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**WHY DO PEOPLE SHOP ONLINE? A COMPREHENSIVE FRAMEWORK OF
CONSUMERS ONLINE SHOPPING INTENTIONS AND BEHAVIORS**

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ABSTRACT

Purpose: *Consumer adoption of online shopping continues to increase each year. At the same time, online retailers face intense competition and few are profitable. This suggests that businesses and researchers still have much to learn regarding key antecedents of online shopping adoption and success. Based on extensive past research that has focused on the importance of various online shopping antecedents, this work seeks to provide an integrative, comprehensive nomological network.*

Approach: *We employ a mixed methods approach to develop a comprehensive model of consumers online shopping behavior. To that end, in addition to a literature review, qualitative data are collected to identify a broad array of possible antecedents. Then, using a longitudinal survey, the model of consumer shopping intentions and behaviors is validated among 9,992 consumers.*

Findings: *We identified antecedents to online shopping related to culture, demographics, economics, technology and personal psychology. Our quantitative analysis showed that the main drivers of online shopping were congruence, impulse buying behavior, value consciousness, risk, local shopping, shopping enjoyment, and browsing enjoyment.*

Originality: *The validated model provides a rich explanation of the phenomenon of online shopping that integrates and extends prior work by incorporating new antecedents.*

Keywords: Online shopping, Chisnall model, consumer behavior, longitudinal, mixed methods

INTRODUCTION

The concept of online shopping has existed since 1967 (Doody and Davidson, 1967), although the commercialization of the Internet has made it much more of a reality and even commonplace. In 2020, boosted by the global COVID-19 pandemic, e-commerce sales worldwide is expected to exceed \$4 trillion dollars, a whopping 18% increase over the previous year (Cramer-Flood, 2020). The success of online shopping is expected to continue, as another 3 billion consumers in emerging markets will be connected to the Internet by 2022 (Et Bureau, 2018). To the billions of current and future consumers in developed and emerging markets, online shopping offers new gains in convenience (Duarte *et al.*, 2018).

As the online channel is competing with other traditional channels, such as retail stores, catalog and home television (Wareham *et al.*, 2005), it is important to understand why consumers choose to shop online. In the past two decades, plenty of research has examined this question. That vast body of literature has identified a large set of antecedents to online shopping. Our key goal thus is to integrate these identified antecedents into a single nomological network. It is also plausible some factors have not yet been considered. That is because there is a mature body of literature on the broader topic of consumer behavior (e.g., Chisnall, 1995, Howard and Sheth, 1969, Wagner *et al.*, 2020). Taken together, a comprehensive model that integrates known antecedents with new factors for why consumers shop online should be developed.

Against this backdrop, we use an established consumer behavior model to integrate prior research and a mixed methods approach (Venkatesh *et al.*, 2016a, Venkatesh *et al.*, 2013) to develop a comprehensive explanation of why consumers shop online. We specifically follow a sequential mixed methods approach in which we first conduct a qualitative inquiry (focus groups and open-ended surveys) to conceptually delineate key predictors of online shopping. It has been

argued that such an approach is appropriate for research inquiries that are not supported by a strong, unified theoretical foundation (Zhang and Venkatesh, 2017). Given that the online shopping literature has not developed a solid, unified theoretical foundation, we turned to the Chisnall (1995) model of consumer behavior (hereafter *Chisnall model*) as a high-level framework. This framework guided our qualitative inquiry to conceptually delineate plausible predictors of online shopping behavior. Using the insights from the qualitative inquiry, we develop a comprehensive model of consumer online shopping behavior that we test in a field study among 9,992 consumers.

Our work, rooted in previous consumer behavior research, reconciles more recent work on online shopping with the established consumer behavior literature, thus contributing to a cumulative tradition. Our work also provides a comprehensive explanation of the key drivers of online consumer behavior. This is important because prior research has focused on understanding the effects of a few constructs on online consumer behavior at a time (i.e., each study only examined a few constructs), thus the relative importance of drivers of online shopping has remained unknown. Our model addresses these issues and provides a holistic model of the key determinants of online shopping.

BACKGROUND

Online Shopping

Online shopping has been a key interest to business researchers. Since the proliferation of the Internet, scholars in the field of IS and marketing have examined consumers online shopping behaviors (e.g., Wareham *et al.*, 2005, Wagner *et al.*, 2020, Hu *et al.*, 2017). The key topic of interest has been consumers' online purchasing decisions, often in relation to website characteristics (e.g., Luo *et al.*, 2012, Wells *et al.*, 2011b), information search (e.g., Phang *et al.*,

2010), product recommendations (e.g., Shi and Zhang, 2014, HäUbl and Trifts, 2000, Wang and Benbasat, 2016, Wang and Benbasat, 2007, Wang and Benbasat, 2005), product reviews (e.g., Forman *et al.*, 2008, Mudambi and Schuff, 2010, Li *et al.*, 2017), and advertising and word-of-mouth on social media (e.g., Zhang *et al.*, 2017, Rosario *et al.*, 2016).

A number of studies have also addressed the fundamental question of why users choose to shop online. Consumers can choose from a wide array of shopping channels (Wareham *et al.*, 2005, Maity and Dass, 2014)—but why do they choose online shopping over purchasing products in retail stores, from catalogs, and other channels? To answer this question, we reviewed prior literature (see Appendix A for details) and identified two streams of research. The first stream of research focuses on consumers online shopping behavior at *specific* online shops. For example, an early study in this domain was Gefen *et al.* (2003) who explained *why* consumers purchase online using the lens of the technology acceptance model (Davis *et al.*, 1989). Their study suggests that consumers' trust and websites' ease of use and usefulness were key determinants that drive consumers' intention to use an ecommerce website for their shopping. The idea that trust is a key determinant of online shopping behaviors has since been examined and been extensively tested, especially in the IS literature (see Hsu *et al.*, 2014, Kim *et al.*, 2010, Mccole *et al.*, 2010, Chen *et al.*, 2015, Al-Debei *et al.*, 2015).

The second stream of research focuses more on why consumers choose to shop online *in general*. Research in this stream suggests that consumers shop online because of habit, convenience, efficiency, and cost savings (Khalifa and Liu, 2007). These reasons have been reconfirmed various times (e.g., Ahuja *et al.*, 2003, Bijou *et al.*, 2007, Bijou and Lester, 2004, Al-Debei *et al.*, 2015), wherefore there seems to be agreement on consumers' motivations to shop online. However, the literature is more ambiguous on the role of consumer demographics.

First, various studies found conflicting evidence on the role of gender and age. For example, some studies found men to be more prone to shop online (e.g., Van Den Poel and Buckinx, 2005), whereas other studies find women to be more keen on shopping online (e.g., Hasan, 2010, Dai *et al.*, 2019). Similarly, some studies showed differences in online shopping behaviors between gender and age groups (e.g., Lian and Yen, 2014, Lian and Lin, 2008), whereas others found no differences (e.g., Van Den Poel and Buckinx, 2005, Hernandez *et al.*, 2011).

Second, beyond age and gender, a variety of other demographic factors exist that have only been considered in a piecemeal fashion. For example, some studies have considered factors such as household income (Hernandez *et al.*, 2011), household size, access/connection speed (Mallapragada *et al.*, 2016, Bucko *et al.*, 2018), geospatial distance to offline stores (Forman *et al.*, 2009), consumers online shopping experience (Chang *et al.*, 2005, Van Den Poel and Buckinx, 2005), and personality traits (Bosnjak *et al.*, 2007, Bellman *et al.*, 1999).

Given conflicting evidence on the effects of age and gender as well as the piecemeal fashion in which other factors were included in various studies, a comprehensive understanding of the effects of consumers' demographic characteristics on online shopping behavior is warranted. Further, the true effects of each of these variables on online shopping behavior is further unknown, as many of these studied intentions rather than behavior. In fact, out of the 29 studies we reviewed, less than a third measured purchases (see Appendix A). Consequently, the effects of many of the antecedents on online shopping *behaviors* have not yet been tested.

Moreover, in absence of a comprehensive model of online shopping, it is plausible that other factors exist that have not yet been considered. There are a number of comprehensive models (e.g., models proposed by Howard and Sheth, 1969, Engel *et al.*, 1968, Chisnall, 1995, Nicosia, 1966) in the consumer behavior literature that provide insight into key constructs

influencing consumers *offline* purchase decisions (Chisnall, 1995, Howard and Sheth, 1969, Wynn, 1982). Importantly, these models point our attention to an array of factors that have not been considered in the literature on online shopping behaviors such as lifestyle factors, learning processes, and even general attitudes towards shopping (further details in the next section).

This suggests an opportunity for the development and validation of a comprehensive model of online shopping behavior by building on existing models of consumer behavior. Such a model would help in integrating the current diverse set of antecedents that have been studied in a piecemeal fashion. A test of this model in a real-world context with behavioral outcomes would further allow us to generate insights into the relative importance and relationships of these antecedents to online shopping behaviors. Such a model could guide future research and practice.

