:

AN EXAMPLE VERSION OF THE SURVEY: BOOK PRODUCT TYPE, WITH STORE AND INTERNET CHANNEL PERCEPTIONS

Note: As explained in Section 2, the survey was predominantly administered online, with six versions representing the possible purchase channel (store, internet, catalog) / product type (clothing, book) combinations. However, several versions of the survey were also put into paper form, and provided to respondents who requested a physical questionnaire. For economy of presentation, we provide one of the paper versions of the survey here. It focuses on the book product type, and obtains channel-specific perceptions for store and internet.

Welcome!

1. If you HAD to spend an hour or two shopping, where would you prefer to be? *(Check all that apply)* :

☐ Downtown shopping district ☐ Bookstore ☐ Electronics store

☐ Hardware/home improvement store ☐ Shopping mall ☐ Grocery store

☐ Other *(please specify)* : _____

Part A: Your General & Shopping-Related Opinions

1. In this section we ask about a variety of topics that relate to shopping directly or indirectly. Consider "shopping" to involve any type of product (e.g. clothes, groceries, etc.) by any means (internet, stores, catalogs), and consider the entire shopping process -- from gathering information, to going to the store or placing the order, to receiving the product. Please respond to each statement according to your opinions; there are no "right" or "wrong" answers.

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
a. Shopping is usually a chore for me.	☐	☐	☐	☐	☐
b. If I got a lot of money unexpectedly, I would probably spend more of it than I saved.	☐	☐	☐	☐	☐
c. A lot of product packaging is wasteful.	☐	☐	☐	☐	☐
d. I like to track the development of new technology.	☐	☐	☐	☐	☐
e. Credit cards encourage unnecessary spending.	☐	☐	☐	☐	☐
f. Shopping is fun.	☐	☐	☐	☐	☐
g. I often introduce new trends to my friends.	☐	☐	☐	☐	☐
h. Taking risks fits my personality.	☐	☐	☐	☐	☐
i. I follow a regular physical exercise routine.	☐	☐	☐	☐	☐
j. I'm too busy to shop as often or as long as I'd like.	☐	☐	☐	☐	☐
k. It's important to me to get the lowest prices when I buy things.	☐	☐	☐	☐	☐

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
l. I am generally doing productive or enjoyable things, such as making phone calls or listening to the radio, while traveling to my daily activities.	☐	☐	☐	☐	☐
m. To improve air quality, I am willing to pay a little more to use a hybrid or other clean-fuel vehicle.	☐	☐	☐	☐	☐
n. Computers are more frustrating than they are fun.	☐	☐	☐	☐	☐
o. For me, a lot of the fun of having something nice is showing it off.	☐	☐	☐	☐	☐
p. "Better safe than sorry" describes my decision-making style.	☐	☐	☐	☐	☐
q. Shopping is too physically tiring to be enjoyable.	☐	☐	☐	☐	☐
r. "Variety is the spice of life."	☐	☐	☐	☐	☐
s. I like to stroll through shopping areas.	☐	☐	☐	☐	☐
t. I tend to be cautious with strangers.	☐	☐	☐	☐	☐
u. For me, shopping is sometimes an excuse to get out of the house or workplace.	☐	☐	☐	☐	☐
v. Buying things cheers me up.	☐	☐	☐	☐	☐
w. I prefer to pay for things by cash rather than credit card.	☐	☐	☐	☐	☐
x. Technology brings at least as many problems as it does solutions.	☐	☐	☐	☐	☐
y. The only good thing about traveling is getting to the destination.	☐	☐	☐	☐	☐
z. I generally stick to my shopping lists.	☐	☐	☐	☐	☐

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
aa. I would/do enjoy having a lot of expensive things.	☐	☐	☐	☐	☐
ab. It's too much trouble to find or take advantage of sales and special offers.	☐	☐	☐	☐	☐
ac. I am generally cautious about accepting new ideas.	☐	☐	☐	☐	☐
ad. Whenever possible, I prefer to walk or bike rather than drive.	☐	☐	☐	☐	☐
ae. Shopping travel creates only a negligible amount of pollution.	☐	☐	☐	☐	☐
af. I enjoy the social interactions shopping provides.	☐	☐	☐	☐	☐
ag. I like a routine.	☐	☐	☐	☐	☐
ah. I prefer to see other people using new products before I consider getting them myself.	☐	☐	☐	☐	☐
ai. People are generally trustworthy.	☐	☐	☐	☐	☐
aj. I'm often in a hurry to be somewhere else when I'm shopping.	☐	☐	☐	☐	☐
ak. When it comes to buying things, I'm pretty spontaneous.	☐	☐	☐	☐	☐
al. The internet makes my life more interesting.	☐	☐	☐	☐	☐
am. My lifestyle is relatively simple, in terms of material goods.	☐	☐	☐	☐	☐
an. Even if I don't end up buying anything, I still enjoy going to stores and browsing.	☐	☐	☐	☐	☐
ao. We should raise the price of gasoline to reduce congestion and air pollution.	☐	☐	☐	☐	☐
ap. Shopping helps me relax.	☐	☐	☐	☐	☐

Part B: Your Purchasing Experiences

Here, we want a general idea of how and what you buy (either for yourself or others). **In the past year or so**, please let us know if you have **purchased** each of the items listed below by the following means: **in a store, over the internet,** or **through a catalog** (by calling or mailing in your order). What if you saw an item in a catalog but then ordered and paid for it online? Put this down as an internet purchase. We want to know how you *paid* for the item.

Check all that apply:

	a. Store		**b. Internet**		**c. Catalog** (mail/phone)	
	☐ I never buy in stores		☐ I never buy over the internet		☐ I never buy through a catalog	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*
1. Clothes/shoes	☐	☐	☐	☐	☐	☐
2. Books	☐	☐	☐	☐	☐	☐
3. Travel/lodging (travel agent)	☐	☐	☐	☐	☐ (mailed brochure)	☐
4. Electronics	☐	☐	☐	☐	☐	☐
5. Computers/peripherals	☐	☐	☐	☐	☐	☐
6. Sporting goods/ camping/outdoors	☐	☐	☐	☐	☐	☐
7. Groceries	☐	☐	☐	☐	☐	☐
8. DVDs/videotapes (including rentals)	☐	☐	☐	☐	☐	☐
9. Flowers	☐	☐	☐	☐	☐	☐
10. Furniture	☐	☐	☐	☐	☐	☐
11. Collector's items	☐	☐	☐	☐	☐	☐
12. Jewelry/watches	☐	☐	☐	☐	☐	☐
13. Pharmaceuticals/ medications	☐	☐	☐	☐	☐	☐
14. Stocks/bonds (live broker)	☐	☐	☐	☐		
15. Automobiles	☐	☐	☐	☐	☐	☐

16. **OPTIONAL:** We are especially interested in the kinds of things you purchase **over the internet**. Within the past year or so, if you have purchased other items over the internet that have not already been listed, and would like to add them here, please do.

_____

_____

_____

Part C: A Recent Purchase of a Book, CD, DVD, or Videotape

Please take a moment to think about your most recent **internet** purchase of a **book, CD, DVD, or videotape**; answer each question with this purchase in mind. If you can more clearly recall such a purchase **in a store**, consider your most recent **store** purchase of a **book, CD, DVD, or videotape** and answer each question with this purchase in mind.

☐ I cannot recall or have not made a recent internet or store purchase of those items *(go to Part F)*.

1. The purchased item was a …

   ☐ book ☐ CD ☐ downloaded album ☐ DVD ☐ videotape

2. About how long ago was this purchase made? ☐ _____ weeks ago ☐ _____ months ago

3. How was the purchase made? ☐ over the internet ☐ in a store

4. How many distinct items of any kind did you purchase on this occasion?

   ☐ Just this item ☐ 2 to 4 items ☐ 5 to 7 items ☐ 8 items or more

5. About how much did you spend …

   a. … in total ($)? ____ b. … on the most expensive book, CD, DVD, or videotape ($)? _____

Please answer the following questions with respect to the most expensive book/CD/DVD/videotape you purchased on this occasion.

6. How was the product delivered to you?

   ☐ Mail or package delivery ☐ Immediate physical possession (if purchased in a store)

   ☐ I (or someone) picked it up ☐ Electronic delivery

   ☐ Other *(please specify)* : _____

7. Did the product have to be returned?

   ☐ No ☐ Yes, and I (or someone) did so via mail or package delivery

   ☐ Yes, and I (or someone) did so in person

8. Was the purchase a gift? ☐ No ☐ Yes

9. Was the item discounted or on sale?

☐ No ☐ Bought from a private party (not a fixed price) ☐ I don't recall

☐ Yes ☐ Bought from an auction (not a fixed price)

Continuing to think about your recent purchase of a book/CD/DVD/videotape, we now want to know about the process that led up to your decision to make the purchase; from first learning about the product, to gathering information about the product, to testing/experiencing the product, and deciding how to make the purchase. Again, if you purchased multiple items on the same occasion, answer the following questions with the most expensive book/CD/DVD/videotape in mind.