Research Framework

To build a comprehensive model of online shopping behavior, we reviewed the existing literature on consumer behavior. We identified various factors from the consumer behavior literature such as individual preferences (e.g., Sirgy, 1982, Baumeister, 2002), learning processes (e.g., Bijou *et al.*, 2007, Ahuja *et al.*, 2003) and lifestyle factors (e.g., Clemons *et al.*, 2016). Importantly, these and other factors are consistent with the Chisnall model that is a high-level framework summarizing potential determinants of shopping behavior. The Chisnall model is useful for integrating previous research as it can be used to identify key concepts at a high level of abstraction. Although other models of consumer behavior exist that focus on economic, cognitive, and social factors as antecedents to behaviors, such as the theory of buyer behavior (Howard and Sheth, 1969) and or the consumer decision model (Engel *et al.*, 1968), these models are more focused and, given that they pre-date the Chisnall model, they are less comprehensive than the variance-based Chisnall model that was developed much later. Thus, we

build on the Chisnall model as a framework for the development of a contextualized model (Hong *et al.*, 2013) of consumers' online shopping behavior.

The Chisnall model highlights three core categories of factors that influence the manner in which a consumer processes information, these being cultural, sociological, and economic factors (see Figure 1). These factors can influence each other and together influence the manner in which consumers respond psychologically to buying opportunities. The manner in which a consumer develops psychological commitment to buying will influence the buying proposition associated with a product or service.

The Chisnall model allows us to investigate broad drivers of online shopping behavior across a breadth of products. However, consumers are likely to exhibit different shopping behaviors and intentions depending on the product under consideration for purchase (Mallapragada *et al.*, 2016). To include product attributes in our general model, we used consumers product-attribute expectations—i.e., price consciousness, value consciousness, attitude toward the brand/product, and quality—to tap into consumers' perceptions of product characteristics that might influence online shopping intentions. These characteristics have been used to categorize products in previous consumer behavior research (Cabral, 2000, Lafferty and Goldsmith, 1999) and online shopping research (Mallapragada *et al.*, 2016, Lee *et al.*, 2017, Forman *et al.*, 2009).

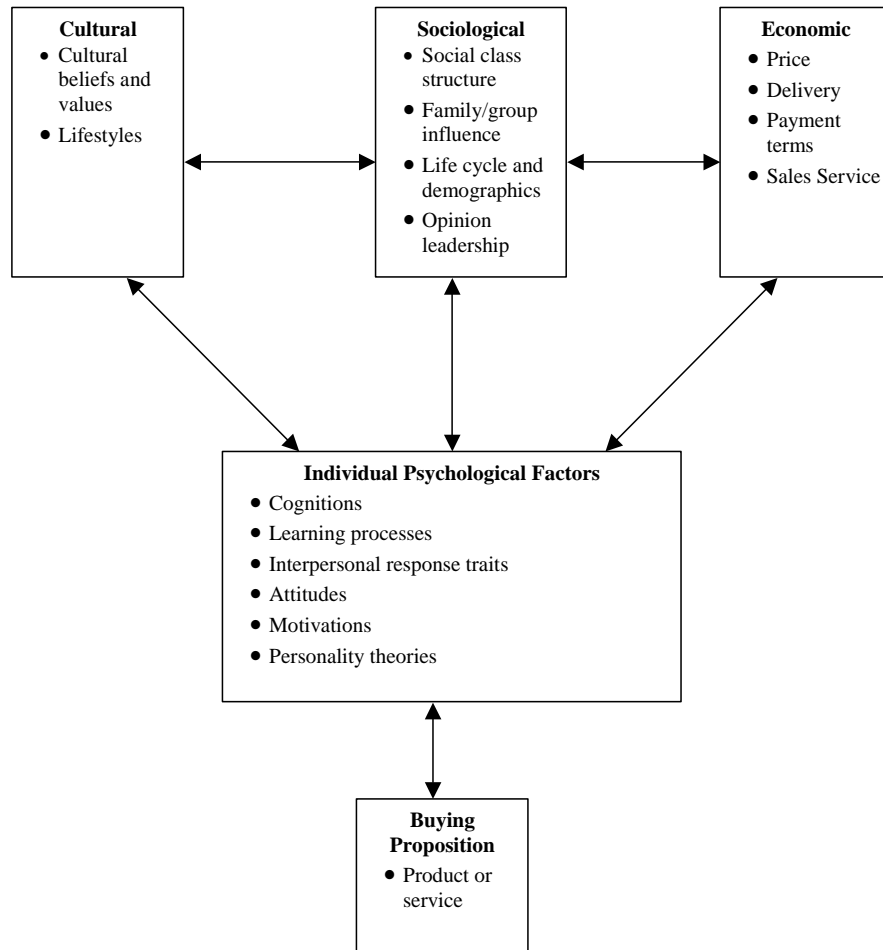


Figure 1: Chisnall Model of Consumer Behavior

THEORY DEVELOPMENT

Our primary dependent variables of interest are intention to shop online and online shopping behavior. Intention and behavior have been studied extensively in psychology (e.g., Ajzen, 1991, Ajzen, 1985, Ajzen, 2002), consumer behavior (e.g., Dai *et al.*, 2019), technology acceptance research (e.g., Venkatesh *et al.*, 2016b), and online shopping (e.g., Pascual-Miguel *et al.*, 2015). However, one common criticism of such research examining intention is the possibility of bias in the methods used to measure intention because the predictors and dependent variables are measured at the same time. In order to minimize this potential bias, the current work also examines the effect of the predictors on online shopping behavior.

We make some modifications to the Chisnall model to contextualize it to online shopping. First, we enhance the model by including technology-related factors as a fourth category. Unlike research on online shopping of specific websites, these technology-related factors do not relate to website characteristics. Rather, in line with our endeavor to build a model of online shopping behaviors, the technology-related factors included in this work pertain to factors that determine consumers access to online shops. We believe enhancing the Chisnall model with these technology-related factors is critical to understanding the degree to which the technology-mediated process inherent in online shopping influences purchasing decisions.

Second, we identify context-specific factors for each of the categories suggested by the Chisnall model. This was necessary because the Chisnall model is described at a fairly high level of abstraction. For example, psychological factors include cognitions and motivations. There are a variety of cognitions and motivations that could be investigated to fully understand purchase behavior. To identify specific constructs for each of the Chisnall model factors, we first reviewed prior research on online shopping (see Appendix A). As many of the concepts are not well distinguished or may even be overlapping, we conducted a qualitative inquiry to distinguish these factors as well as identify additional factors. In total, we conducted six focus groups with 8 to 12 individuals (ISP customers) and open-ended surveys with 200 ISP customers, 100 ISP employees, and 80 undergraduate and graduate students at a large university. A sampling frame of about 1,200 customers and 400 employees were provided to us by the ISP from which we recruited participants. The sampling frames were representative of the customer and employee bases of the ISP in terms of key demographic characteristics—gender, age and race. The average age in our sample of the customers was 31.81 (SD: 8.12), which was about the same as the sampling frame (31.90), and the average of the employees was 33.12 (SD: 9.44), which was only

slightly lower than the 35.10 reported in the sampling frame. The sample of students was a convenience sample to ensure no factors were missed among a younger sample (average age: 24.81), who are generally more likely to shop online. The focus groups and open-ended surveys served the purpose of defining the key online shopping antecedents that influence online shopping intentions and behavior. The focus groups asked participants to share in a free-flowing brainstorming session the factors that influence their decisions to shop online. After the factors listed were collected, multiple rounds of rating and ranking allowed the most important factors to emerge. The surveys that followed asked a similar open-ended question of factors that were to be listed in order of importance, and a second set of questions to rate and rank the factors that emerged in the focus groups. After careful analysis of the literature and the data collection described above, the research model, shown in Figure 2, was developed. Below, we define the various model components and describe the theoretical arguments justifying hypothesized relationships. In justifying each of the specific relationships, the arguments are first presented regarding the role of the construct in shopping in general followed by a discussion of the role of each construct in an online shopping context.