10. On the occasion when you purchased the item, how actively were you looking for this item or one like it?

☐ I was actively looking for such an item on this occasion.

☐ I had previously thought about buying such an item if I found it, but I was not actively looking for it on this occasion.

☐ I had not previously thought about buying such an item -- I just came across it *(go to Question 13)* .

11. How did you FIRST become aware of the book/CD/DVD/videotape you eventually purchased? *(Check the single most appropriate answer)* .

☐ Through another person/people

☐ I saw the movie and wanted the DVD/videotape/book

☐ I read the book and wanted the DVD/videotape

☐ I keep aware of the movies/albums/books that feature a certain artist/author

☐ I saw/heard the item while shopping in a store

☐ I saw/heard the item while browsing the internet

☐ I saw/heard it on television or radio (or other electronic medium)

☐ I saw the item in a catalog

☐ I saw it in a magazine or newspaper (or other non-electronic medium)

☐ I don't remember

☐ Other *(please specify)* : _____

12. How much time elapsed between when you first became aware of the item and when you purchased it?

☐ Less than a few HOURS ☐ Less than a MONTH

☐ Less than a few DAYS ☐ A MONTH or more

13. Please indicate all the ways you directly tried or experienced the product before buying it (e.g. listening to the album) *(check all that apply)* .

☐ Bought without trying it out first ☐ Store

☐ Through other people ☐ Internet

☐ Other *(please specify)* : _____

14. Other than through trying the product directly (e.g. listening to the album), please indicate all the sources you used to gather information about the product *(check all that apply)* .

☐ No other sources used ☐ Store ☐ Catalog

☐ Other people ☐ Internet ☐ Other electronic media (e.g. radio, TV)

☐ Other non-electronic media (e.g. magazine, newspaper)

☐ Other *(please specify)* : _____

15. As far as you know, could you have purchased this item (or one that you'd consider equivalent) through a catalog?

☐ No *(skip Question 16)* ☐ Yes

16. Including sales tax and shipping costs (as applicable), purchasing this item (or equivalent) through a catalog would have been …

☐ … less expensive ☐ … about the same cost overall ☐ … more expensive

If you purchased the book/CD/DVD/videotape ***in a store*** *, please go to Question 21. If you purchased the book/CD/DVD/videotape* ***over the internet*** *, please continue to the next question.*

17. As far as you know, could you have purchased this item (or equivalent) in a store?

☐ No *(go to Question 19)* ☐ Yes

18. Including sales tax and shipping costs (as applicable), purchasing this item (or equivalent) in a store would have been …

☐ … less expensive ☐ … about the same cost overall ☐ … more expensive

19. Where were you when you purchased this item?

☐ Home ☐ Other building ☐ Outdoors

☐ Work ☐ Plane/train/vehicle

☐ Other *(please specify)* : _____

20. If the item you desired had not been available on the website where you made the purchase, what would you have done? *(Please check the single most appropriate answer).*

☐ Placed the order with that website anyway (and waited until they were able to fulfill the order)

☐ Checked back with that website at a later time

☐ Purchased a different item (e.g. a different book)

☐ Looked on a different website

☐ Tried to purchase the item in a store

☐ Tried to purchase the item through a catalog

☐ Not made the purchase

☐ Other *(please specify):* _____

Please go to Question 24

21. As far as you know, could you have purchased this item (or equivalent) over the internet?

☐ No *(go to Question 23)* ☐ Yes

22. Including sales tax and shipping costs (as applicable), purchasing this item (or equivalent) over the internet would have been …

☐ … less expensive ☐ … about the same cost overall ☐ … more expensive

23. If the item you desired was not available in the store where you made the purchase, what would you have done? *(Please check the single most appropriate answer).*

☐ Placed the order with that store anyway (and waited until they were able to fulfill the order)

☐ Checked back with that store at a later time

☐ Purchased a different item (e.g. a different book)

☐ Looked in a different store

☐ Tried to purchase the item over the internet

☐ Tried to purchase the item through a catalog

☐ Not made the purchase

☐ Other *(please specify):* _____

24. If you were going to make a similar purchase today, how would you do so?

☐ In a store ☐ Through a catalog

☐ Over the internet ☐ Other *(please specify):* _____

Part D: Advantages and Disadvantages of Different Ways of Shopping

Consider the purchase of a book/CD/DVD/videotape that you described in the previous section, and imagine that you will soon be making a similar purchase. We want to know your opinion of shopping ***in a store*** in that situation. Please respond to each statement: even if you do very little store shopping, you probably have an idea of what it would be like for you. In some cases the answer may seem obvious, but different people may have had different experiences.