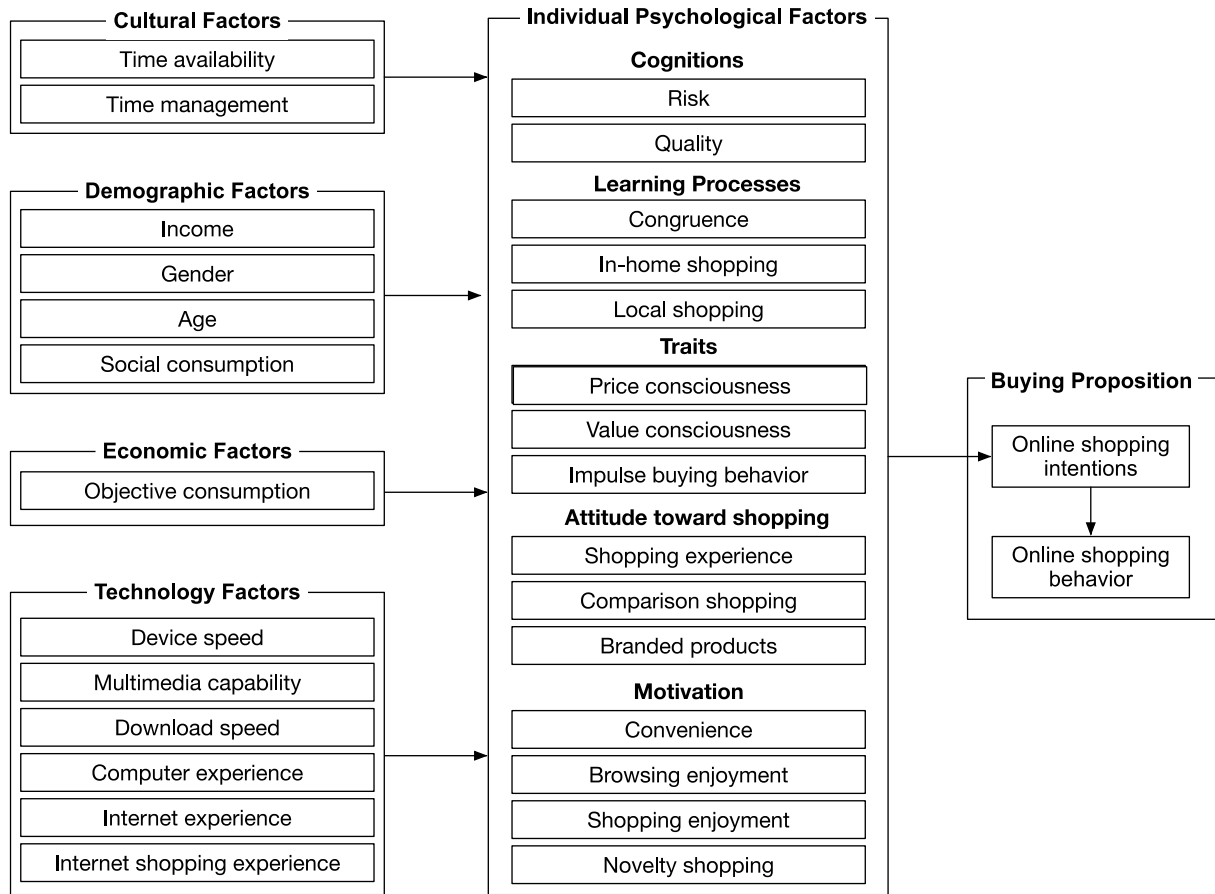


Figure 2: Research Model

Cultural Factors

A consumer's cultural heritage and lifestyle choices (e.g., characteristic ways of living including the importance of entertainment, work) influence what information is attended to and how it is processed, one's motivation influencing behaviors, and attitudes (e.g., Lumpkin, 1985, Clemons *et al.*, 2016). Our examination of the literature suggested that, although family and/or ethnic culture might influence psychological shopping factors, it was not clear which aspects of culture were particularly important when looking at general buying behavior. Thus, we focused on important lifestyle attributes influencing psychological factors, namely one's time availability and ability to manage time (i.e., a person's tendency to schedule activities and organize time) (Hawes and Lumpkin, 1984, Claessens *et al.*, 2007). Internet users who have more time available

and are better able to manage their time are more likely to enjoy shopping and engage in exploratory shopping behavior (Unger and Kernan, 1983, Kim and Eastin, 2011). Internet users who have active lives and little discretionary time (e.g., low time availability) are likely to select a shopping channel that is convenient (e.g., effective time management skills) as the anytime-anywhere capability of the Internet may induce those who are time-starved to consider online shopping (Khalifa and Liu, 2007, Bellman *et al.*, 1999, Berry, 1979). Thus:

H1a: Internet users' low time availability will have a positive effect on online shopping psychological factors.

H1b: Internet users' strong time management skills will have a positive effect on online shopping psychological factors.

Demographic Factors

A variety of demographic factors can influence the psychological factors associated with shopping and we focus on a consumer's social class structure, life cycle, and the influence of family/group. Disposable income differentiates consumers across different economic/social classes and thus is an important influence on buying behavior. Internet users with higher disposable income are more likely to engage in impulse buying and are more likely to shop from home (Iyer *et al.*, 2020). Also, Internet users with higher disposable income are more likely to indulge in online shopping more frequently and spend more money per purchase (Donthu and Garcia, 1999, Hernandez *et al.*, 2011). Thus:

H2a: Internet users' higher disposable income will have a positive effect on online shopping psychological factors.

The influence of life cycle and demographic characteristics (e.g., gender, age) has a rich history in marketing (e.g., Zeithaml, 1985) and psychology (e.g., Minton and Schneider, 1980).

Women are comprehensive information processors, whereas men are selective (Darley and Smith, 1995, Lin *et al.*, 2019). The Internet's capability of facilitating product comparison and information gathering without leaving one's home would lead to more efficient information processing and thus further intention among women shoppers. Women are also more impulsive shoppers (O'guinn and Faber, 1989) that may lead to more Internet-based shopping due to the ease of purchase or less Internet shopping given the delay in gratification (Steinfeld and Whitten, 2000). Finally, there is recent evidence that there are age and gender differences in consumers buying (Dai *et al.*, 2019, Hasan, 2010) and adoption behavior (Venkatesh *et al.*, 2003, Venkatesh and Morris, 2000). Thus:

H2b: Women (Internet users) will be psychologically more inclined toward online shopping.

Age has been identified as a significant determinant of online shopping preferences and perceptions (Lian and Yen, 2014, Lian and Lin, 2008). Older shoppers tend to be more price conscious (Moschis, 1981, Unger and Kernan, 1983). Hence, older men may be more likely to purchase goods and services using the Internet than their younger counterparts (Korgaonkar and Wolin, 1999). This might be because the Internet eases the access to goods and services that are otherwise inconvenient to purchase (Bucko *et al.*, 2018), especially as older, full-time employed consumers may feel more stressed than younger consumers (Yaldiz *et al.*, 2018). Thus:

H2c: Older Internet users will be psychologically more inclined toward online shopping.

Family, peer, or "other" group influence can play a significant role in affecting purchase behaviors (Hu *et al.*, 2019) and we examine social consumption—the importance a consumer places on what others think about a product before purchasing it (Fitzmaurice and Comegys, 2006). Consumers whose product purchase decisions are positively influenced by others are likely to be impulsive shoppers as they see what others are purchasing or are influenced by

comments or reviews from others such as that of a salesperson or materials read on a website (Fisher and Price, 1992, Hu *et al.*, 2017). Consumers high in social consumption may see significant value in experiential shopping (i.e., enjoyable, hedonic value found in shopping). It is through the experience of watching others and seeing what is purchased that these consumers gather information about what products are “better” to buy or what stores are “better” to shop (Jacoby *et al.*, 1998). Thus:

H2d: Preference for social consumption will have a positive effect on online shopping psychological factors.

Economic Factors

Consumers purchase goods when the value provided by the product/service meets or exceeds the economic investment for the good. Objective consumption identifies the importance a consumer places on functional and economic issues before buying products (Carlson and Grossbart, 1988, Moschis, 1981). The primary drivers of shopping behavior are selection and availability of information when consumers emphasize objective consumption (Wolfenbarger and Gilly, 2001). Consequently, consumers who value objective consumption would be likely to engage in exploratory and comparison shopping that results in a wider selection and knowledge about available goods and services. Thus:

H3: Preference for objective consumption will have a positive effect on online shopping psychological factors.

Technology Factors

Buying products and services online introduces a unique set of technology-related issues that can potentially create a barrier between the consumer and his/her decision to make a purchase. For example, sufficient webpage download delays (Palmer, 2002) can significantly

inhibit shopping behavior. A recent study has shown that this is still true (Mallapragada *et al.*, 2016), even after Internet access is now virtually ubiquitous in the US. Still, buyers connect to the Internet in a variety of ways (e.g., through high speed networks, mobile phones, smart devices) and different technologies offer a range of capabilities that can influence buyer perceptions of the shopping experience and ultimately, facilitate or impede purchasing behavior (Singh and Swait, 2017). For example, prospective buyers would likely perceive a site as inconvenient or lacking in ease of use and enjoyment if it took too long to download graphics and thus they would likely seek an alternative site or even an alternative channel (Gefen *et al.*, 2003, Rosen and Howard, 2000). The consumers' equipment (e.g., device, Internet speed) also affects online shopping as displays are dependent upon the consumers' devices and download speeds, etc. Thus, the technology capabilities—specifically, computer speed, multimedia capabilities, and download speed—available to a consumer will have an effect on online shopping motivations and intentions.