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
a. I often have to wait too long for a store to obtain the product I want to purchase.	☐	☐	☐	☐	☐
b. It is difficult to compare products at stores.	☐	☐	☐	☐	☐
c. Stores typically provide poor after-purchase customer service.	☐	☐	☐	☐	☐
d. I value stores that allow me to fulfill many of my shopping needs in just one location.	☐	☐	☐	☐	☐
e. Shopping in stores is boring.	☐	☐	☐	☐	☐
f. The stores I want/need to shop at are conveniently located.	☐	☐	☐	☐	☐
g. The product information I need is easy to find in stores.	☐	☐	☐	☐	☐
h. Considering taxes and other costs, books/CDs/ DVDs/videotapes are usually more expensive when purchased in stores.	☐	☐	☐	☐	☐
i. When it comes to buying books/CDs/DVDs/ videotapes, I can find anything I want in stores.	☐	☐	☐	☐	☐
j. I'm concerned that a product I purchase in a store will not perform as expected (e.g. quality, etc.).	☐	☐	☐	☐	☐
k. I enjoy shopping in stores.	☐	☐	☐	☐	☐
l. When shopping in stores, it is easy to check the availability of products.	☐	☐	☐	☐	☐
m. I prefer to shop at independent stores rather than national chains.	☐	☐	☐	☐	☐

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
n. With respect to buying books/CDs/DVDs/ videotapes, I am always on the lookout for a new store to check out.	☐	☐	☐	☐	☐
o. If necessary, it is easy to return a product purchased at a store.	☐	☐	☐	☐	☐
p. It is risky to release credit card information to stores.	☐	☐	☐	☐	☐
q. All things considered, buying in stores saves me time.	☐	☐	☐	☐	☐
r. I value the anonymity (e.g. paying with cash) that shopping in stores provides.	☐	☐	☐	☐	☐
s. Getting dressed and going out is an enjoyable aspect of store shopping for me.	☐	☐	☐	☐	☐
t. When shopping in stores, I am able to immediately obtain the products I purchase.	☐	☐	☐	☐	☐
u. I am uncomfortable about providing personal information to stores.	☐	☐	☐	☐	☐
v. When shopping in stores, I am able to experience products before buying, to the extent that I want to.	☐	☐	☐	☐	☐
w. A lot of times, products I want are unavailable in stores.	☐	☐	☐	☐	☐
x. I am concerned that unfamiliar stores will fail to meet my expectations.	☐	☐	☐	☐	☐
y. Stores are open whenever I want to shop.	☐	☐	☐	☐	☐
z. All things considered, buying in stores saves me money.	☐	☐	☐	☐	☐
aa. When it comes to books/CDs/DVDs/ videotapes, I have a strong preference for shopping at one or a few particular stores.	☐	☐	☐	☐	☐
ab. I often find shopping in stores to be frustrating.	☐	☐	☐	☐	☐

Again, consider a future purchase of a book/CD/DVD/videotape, similar to the one you previously described. We now want to know your opinion of shopping ***over the internet*** in that situation. Please respond to each statement; even if you seldom shop over the internet, you probably still have an opinion about it.