Beyond the technical capabilities per se, we believe that relevant prior behaviors (prior computer experience, prior Internet experience, and prior Internet shopping experience) will play a role in influencing online shopping. Prior longitudinal examinations of behavior have demonstrated that the primary predictor of future behavior is past behavior (e.g., Verplanken and Orbell, 2003) and this relationship exists for a variety of activities including technology use (Venkatesh *et al.*, 2012, Limayem *et al.*, 2007) and online shopping (Khalifa and Liu, 2007). It has also been demonstrated empirically that more online shopping experience leads to higher online shopping intentions (Bellman *et al.*, 1999, Khalifa and Liu, 2007). Thus:

H4: The following technology capabilities will have a positive effect on online shopping psychological factors: (a) faster device speed, (b) greater multimedia capability, (c) faster

download speed, (d) greater computer experience, (e) greater Internet experience, and (f) greater Internet shopping experience

Individual Psychological Factors

The Chisnall model specifies a variety of psychological factors that influence purchasing behavior, namely: cognitions, learning processes, interpersonal traits, attitudes toward shopping, and shopping motivations. The models described earlier propose relationships amongst these different psychological factors to develop a flowchart type of approach to understanding psychological influences on a consumer's purchase behavior. Our intent is to understand relationships between the broad cultural/lifestyle, sociological, economic, and technology-related factors and psychological factors at a higher level of abstraction to better understand influences on online shopping behaviors. Thus, we do not develop hypotheses at the specific construct level, but rather do so at a higher level of abstraction.

Cognitions

Cognitions are mental processes involving knowing, perceiving, and making judgments regarding a context. Perceived risk and perceptions about product quality are two cognitions that are likely to influence online shopping behavior (Dinev *et al.*, 2006). Consumer behavior research has focused heavily on the role of perceived risk associated with: information search behavior (e.g., Grant *et al.*, 2007), actual purchase decisions (e.g., Cheung and To, 2020), and channel selection (e.g., Singh and Swait, 2017). Aspects of risk that are important are financial loss, performance loss (i.e., product does not work properly) and time loss (i.e., time is wasted getting product fixed or adjusted) (e.g., Ariffin *et al.*, 2018).

Online shopping has risks similar to other distant shopping channels such as catalog shopping (Bhatnagar *et al.*, 2000, Han and Li, 2020). Privacy and security concerns are prevalent

among many online shoppers (Chang *et al.*, 2016, Nepomuceno *et al.*, 2014) and can contribute to perceived risks such as financial loss if a shopper fears her/his credit card information can be stolen electronically. Similarly, online shoppers cannot try on merchandise or feel textures resulting in higher performance risk (Nepomuceno *et al.*, 2014, Mudambi and Schuff, 2010). Finally, concerns regarding the ease and time investment associated with returning merchandise not purchased in a conveniently located retail store would also likely diminish purchase intention (Festervand *et al.*, 1986) and results in less online shopping (Kukar-Kinney, 2010). Thus:

H5a: Perceptions of risk will have a negative effect on online shopping intentions.

Like risk, consumer attitudes regarding the importance of product quality are likely to influence shopping intention (Mallapragada *et al.*, 2016, Lowry *et al.*, 2013). Consumers desire to purchase goods and services at a personally defined level of product quality. However, information about the quality of a given product/service may be uncertain or ambiguous before and even after purchase (Tellis and Gaeth, 1990). Consumers who have high quality expectations are likely to want to touch, feel, and try-out a product before purchase (Workman and Cho, 2013), limiting the attractiveness of the Internet channel. Thus:

H5b: Quality expectations will have a negative effect on online shopping intentions.

Learning Processes

Learning processes reflect the degree to which earlier experiences have shaped consumer habits or preferences (Chisnall, 1995). Three different learning processes are examined here: congruence, in-home shopping, and local shopping.

The inability to touch, smell, or taste a product can be a difficult challenge to overcome in consumer marketing (Matilla and Wirtz, 2001) and online shopping (Workman and Cho, 2013, Bijou *et al.*, 2007, Ahuja *et al.*, 2003). Although not relevant for some products, it is

critical for others. As product and service choices proliferate via the Internet, a critical factor influencing Internet purchasing behavior is related to the congruence between the Internet as a channel and specific product purchases for a given buyer (Suryandari and Paswan, 2014, Morrison and Roberts, 1998). In the context of online shopping, we expect the congruence between the buyer, the technology (i.e., Internet), and the specific product or service to be critical in determining whether online shopping would be the preferred channel of purchase for the consumer. To illustrate the concept further—a particular buyer may perceive that the Internet does not provide the desired level of tangibility necessary to buy a dress—i.e., the buyer cannot see to what extent a dress would fit. In contrast, there may be buyers who do not require to try on a dress before buying it. Recent technologies (i.e., augmented reality technologies), however, try to reduce the effect of intangibility by allowing consumers to virtually experience the product before the purchase (Song *et al.*, 2020). Hence, the construct of congruence varies as a result of the three-way interplay among the buyer, the technology, and the product. Cumulatively, an individual's online shopping intentions will be influenced by their aggregate perceptions of congruence as it relates to products on the Internet. Thus:

H6a: Perceptions of congruence will have a positive effect on online shopping intentions.

Prior research indicates that buyers tend to fall into two categories: in-home shoppers—those who have a strong interest in shopping at home; and local shoppers—those who have a desire to shop loyally in the local community (Blake *et al.*, 2010, Hawes and Lumpkin, 1984). Often, local shoppers prefer retail shopping because of the availability to engage in social interactions (Forman and Sriram, 1991, Noble *et al.*, 2006). Such shoppers typically prefer shopping in stores where they can interact with sales agents (Noble *et al.*, 2006). Sometimes, amid raising concerns about the large environmental footprint that is caused by global supply

chains, shoppers also develop a preference for local shopping as a means to preserve the environment (Blake *et al.*, 2010). In contrast, in-home shoppers are primarily motivated by convenience (Festervand *et al.*, 1986, Noble *et al.*, 2006). Further, as many e-commerce sites have been constructed to aggregate and present a rich set of product information across a variety of competing products/services (e.g., travelocity.com, bankrate.com), online shopping is attractive to consumers who prefer to have minimal interaction with store personnel or customer service agents (Noble *et al.*, 2006)—i.e., desire to be anonymous. Thus:

H6b: Preference for in-home shopping will have a positive effect on online shopping intentions.

H6c: Preference for local shopping will have a negative effect on online shopping intentions.

Traits

Personal traits are general characteristics that are not directed at any specific event but refer broadly to the way a consumer views the world. Through our interviews, we collected evidence that the following three factors are potentially important traits are examined in this study: value consciousness, price consciousness, and impulsivity. Product cost is an important attribute that influences consumer shopping behavior and decisions to buy products or services (Mallapragada *et al.*, 2016). Price consciousness is a consumer's willingness to expend time and energy to shop around to find the lowest product price (Lichtenstein *et al.*, 1993), whereas value consciousness is the concern a consumer has for paying low prices contingent on product quality expectations (Zheng *et al.*, 2017, Lichtenstein *et al.*, 1990). While price consciousness emphasizes a consumer's desire to purchase a product at the lowest price, value conscious consumers recognize that the lowest price does not always result in products that meet expectations and thus, consider their perceptions of product quality into driving their shopping behavior. Consumers who are price and value conscious would likely take advantage of

comparison and exploratory shopping behaviors inherent in online shopping to more fully examine product features and pricing alternatives as Internet users can obtain rich, comparative information about products, retail establishments, etc. easily and without needing to leave their homes (Duarte *et al.*, 2018). Thus:

H7a: Price consciousness perceptions will have a positive effect on online shopping intentions.

H7b: Value consciousness perceptions will have a positive effect on influence online shopping intentions.

Prior research has pointed to the pervasive role of impulse buying behavior—i.e., a sudden and immediate purchase with no online shopping intention to buy the product or fulfill a purchasing task (Iyer *et al.*, 2020). Those with a greater preponderance to impulse buy engage in such behavior when there is positive social visibility (or limited negative social visibility) regarding the purchase—for example, positive visibility increases impulsive shopping when one sees others buying a product and limited negative visibility influences impulsive buying when friends/family are not present to discourage an impulsive purchase (Styvén *et al.*, 2017).

Browsing for products results in increased impulse buying because of the increased physical proximity induced during in-store shopping (Vonkeman *et al.*, 2017, Beatty and Ferrell, 1998). A similar psychological experience may occur during Internet shopping for those who have higher impulse buying tendencies (Zhang *et al.*, 2018). As a consumer creates her/his own shopping experience by clicking through a series of hyperlinks on a web site, s/he may create a psychological connection with a product or e-retailer that will increase the likelihood of impulsive purchases. In addition, the positive atmosphere created by the entertainment designed into many web sites is likely to enhance enjoyment, also leading those with a strong tendency to impulse buy to increase their purchase likelihood (Beatty and Ferrell, 1998). Because the Internet

and mobile phones can facilitate impulse buying tendencies (Wells *et al.*, 2011a), it is likely that online shopping intention increases with impulse buying tendencies (see Donthu and Garcia, 1999). Thus:

H7c: Impulse buying tendencies will have a positive effect on online shopping intentions.

Attitudes toward Shopping

Just as experience can facilitate learning and ultimately habit, experience can shape attitudes regarding shopping behavior. Attitudes refer to a mental state of readiness that influence a consumer's response to shopping situations (Chisnall, 1995). Prior literature on consumer behavior suggested three attitudes about shopping: importance of shopping experience, attitude toward comparison shopping, and attitude toward branded products (Foxall and Goldsmith, 1994). The experiential aspect of shopping plays an important role in facilitating where and when consumers shop and if and what they purchase (Workman and Cho, 2013, Wolfinbarger and Gilly, 2001, Bettman *et al.*, 1998, Chen *et al.*, 2019). Consumers who value experiential shopping seek hedonic benefits including fun, self-exploration, and enjoyment (Srinivasan, 1987, Rohm and Swaminathan, 2004). Further, experiential shoppers perceive these benefits to be a valuable use of time (Miller, 1996). Internet-based shopping environments can provide content that is experiential through the use of jokes, cartoons, video clips, and nowadays also augmented reality, resulting in consumer excitement (Huizingh, 2000, Watson *et al.*, 1998, Puoushneh, 2018). The enjoyment and excitement associated with the interactivity and multimedia might encourage consumers looking for shopping experiences to shop via the Internet (Jarvenpaa and Todd, 1996). Thus:

H8a: Perceptions of the importance of the shopping experience will have a positive effect on online shopping intentions.

Comparison shopping is a consumer's desire to shop around prior to making a purchase, particularly one that might be expensive (Mamorstein *et al.*, 1992, Grewal and Mamorstein, 1994), typically to minimize the risk associated with a shopping event (Schmidt and Spreng, 1996). A major advantage of online shopping is that it enables consumers to engage in comparison shopping (particularly related to price, feature, and availability) with an ease that cannot be replicated easily in the physical world (Bijou *et al.*, 2007, Bucko *et al.*, 2018). Online shopping provides more information easily and quickly facilitating comparison shopping. By using search agents and filters, consumers can use the Internet to more effectively screen alternatives and access information about alternatives, thus facilitating search fulfillment (Alba *et al.*, 1997, Hoffman and Novak, 1996, Lee *et al.*, 2017) and minimizing buyer's remorse for not conducting a more comprehensive search (Gilovich and Medvec, 1995). Thus:

H8b: Desire to comparison shop will have a positive effect on online shopping intentions.

Attitude toward branded products is the importance a specific consumer places on buying brand name products (Yu *et al.*, 2018, Moschis, 1981). Many consumers have strong brand loyalty for specific products where they are willing to pay higher prices and/or visit multiple stores/sites to obtain such products (Reichheld, 1996, Zheng *et al.*, 2017). Consumers with strong brand preferences are unlikely (or significantly less likely than consumers without brand preferences) to engage in shopping behaviors that focus on comparison shopping. Consequently, consumers with strong brand preferences are less likely to perceive value in the Internet's comparison-shopping capability and broader reach of products and retailer. Thus:

H8c: Attitude toward branded products will have a negative effect on online shopping intentions.

Online Shopping Motivation

Motivation refers to an activity that is directed toward the attainment of some goal or objective (Vallerand, 1997). Thus, we examine four motivations (convenience, shopping enjoyment, browsing enjoyment, and novelty) that might be particularly salient in influencing online shopping behavior. Although convenience is most often thought of as a motivating response to time scarcity, different retail channels offer varying levels of convenience based on the space and effort associated with shopping at a given channel (Beuchamp and Ponder, 2010, Gehrt *et al.*, 1996). Space addresses the ability to overcome geographical distances, whereas effort focuses on a range of activities including the ease with which orders can be placed.

Prior research has touted the important role online shopping can play in providing greater consumer convenience (Geissler and Zinkhan, 1998, Khalifa and Liu, 2007). It would appear that online shopping can facilitate multiple aspects of convenience more fully than alternative shopping channels. A consumer does not have to leave home to look for and/or buy products enhancing both time and space convenience. Online stores are open and easily accessible 24 hours a day, 7 days a week, facilitating order placement and specialized services such as gift-wrapping services and delivery. Convenience has been identified as an important difference between consumers choosing the Internet as a channel and those using traditional channels (Donthu and Garcia, 1999, Jarvenpaa and Todd, 1996, Khalifa and Liu, 2007). Further, empirical evidence suggests that convenience was a significant determinant influencing past online shopping behavior (Ahuja *et al.*, 2003, Li *et al.*, 1999). Thus:

H9a: Convenience motives will have a positive influence on online shopping intentions.

For many consumers, shopping is an enjoyable experience. In some cases, the enjoyment of the experience is greater than the utilitarian gains a consumer receives from an actual purchase

(Babin *et al.*, 1994, Bellenger and Korgaonkar, 1980, Langrehr, 1991). Shopping on the Internet can create a great deal of personal enjoyment (Horváth and Adıgüzel, 2018, Jarvenpaa and Todd, 1996, Rohm and Swaminathan, 2004). For example, the use of multimedia for viewing video/audio clips, animation, and virtual reality to “see what one would look like in a specific outfit” can be enjoyable to consumers (Papagiannidis *et al.*, 2017). The plethora of information and convenience of accessing this information also leads to browsing enjoyment. Prior research has indicated that the greater the shopping enjoyment, the more time spent browsing (Westbrook and Black, 1985) and the more time spent browsing, the more likely a consumer is to engage in product/service purchases (Park *et al.*, 2012). Finally, there is empirical evidence that shopping enjoyment positively influences intention to return to a web site (Koufaris, 2002) and purchase intentions (Wu *et al.*, 2018).

H9b: Browsing enjoyment motives will positively influence online shopping intentions.

H9c: Shopping enjoyment motives will positively influence online shopping intentions.

Novelty refers to the degree to which a person views an activity as novel or curious (Unger and Kernan, 1983). Consumers who are driven by a novelty motive seek out new and different experiences (Joseph and Shailesh, 1984). Those individuals who appreciate novelty are likely to perceive the search for products on the Internet as unique which can lead to a satisfying consumer experience (Hanson and Putler, 1996). Thus:

H9d: Higher novelty shopping motives will positively influence online shopping intentions.

Online Shopping Behavior

Online shopping behavior consists of both the intention to purchase products/services on the Internet as well as the actual purchases made. It is widely accepted that intention plays an important role in predicting behavior (e.g., Ajzen and Madden, 1986, Ajzen, 2002, Venkatesh *et*

al., 2008). In fact, meta-analyses found an average correlation of about .50 between intention and behavior (Sheppard *et al.*, 1988, Albarracin *et al.*, 2001). Given the historic role of intention in virtually all theoretical models explaining behavior, we include intention and examine the degree to which online shopping factors influence intention. At the same time, behavior provides a richer understanding of how specific antecedents influence outcomes and we also examine support for the proposed model with behavior as the dependent variable. This basic idea of eliminating intention and predicting behavior directly has been recommended (Ajzen, 1991) and is consistent with Straub *et al.* (1995) and Morris and Venkatesh (2000). Further, such an examination is particularly useful as it allows us to validate the nomological network in the context of e-purchase behavior and not just intention. Thus:

H10: Online shopping intentions will positively influence online shopping behavior.

METHOD

Sampling Frame and Sample

Internet users were identified to constitute the population. The sampling frame comprised users of a major Internet Service Provider (ISP) during a one-week time frame. With the help of the ISP, a 24/7 window during an entire week allowed us to reach all types of consumers. The survey was administered as part of the ISP's plans to further electronic commerce. Individuals filled out the survey to respond to questions targeted at understanding their perceptions, intentions, and use of the Internet as a channel. A total of 11,442 individuals participated in the survey and 9,992 provided completed and usable responses. The average age was 31.28 (SD: 8.44) years and 4,097 (41%) participants were women. The non-completion of the survey is attributed to issues outside the researchers' control.

Measure Development and Pilot Study

Measures of constructs were developed in multiple stages as suggested in several guidelines on measure development (Devellis, 1991, Fowler, 1993). In the first stage, multi-item scales were either adapted from prior research or written anew for each construct. Existing scales were used where possible to measure the constructs under investigation. In some cases, a subset of items from the original scale were included to enhance response rate and to work within the 100-item length constraint placed by the ISP. Given that some constructs used only a subset of the existing items, all scales were re-validated in this study.

In the second stage, academic experts in the domains of information systems, marketing and measure development provided feedback to help refine the measures. In the third stage, four executives and three middle managers from the ISP provided feedback on clarity, relevance, and length of the instrument. This feedback was used to refine specific items and prune the instrument down to the acceptable length of 100 items.

In the fourth stage, the refined instrument was pre-tested among sixty ISP customers prior to formal data collection. Each participant in the pre-test was asked to fill out the instrument and subsequently, provide comments on the instrument. The pre-test participants were compensated with a \$25 gift certificate and one-month free ISP service.

In the fifth stage, an extensive pilot study was conducted via an invitation to participate delivered by the ISP to its customers. The objective of this stage was to understand response rate and solicit comments on the survey. The pilot administration of the survey was for one day (24 hours) and 1,607 complete responses were received. Principal components analysis with varimax rotation revealed that the scales were reliable and valid. The most frequent negative comment (6 of 91 comments) was the length of the survey instrument. Because this was still a small percentage of the number of respondents, the length of the instrument was not reduced.