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
a. I often have to wait too long to receive a product purchased over the internet.	☐	☐	☐	☐	☐
b. It is difficult to compare products over the internet.	☐	☐	☐	☐	☐
c. Internet sites typically provide poor after-purchase customer service.	☐	☐	☐	☐	☐
d. I value internet retailers that allow me to fulfill many of my shopping needs at just one site.	☐	☐	☐	☐	☐
e. Shopping over the internet is boring.	☐	☐	☐	☐	☐
f. Internet shopping is available to me anywhere I would like it to be.	☐	☐	☐	☐	☐
g. The product information I need is easy to find over the internet.	☐	☐	☐	☐	☐
h. Considering shipping costs, books/CDs/ DVDs/videotapes are usually more expensive when purchased over the internet.	☐	☐	☐	☐	☐
i. When it comes to buying books/CDs/DVDs/ videotapes, I can find anything I want on the internet.	☐	☐	☐	☐	☐
j. I'm concerned that a product I purchase over the internet will not perform as expected (e.g. quality, etc.).	☐	☐	☐	☐	☐
k. I enjoy shopping over the internet.	☐	☐	☐	☐	☐
l. The internet makes it easy to check the availability of products.	☐	☐	☐	☐	☐
m. I prefer to shop at independent internet sites rather than those of national chain stores.	☐	☐	☐	☐	☐
n. With respect to buying books/CDs/DVDs/ videotapes, I am always on the lookout for a new internet site to check out.	☐	☐	☐	☐	☐

	Strongly disagree	*Disagree*	*Neutral*	*Agree*	*Strongly agree*
o. If necessary, it is easy to return a product purchased over the internet.	☐	☐	☐	☐	☐
p. It is risky to release credit card information over the internet.	☐	☐	☐	☐	☐
q. All things considered, buying over the internet saves me time.	☐	☐	☐	☐	☐
r. I value the anonymity that shopping on the internet provides.	☐	☐	☐	☐	☐
s. I enjoy being able to shop from home without having to get dressed and go out.	☐	☐	☐	☐	☐
t. When shopping over the internet, I am confident of getting a desired item within an acceptable amount of time.	☐	☐	☐	☐	☐
u. I am uncomfortable about providing personal information over the internet.	☐	☐	☐	☐	☐
v. Internet shopping generally enables me to experience products before buying, to the extent that I want to.	☐	☐	☐	☐	☐
w. A lot of times, products I want are unavailable over the internet.	☐	☐	☐	☐	☐
x. I am concerned that unfamiliar internet stores will fail to meet my expectations.	☐	☐	☐	☐	☐
y. Internet shopping is available any time I want it.	☐	☐	☐	☐	☐
z. All things considered, buying over the internet saves me money.	☐	☐	☐	☐	☐
aa. When it comes to books/CDs/DVDs/ videotapes, I have a strong preference for shopping at one or a few particular internet sites.	☐	☐	☐	☐	☐
ab. I often find shopping over the internet to be frustrating.	☐	☐	☐	☐	☐

Part E: Frequency of Shopping for Books, CDs, DVDs, and Videotapes

The rest of the survey is very straightforward and should go quickly! In this section we ask a few questions about how often you purchase **books, CDs, DVDs, and videotapes** by each of the three main alternatives: store, internet, and catalog, as well as by other means.

1. About how often do you purchase books, CDs, DVDs, or videotapes **in stores**?

   ☐ Never ☐ Several times per YEAR

   ☐ Once or twice a YEAR ☐ Once a MONTH or more

2. About how often do you purchase books, CDs, DVDs, or videotapes **through a catalog** (by placing your order by phone or mail)?

   ☐ Never ☐ Several times per YEAR

   ☐ Once or twice a YEAR ☐ Once a MONTH or more

3. About how often do you purchase books, CDs, DVDs, or videotapes **through other means** (e.g. at a garage sale)?

   ☐ Never ☐ Several times per YEAR

   ☐ Once or twice a YEAR ☐ Once a MONTH or more

4. About how often do you purchase books, CDs, DVDs, or videotapes **over the internet**?

   ☐ Never (*go to Question 8)* ☐ Several times per YEAR

   ☐ Once or twice a YEAR ☐ Once a MONTH or more

5. If I were not able to shop over the internet, I would probably purchase _____ books/CDs/DVDs/ videotapes overall.

   ☐ fewer ☐ the same number of ☐ more

6. If I were not able to shop over the internet, I would purchase books/CDs/DVDs/videotapes **in stores**...

   ☐ … less often than I do now.

   ☐ … about as often as I do now.

   ☐ … more often than I do now.

7. If I were not able to shop over the internet, I would purchase books/CDs/DVDs/videotapes **through catalogs**...

   ☐ … less often than I do now.

   ☐ … about as often as I do now.

   ☐ … more often than I do now.

8. Thinking about all your purchases of books/CDs/DVDs/videotapes over the past couple of years, roughly how are they distributed across shopping types? Please give us your best guess; we only want your general impression.