Appendix B lists the different scales employed and the original source for the scale. Items were presented in a randomized order so that items corresponding to each construct were not adjacent. Cultural factors were measured using existing scales: time availability (Lumpkin, 1985) and time management (Lumpkin, 1985, Hawes and Lumpkin, 1984). Demographic factors were measured with self-report data for gender, age, and income. In addition, although not incorporated in this model, other demographic characteristics (e.g., marital status) were measured consistent with the Bureau of the Census. Social consumption was measured with a 4-item scale (Moschis, 1981, Carlson and Grossbart, 1988). Likewise, the economic factor of objective consumption was measured using a similar scale (Moschis, 1981, Carlson and Grossbart, 1988). Technology factors were measured based on self-reports of device speed, multimedia capabilities, and download speed. User experience with technology in particular was measured via: prior computer experience, prior Internet experience, and prior Internet shopping experience.

Cognitions included measures for both risk (Bettman, 1973, Kaplan *et al.*, 1974, Chen *et al.*, 2015) and quality (Gaski and Etzel, 1986, Lee *et al.*, 2017), and learning processes involved the following measures: congruence (the four-item congruence scale was developed and tested using the procedure described earlier), in-home shopping, and local shopping (Hawes and Lumpkin, 1984, Levin *et al.*, 2005, Hozier and Stem, 1985). The three personal traits were measured using previously validated scales: price consciousness (Lichtenstein *et al.*, 1993, Kukar-Kinney *et al.*, 2007), value consciousness (Lichtenstein *et al.*, 1993, Lichtenstein *et al.*, 1990, Pillai and Kumar, 2012), and impulsive buying behavior (O'guinn and Faber, 1989, Baumeister, 2002). The attitudes toward shopping was measured using scales for the following three constructs: shopping experience (Dawson *et al.*, 1990, Westbrook and Black, 1985),

comparison shopping (Lumpkin, 1985, Hawes and Lumpkin, 1984), and branded products (Moschis, 1981). Finally, the motivation factor was measured using scales for the following four constructs: convenience (Lumpkin, 1985, Maher *et al.*, 1997, Li *et al.*, 1999), shopping enjoyment (O’guinn and Faber, 1989), browsing enjoyment (Raju, 1982), and novelty shopping (Unger and Kernan, 1983).

Buying proposition was operationalized and measured using validated scales for online shopping intentions, which we measured using a 3-item scale (Pascual-Miguel *et al.*, 2015, Venkatesh *et al.*, 2008). Follow-up online shopping behavior, which was gathered about six months after the initial survey, was measured via items similar to those used to measure prior Internet shopping experience (frequency and amount of money spent on purchases) (Pascual-Miguel *et al.*, 2015, Bijou *et al.*, 2007).

Data Collection

The data were gathered in a 24/7 window over a one-week time frame. The survey was promoted by the ISP with several attractive incentives: t-shirt with ISP logo (200), six months free ISP service (25), roundtrip airline tickets within the 48 contiguous U.S. states (10), and a grand prize of a 7-day package to Hawaii. The ISP system ensured only one entry per user account.

To examine the representativeness of the sample and minimize non-response bias, we compared the profiles of individuals filling out the survey with the profiles of subscribers to the ISP. Responses were also separated according to the time/day they were received. Analysis for differences included comparing responses by (a) time of return (in six-hour windows), (b) day of return, and (c) weekday vs. weekend returns. No significant mean differences were detected in

any of the comparisons. Thus, the demographic profile of the respondents was consistent with the sampling frame.

Behavior was measured via a follow-up survey conducted six months after the initial survey, the respondents were contacted via email to participate in a short follow-up survey that asked them about their actual online purchase behavior in the six months after the survey. Up to four follow-up e-mail messages were sent and two phone calls were made in an attempt to reach the participants. Six-thousand two-hundred and forty-six individuals responded to the follow-up survey.

RESULTS

Preliminary Analysis

The data collected were analyzed to assess reliability and validity, as indicated in Table 1. The Cronbach's α estimates of all scales were over .70, indicating high reliability (Gefen *et al.*, 2000). The item-to-total correlations also supported unidimensionality of each of the constructs (Straub *et al.*, 2004). EQS was used to further assess convergent and discriminant validity. Pairs of constructs were examined in a series of two-factor confirmatory factor models (Bagozzi *et al.*, 1991). Each model was run twice, once by constraining the correlations between constructs to unity and once by freeing the parameter. A chi-square difference test score was computed. In all model comparisons, the chi-square values were significantly lower for the unconstrained model, thus indicating that the constructs exhibited discriminant validity. To examine convergent validity, using the covariance matrix as input, we subjected the measures to confirmatory factor analysis. The normed fit index, nonnormed fit index, and comparative fit index were over .90, indicating a good fit of the confirmatory measurement model (Straub *et al.*, 2004). Similarly, the item-construct loadings and t-tests showed that all items loaded significantly on their respective constructs, thus

supporting convergent validity. We also estimated variance inflation factors (VIFs) to evaluate multicollinearity. All VIFs were below the recommended 3.0 threshold (Hair *et al.*, 2017).

Model Testing

The full model, employing indicator variables and latent variables, was tested using EQS 6. The full model more accurately reflects loadings of various items on each latent variable and is preferable when the sample size is sufficiently large (Calantone *et al.*, 1997). Given the large sample size, it is important to assess model fit using indexes that minimize or eliminate dependence on sample size. The goodness of fit measures, GFI and AGFI, and CFI and RMSEA are recommended as measures of model fit when sample size is large; however, a cutoff criterion greater than .90 (less than .05 for RMSEA) is required for model evaluation or selection (Hair *et al.*, 2006, Gefen *et al.*, 2011). All of these fit indexes that minimize/eliminate dependence on sample size were .90 or above, suggesting excellent fit with the data: GFI = .94, AGFI = .93, CFI = .92, and RMSEA = .01. The average residual was .006, with 11 residuals being above average. These indexes indicated strong support for the proposed model. A majority of hypotheses were supported and path coefficients using both intention and behavior as a dependent variable are shown in Table 2. Because the final DV was captured separately from the IVs, the risk of common method bias was reduced (Sharma *et al.*, 2009, Podsakoff *et al.*, 2003).

Table 2. Results

Hypothesis	Findings
H1a: Time availability → Individual psychological factors (+)	.20*** on local shopping -.20*** on in-home shopping .20*** on value consciousness -.20*** on convenience -.17* on comparison shopping
H1b: Time management → Individual psychological factors (+)	-0.16* on impulse buying behavior
H2a: Income → Individual psychological factors (+)	.16** on branded products .18*** on quality
H2b: Gender (1: Female) → Individual psychological factors (+)	.15* on risk .20** on in-home shopping .17* on local shopping .18** on brand products
H2c: Age → Individual psychological factors (+)	-.17* on risk .16** on in-home shopping .25*** on price consciousness .17*** on brand products
H2d: Social consumption → Individual psychological factors (+)	.16** on shopping experience .16* on impulse buying behavior
H3: Objective consumption → Individual psychological factors (+)	.13* on quality .12* on congruence .13* on in-home shopping .11* on price consciousness
H4a: Device speed → Individual psychological factors (+)	.13* on browsing enjoyment
H4b: Multimedia cap. → Individual psychological factors (+)	.14* on convenience .16* on shopping enjoyment
H4c: Download speed → Individual psychological factors (+)	.17* on browsing enjoyment
H4d: Computer experience → Individual psychological factors (+)	.14* on risk
H4e: Internet experience → Individual psychological factors (+)	.16** on risk .13* on congruence .11* on in-home shopping .12* on impulse buying behavior .13* on convenience
H4f: Internet shopping experience → Individual psychological factors (+)	.15* on convenience -.16* on risk .17** on shopping enjoyment
H5a: Risk → Online shopping intentions (-)	-.23***
H5b: Quality → Online shopping intentions (-)	-.06
H6a: Congruence → Online shopping intentions (+)	.28***
H6b: In-home shopping → Online shopping intentions (+)	.04
H6c: Local shopping → Online shopping intentions (-)	-.19**
H7a: Price consciousness → Online shopping intentions (+)	.07
H7b: Value consciousness → Online shopping intentions (+)	.24***
H7c: Impulse buying behavior → Online shopping intentions (+)	.26***
H8a: Shopping experience → Online shopping intentions (+)	.02
H8b: Comparison shopping → Online shopping intentions (+)	.21***
H8c: Branded products → Online shopping intentions (-)	.11*
H9a: Convenience → Online shopping intentions (+)	.02
H9b: Browsing enjoyment → Online shopping intentions (+)	.14*
H9c: Shopping enjoyment → Online shopping intentions (+)	.19**
H9d: Novelty shopping → Online shopping intentions (+)	.06
H10: Online shopping intentions → Online shopping behavior (+)	.26***

IPF = Individual Psychological Factors, *** p < .001; ** p < .01; * p < .05.

DISCUSSION

We developed a comprehensive model of consumers' online shopping intention and behavior. By building on the Chisnall model, we contextualized an established framework from consumer behavior. Following a qualitative-quantitative approach, we first identified relevant factors through focus groups before validating a final model using 9,992 data points. The results indicate overall support for our model, which provides a comprehensive account that integrates and extends prior online shopping and consumer behavior research.

Theoretical Contributions

Our paper makes several contributions to the online shopping literature. The first contribution offered is explanatory and lies in the extension of the current online shopping literature by including fourteen new factors that have previously not been studied in the context of online shopping. These new factors were motivated by the use of an extended Chisnall model that suggested that consumers' shopping behavior may be influenced by factors pertaining to consumers' (1) culture, (2) demographics, (3) economic background, (4) technology, and (5) individual psychology. Through a qualitative inquiry, we identified new factors for each of these categories, namely, these factors are time availability and time management (category: cultural factors), social consumption (category: demographic factors), objective consumption (category: economic factors), device speed, multimedia capabilities, download speed, computer experience, Internet experience, Internet shopping experience (category: technology factors), as well as shopping preferences, congruence, and value and price consciousness (category: individual psychological factors). Our data showed support for many of the relationships theorized in our comprehensive model (see Table 2), wherefore this is a substantial extension of the current online shopping literature.

The second key contribution of this work relates to the integration of previous research into a single, comprehensive model. Whereas prior studies in the online shopping literature have examined a subset of factors and omitted the factors proposed in the related consumer behavior literature, this work presents an integrative account of these literatures. Importantly, the integration of the factors proposed in these literatures, plus the large sample including behavior, allows for an assessment of the relative importance of each factor. As evident from our results (Table 3), we found the main predictors of online shopping behavior to be (in sequence of effect size): congruence, impulse buying behavior, value consciousness, risk, local shopping, shopping enjoyment, and browsing enjoyment. Given the salience of risk in consumers' online shopping behavior, this finding confirms the importance of much of prior research on consumers' online trust (see Hsu *et al.*, 2014, Kim *et al.*, 2010, Mccole *et al.*, 2010, Chen *et al.*, 2015, Al-Debei *et al.*, 2015). Further, our findings confirmed that value consciousness and the ability to compare products as further drivers of online shopping, as it has been suggested in previous research (e.g., Ahuja *et al.*, 2003, Bijou *et al.*, 2007, Bijou and Lester, 2004, Al-Debei *et al.*, 2015, Khalifa and Liu, 2007). A new finding relates to the strong effect of impulse buying behavior that has not been included as a key antecedent to online shopping in prior literature.

Another noteworthy finding is that congruence is the strongest driver of online shopping intentions and behavior. Congruence is a new factor that we identified in our focus group sessions. Congruence being the second strongest predictor of online purchasing behavior indicates that consumers clearly have preconceptions of the appropriateness of purchasing products/services online. Perceived congruence enables the segmenting of different product types to examine if there are different drivers of online shopping for low congruence products vs. high congruence products. Broadly speaking, it is clear that the Internet provides greater

congruence for products and services that the consumer is particularly familiar with such as books and airline tickets—providing a potential explanation for the volume of different types of products sold on the Internet. Given the importance of congruence in consumers' online shopping behavior, our addition of this factor is a key contribution.

A third contribution of this research relates to the resolution of conflicting findings from the previous literature. Whereas previous research has produced conflicting findings on the role of age and gender, our work offers a more nuanced explanation that reconciles the conflicting findings. Specifically, we examined the indirect effect of age and gender on online shopping behaviors, as we theorized the effects of these factors to be mediated by individual psychological factors, thereby following the Chisnall model. This is an important difference from prior online shopping research that often examined direct effects of age and gender on online shopping outcomes. In contrast, our findings reveal that age impacts online shopping behavior through a negative effect on consumers' risk perceptions (H2c). Our findings further reveal a more mixed effect of gender. On the one hand, we found gender (women) to be associated with higher risk perceptions and a preference for local shopping. On the other hand, we found gender to be associated with a higher preference for in-home shopping and a stronger preference for branded products (H2b). This suggests that the effect of gender is mediated by several factors, wherefore modeling a direct effect of gender on online shopping behavior is inadequate. Further, this implies that future research should focus on the mediating role of individual psychological factors (i.e., as specified in our comprehensive model) to fully understand the effects of demographics on online shopping behaviors.

Another interesting finding relates to the use of online shopping intentions as a proxy for subsequent behaviors. Obtaining quantifiable objective measures is typically believed to provide

a much more valid understanding of a phenomenon. In our work, self-reported online shopping behavior was collected six months after collecting online shopping attitude, perception, and intention measures. The path coefficients between the antecedents and intention and the antecedents and online shopping behavior were consistent. This suggests that intention is likely an excellent proxy for actual behavior. Given the relative ease of measuring intention compared to behavior, researchers and businesses can get significant and immediate insight into online shopping by using intention as a dependent variable. One potential alternative explanation should also be considered—self-reported online shopping behavior may not be a precise indicator of true behavior and future research should measure actual online shopping objectively. However, given that self-reported behavior was measured six months after the initial survey about online shopping perceptions, this concern is somewhat alleviated.

Practical Implications

Online shopping retailers can use our findings to better assess the manner in which their business takes advantage of the primary determinants of online shopping intentions. Designing and positioning a firm's online shop to mitigate security and merchandise return concerns and to maximize convenience is critical. Retailers should consider incorporating a design feature to facilitate comparison shopping such as the inclusion of intelligent shopping agents within a retailer's site (as Amazon does). Internet users who were likely to comparison shop demonstrated increased online shopping intention and behavior. By incorporating the ability to quickly obtain price/availability/delivery information from a single location, comparison shopping and convenience have been facilitated. Further, this capability enables an e-retailer to automatically track and adjust pricing where warranted. Clearly, comparison shopping has favorable implications for online shopping behavior, but must be approached with care from a retailer

perspective. Providing tools that support comparison shopping may have significant implications for a firm's strategic positioning supporting those firms with a low-cost strategy and conflicting with those emphasizing product diversification or quality.

Given the significant effect of exploratory and comparison shopping on online shopping intention and behavior, it appears that designing online shopping environments to maximize consumer reach may be advantageous. Investing needed funds for brand recognition or providing incentives for customers to use an Internet channel instead of/in addition to other channels may be value-added for shoppers who are looking for new items or wish to compare alternatives quickly. However, one note of caution here: the results also indicate that it is not enough to support exploratory/comparison shopping, but it must be done in a convenient manner. There was no relationship between information search fulfillment and online shopping intention and behavior. One possible interpretation is that even with product comparison support, online shopping will only occur if perceived risks have been minimized and the actual process of using the site is convenient.

An Internet user's prior Internet shopping experience had a significant indirect effect on online shopping intention and behavior by mitigating perceptions of risk and increasing perceptions of convenience, shopping enjoyment, and congruence. Better understanding of how a positive and quality Internet shopping experience is created is important for future work. Is there anything retailers can do to foster development of this experience? For retailers that have both retail and Internet channels, in-store kiosks can be set up that allow customers to visit the store's website. Although some retailers currently have kiosks in place to allow customers to order merchandise that might be out of stock, retailers could take this concept further and encourage and provide incentives to employees to expose customers to the store kiosk. By developing direct

experience with the retailer's website, the customer may realize the convenient, low-risk, etc. opportunities with using the Internet channel. Clearly, leveraging synergies across different customer channels has implications for how businesses have structured their Internet channel. For example, if the retail and Internet channel are different business units, it is not reasonable to expect the retail unit to encourage cannibalization. One example of successful integration is Walmart, which built an e-commerce platform to enable in-store grocery shopping. Using this platform, users' can shop the products available in their local Walmart virtually and either pick them up or get them delivered. This integration turned out to be a boon to Walmart during the COVID-19 pandemic, with e-commerce sales soaring by over 65% (Mckinnon, 2020). Overall, the role of time and experiences are important to understand the dynamism and evolution of the phenomenon (Venkatesh *et al.*, 2006, Venkatesh *et al.*, 2021).

It appears that there are multiple segments of "shopper types" potentially interested in online shopping purchases. There is a practical shopper who is looking for convenience and congruence in purchasing goods and services. In addition, online shopping appeals to those who enjoy browsing and shopping for goods and services. Although some shoppers may possess all these characteristics, it seems more likely that those who enjoy browsing and shopping are less likely to be concerned about convenience. Better understanding these segments and the key drivers of these segments would enable retailers to advertise and build in capabilities that attract all segments (or the most profitable segments) to their site. It may be also interesting to note that the importance of the shopping experience was not significant (as opposed to negative) in influencing online shopping intention or behavior. One explanation is that the interactive and dynamic nature of many of the sites may not be an inhibitor for those who like to be entertained during shopping.

A few final non-significant effects are worthy of note. First, technology characteristics had no direct effect on online shopping intention and behavior and a limited indirect effect—i.e., multimedia → convenience and shopping enjoyment; download speed → browsing enjoyment. This may suggest that high speed Internet access is not a barrier for online shopping activity, which is likely due to ubiquity of high-speed Internet. Similarly, the effects of many of the shopping preferences, such as price consciousness, shopping experience, quality and in-home shopping, remained small and thus of little significance. One explanation is that e-shoppers are selective about what they buy over the Internet and have determined in advance specific products they will purchase or specific retailers from whom they will purchase. Thus, Internet users may make purchases from familiar or predetermined websites or use the Internet to search multiple less or unfamiliar retailers to find a predetermined product, minimizing the influence of some of these shopping preferences. Another explanation could be that these factors described consumer niches such as price sensitive consumers or consumers who emphasize quality. However, the non-significant findings in relation to the effects of these factors show that these factors do not predict online shopping intentions, which suggests that the phenomenon of online shopping has transcended these niches and has arrived in the mainstream.