   Percentage of items purchased…

… **in stores** (%)	… **over the internet** (%)	… **through a catalog** (%)	… **through some other means** (%)	*Total*
				= 100%

Part F: Your Use of the Internet and Communication Technologies

1. Please indicate if you use each of the following items *(check all that apply)*.

   ☐ Cell phone ☐ Personal digital assistant (PDA) or pocket PC ☐ None

   ☐ Laptop computer ☐ Portable MP3/music player (e.g. iPod)

2. How long have you been using the internet?

   ☐ I never use the internet *(go to Part G)* ☐ _____ years (how many?)

   ☐ Less than 1 year

3. Where, and with what type of connection, do you typically access the internet? *(Check all location-speed combinations that apply)* :

	Connection speed			
Location	Dial-up	Wired broadband (e.g. Ethernet, DSL)	Wireless broadband ("Wi-Fi")	Low-speed wireless (e.g. cell phone)
Home				
Workplace or school				
While traveling in a vehicle (e.g. in a car, plane, etc.)				
Elsewhere (e.g. hotel, coffee shop, client's office, outdoors)				

4. For which of the following purposes have you EVER used the internet? *(Check all that apply):*

- ☐ Email
- ☐ Instant messaging
- ☐ Audio conversations (VoIP)
- ☐ Video conversations
- ☐ Chat rooms
- ☐ Viewing blogs/bulletin boards
- ☐ Blogging (writing own blog)
- ☐ Making own website
- ☐ Internet radio or television
- ☐ Banking/paying bills
- ☐ Selling goods (e.g. on eBay)
- ☐ Personal networking (e.g. MySpace, eHarmony)
- ☐ Job search
- ☐ Collaborative professional work

5. On average, about how much time do you spend on the internet? *(Check the single most appropriate answer)* :

- ☐ Several hours a DAY
- ☐ One or a few hours a DAY
- ☐ One or a few hours a WEEK
- ☐ One or a few hours a MONTH
- ☐ Less than an hour a MONTH

6. How would you describe your internet buying patterns? *(Check the single most appropriate answer)* :

- ☐ I buy over the internet OFTEN (*go to Part G*).
- ☐ I buy over the internet OCCASIONALLY (*go to Part G*).
- ☐ I SELDOM buy over the internet (*go to Part G*).
- ☐ I USED TO buy over the internet, but I do not any more (*go to Question 7).*
- ☐ I have NEVER bought over the internet (*go to Question 8*).

7. Why do you no longer buy over the internet? *(Check all that apply)* :

- ☐ I no longer have convenient access to a computer or the internet.
- ☐ Connection speed was not fast enough.
- ☐ Websites were confusing or frustrating.
- ☐ The products I purchased did not meet my expectations.
- ☐ The vendors I purchased from did not meet my expectations.
- ☐ Shipping costs were too high.
- ☐ I had to wait too long for the product to arrive.
- ☐ I am more concerned about computer viruses and/or identity theft than I was before.
- ☐ I missed shopping in stores.
- ☐ I just don't shop often any more.
- ☐ I like to touch, feel, or see things before buying them.
- ☐ Receiving packages at my home is difficult.
- ☐ I don't know.
- ☐ Other *(please specify)* : _____

Please go to Part G

8. Why have you never bought over the internet? *(Check all that apply)* :

- ☐ I do not have convenient access to a computer or the internet.
- ☐ The available connection speed is not fast enough.
- ☐ I looked at websites before and found them confusing or frustrating.
- ☐ I am concerned that the products I purchase would not meet my expectations.
- ☐ I am concerned that the vendors I purchase from would not meet my expectations.
- ☐ Shipping costs are too high.
- ☐ I would have to wait too long for the product to arrive.
- ☐ I am concerned about computer viruses and/or identity theft.
- ☐ I enjoy the activity of shopping in stores.
- ☐ I just don't shop often.
- ☐ I like to touch, feel, or see things before buying them.
- ☐ Receiving packages at my home is difficult.
- ☐ I never really thought about it.
- ☐ Other *(please specify)* : _____

Part G: Some Information about Yourself

Your responses in this section enable us to project results from this small sample to the population as a whole. By **household members** we mean people who live together, and share at least some activities and some financial resources. Ordinary roommates would not usually be considered household members.

1. What is your gender? ☐ Female ☐ Male
2. Do you have a driver's license? ☐ No ☐ Yes
3. Do you have a credit card? ☐ No ☐ Yes
4. Do you have a debit card? ☐ No ☐ Yes
5. How many personal vehicles (cars, vans, SUVs, pickup trucks) does your household have? _____
6. Please tell us the ages (in years) of yourself and the members of your household.

You	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7	Person 8	Person 9

7. How many full-time and part-time workers are there in your household (INCLUDINGyourself)?

   _____ Full-time workers _____ Part-time workers

8. Who is the primary grocery shopper in your household?

   ☐ Mostly me ☐ About equally shared ☐ Mostly someone else

9. Do you have any physical conditions or anxieties that prevent or limit you from …

	No limitation	*Limits how often or how long*	*Absolutely prevents*
a. … driving	☐	☐	☐
b. … taking public transportation	☐	☐	☐
c. … walking	☐	☐	☐

10. Please indicate your educational background *(check highest level obtained)* .

    ☐ High school or less ☐ Four-year college/technical school degree

    ☐ Some college or technical school ☐ Some graduate school

    ☐ Two-year college associate's degree ☐ Completed graduate degree(s)

11. Are you a student in a degree program?

    ☐ No ☐ Yes, I go to school full-time … ☐ … and I also work

    ☐ Yes, I go to school part-time … ☐ … and I do not work (*go to Question 17*)

12. Which category best describes your occupation (even if you are unemployed or retired now)?

- ☐ Sales
- ☐ Service/repair
- ☐ Manager/administrator
- ☐ Production/construction/crafts
- ☐ Professional/technical
- ☐ Clerical/administrative support
- ☐ Homemaker
- ☐ Other *(please specify)* : _____

13. What is your current employment status?

- ☐ Full-time
- ☐ Homemaker (*go to Question 20*)
- ☐ Part-time
- ☐ Not currently working (*go to Question 20*)
- ☐ Retired (*go to Question 20*)

14. How far do you live from your primary workplace (one way)?

- ☐ _____ miles
- ☐ Mostly work at home *(go to Question 16)*
- ☐ Mostly work at multiple locations (e.g. construction, service, etc.) *(go to Question 16)*
- ☐ Not applicable (*please explain:* _____ _____) *(go to Question 16)*

15. How long does it usually take you to get to your primary workplace (one way)? _____ minutes

16. Please indicate ALL the following work arrangements that currently apply to you:

- ☐ Flextime (full-time, with a variable start time or a fixed start time outside 8:00 to 9:00 am)
- ☐ Compressed work week (9 to 10 hours per day, with a day off every one or two weeks)
- ☐ Telecommuting (at least one day per month working at home or a telecenter INSTEAD OF commuting; do NOT count home-based self-employment, overtime work at home, or working "on the road")
- ☐ Self-employed
- ☐ Hold more than one paying job
- ☐ None of the above

17. Where is your WORKPLACE (or SCHOOL, if non-working student) located?

    Zip code: _____ Major cross-streets: _____

18. How many stores selling **clothing/shoes** are within a 10-minute walk from your WORKPLACE (or SCHOOL, if non-working student)?

    ☐ None ☐ 1 to 3 ☐ More than 3

19. How many stores selling **books/CDs/DVDs/videotapes** are within a 10-minute walk from your WORKPLACE (or SCHOOL, if non-working student)?

    ☐ None ☐ 1 to 3 ☐ More than 3

20. Where is your HOME located?

    Zip code: _____ Major cross-streets: _____

21. How many stores selling **clothing/shoes** are within a 10-minute walk from your HOME?

    ☐ None ☐ 1 to 3 ☐ More than 3

22. How many stores selling **books/CDs/DVDs/videotapes** are within a 10-minute walk from your HOME?

    ☐ None ☐ 1 to 3 ☐ More than 3

23. Please check the category that contains your approximate annual HOUSEHOLD income before taxes.

    ☐ Less than $15,000 ☐ $30,000 to $49,999 ☐ $75,000 to $124,999

    ☐ $15,000 to $29,999 ☐ $50,000 to $74,999 ☐ $125,000 or more

OPTIONAL!

Is it OK for us to contact you if we have questions about your survey? ☐ No ☐ Yes

Would you like to enter the drawing for one of the five $100 cash prizes? ☐ No ☐ Yes

If you answered "yes" to either of the above questions, please provide the following contact information. This information will ONLY be used for the purposes you specified.

Name: _____

Daytime phone number: _____

e-mail address : _____

We would value any additional comments you may have. Please write them on the attached page.

Thank you for your time!

Thank you!

Additional Comments:

[-- --] Version 1