Limitations and Additional Future Directions

Although this work has presented a major integrative step forward in understanding online shopping, there are some limitations that must be addressed to fully understand the phenomenon. Our sample consisted of North American Internet users. Given the increasing adoption of e-commerce in emerging markets, it is imperative that future research includes both a global sample of respondents and samples non-Internet users to better understand the online shopping drivers of later adopters. In addition, incentives were provided to encourage

participation in the study and these incentives may have created a selection bias. We studied online shopping intention and behavior “in general” and did not examine the determinants of specific product types. It is possible that a determinant’s (e.g., convenience) effect on online shopping intention and behavior may vary across product types.

Several further future research directions warrant mention. First, we decided to specify a first-order research model as we were primarily interested in testing the direct influence of each construct and compare their relative impact on online shopping. This led to a comprehensive model. However, it is plausible that some of the first-order constructs of our model could be aggregated into second-order constructs. Hence, future research might endeavor to create a more parsimonious model by attempting to conceptualize and test higher-order latent constructs that arise from the first-order constructs identified in our research. Related to this model comparison studies can be valuable to identify the most predictive models that can in turn serve as the basic for creating an integrated or unified model/theory (for an example, see Venkatesh *et al.*, 2003)

Second, it is important to develop an understanding of differing role of the Internet as a channel in supporting physical products, information products, and different types of services. This is crucial because in some cases the Internet is part of the delivery mechanism itself (information goods), whereas in some cases, it is not (physical goods). Similarly, there may be systematic differences in using the Internet to buy services that tend to be typically rendered outside the medium (e.g., plumbing, landscaping) where the Internet merely serves as a method of ordering the service and little or no experience is required with the service to purchase but rather issues of vendor credibility and perceptions of risk may play a more critical role. Thus, an understanding based on a high-level distinction of products/services will help develop a more refined framework beyond a product focus.

Third, the current work operated under the assumption that online shopping success is tied to the success of the use of the Internet as a channel. However, the Internet, by virtue of its ability to serve as an effective information gathering and categorization tool, may be used for all the information gathering and decision-making, whereas actual purchases may be made offline. Therefore, future research should address measuring success of the Internet and success of e-commerce applications in terms of its support for information gathering as well. Further, it is plausible that our findings apply only to computer-based e-commerce. However, a considerable portion of current online shopping is done via smartphones. Thus, future research should examine to what extent the determinants of online shopping change when such mobile technologies are used as a shopping platform, given evidence of differences between traditional and mobile sites (Venkatesh and Ramesh, 2006).

Fourth, due to our deductive, mixed methods approach, the development of our model was somewhat data-driven, although our qualitative data collection was framed and supported by the Chisnall model. Our approach is consistent with guidelines in conducting mixed methods research (Venkatesh *et al.*, 2016a, Venkatesh *et al.*, 2013). An alternative approach would have been to attempt to deduce a comprehensive model by integrating existing models and literature, perhaps under the framework provided by the Chisnall model. Such an alternative approach could dive deeper into the decision-making processes of online shoppers and presents an excellent opportunity for future research.

CONCLUSION

This research presents a comprehensive, empirical examination of the drivers of online shopping intention and behavior among Internet users. The theoretical development and empirical support of the model developed here take an integrative, holistic approach to the

understanding the phenomenon of online shopping. The proposed model incorporates the interrelationships across the determinants, thus providing a rich explanation of the core underlying phenomenon. As online shopping continues to soar, the developed model presents an integration of current knowledge and steppingstone for future research.

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APPENDIX A. LITERATURE REVIEW

To review existing antecedents of online shopping behavior, a systematic literature review was conducted (Pare *et al.*, 2015). Following the guidelines of Webster and Watson (2002), we searched multiple data bases (i.e., Scopus, Web of Knowledge, Google Scholar) and looked for articles containing several keywords, such as “online shopping,” “online purchasing,” “buying online,” and “e-commerce.” This search returned over 10,000 articles, most of which related to “e-commerce” as a general context of study. As such papers were often unrelated to the study of online purchase behaviors, we decided to exclude “e-commerce” as a search string. Using only “online shopping,” “online purchasing,” and “buying online” as keywords, we narrowed down our search to 264 articles. While all of these articles are somewhat relevant to the phenomenon of online shopping (e.g., advertisements, product reviews, recommendation agents, consumer satisfaction, post-purchase regret, product return behaviors, online repurchase intention and behavior), we were specifically interested in identifying antecedents to online shopping intentions and behaviors. Thus, we screened these articles by titles and abstract to identify papers that investigate the antecedents to online shopping intentions and behaviors. Overall, we remained with 29 studies (see Table A1).

Table A1. Key Studies on Antecedents of Online Shopping Intentions and Behavior

Study, Outlet	Phenomenon of Interest	IVs	Method	DV
Al-Debei <i>et al.</i> (2015), <i>Internet Research</i>	General model for online-purchase behavior	Perceived benefits, eWOM, perceived web quality, Trust	Survey	Attitude to online shopping
Ashraf <i>et al.</i> (2014), <i>Journal of International Marketing</i>	Cultural contexts on online shopping adoption	Trust, perceived usefulness, perceived ease of use, perceived behavioral control	Survey	Intention to shop online
Bosnjak <i>et al.</i> (2007), <i>Journal of Business Research</i>	Personality determinants and online shopping	Elemental traits, compound traits, situational traits (affective and cognitive involvement)	Survey	Intention to shop online
Bucko <i>et al.</i> (2018), <i>Cogent Business & Management</i>	General model for online-purchase behavior	Price, availability, social proof, scarcity, product details, facilitating conditions (ease of access), social media use	Survey	Purchase behavior
Chang <i>et al.</i> (2005), <i>Information & Management</i>	Reference model for online shopping attitudes	Channel characteristics, shopping experience, innovativeness, risk perception, trust, relative advantage, service quality	Review	Not applicable
Chen <i>et al.</i> (2015), <i>Computers in Human Behavior</i>	Moderating roles of trust and gender on online shopping behavior	Trust propensity, gender, perceived risk, perceived benefit	Survey	Intention to use online shopping
Choudhary and Dhillon (2018), <i>Marketing and Management of Innovations</i>	Online shopping in India	Variety & security of products, ability to purchase instantly	Survey	Shopping behavior
Clemons <i>et al.</i> (2016), <i>Journal of Management Information Systems</i>	Trust in four different countries	Vendor quality, vendor promises	Survey	Intention (Willingness to purchase)
Dai <i>et al.</i> (2019), <i>Psychology & Marketing</i>	Gender differences and online shopping in China	Online shopping attitudes, gender	Implicit association test	Not applicable
Dang and Pham (2018), <i>Asia Pacific Journal of Marketing and Logistics</i>	Online shopping in emerging economies	Customer service	Survey	Purchase intention

Gefen <i>et al.</i> (2003), <i>MIS Quarterly</i>	Trust and online shopping adoption	Trust, perceived ease of use, perceived usefulness	Survey	Intended use
Hasan (2010), <i>Computers in Human Behavior</i>	Gender differences in online shopping attitudes	Gender	Survey	Purchase intention
Hernandez <i>et al.</i> (2011), <i>Online Information Review</i>	Age, gender, income as moderators of online shopping	Age, gender, income	Survey	Future online shopping intention
Hsu <i>et al.</i> (2014), <i>Internet Research</i>	Trust and online shopping	Trust, attitude, perceived risk, security and privacy, IT quality, vendor size, vendor reputation, feedback mechanism, identification, shared vision	Survey	Attitude toward online shopping
Kim <i>et al.</i> (2010), <i>Computers in Human Behavior</i>	Motivation to purchase online	Product involvement, trust toward websites	Survey	Intention to purchase
Lee <i>et al.</i> (2017), <i>Asia Pacific Management Journal</i>	Product attributes, product involvement and word-of-mouth in online shopping in China and Taiwan	Product attributes (information, quality, price), product involvement, word-of-mouth	Survey	Purchase intention
Lian and Lin (2008), <i>Computers in Human Behavior</i>	Consumer characteristics and online shopping acceptance	Personal innovativeness of information technology, Internet self-efficacy, perceived web security, privacy concerns, product involvement	Survey	Attitudes toward online shopping
Lian and Yen (2014), <i>Computers in Human Behavior</i>	Online shopping drivers and barriers for older adults	Drivers (performance expectations, social influence), barriers (value, tradition), gender, age	Survey	Online shopping intention
Mallapragada <i>et al.</i> (2016), <i>Journal of Marketing</i>	Product and website characteristics on online shopping	Website characteristics, household size, connection speed, ethnicity	Secondary data analysis	Basket value
Mccole <i>et al.</i> (2010), <i>Journal of Business Research</i>	Trust, privacy, and security concerns on online purchasing	Trust, privacy and security concerns	Survey	Attitude towards online purchasing
Miyazaki and Fernandez (2001), <i>Journal of Consumer Affairs</i>	Privacy and security risks in online shopping	Internet experience (duration, frequency), purchasing method	Survey	Online purchasing behavior
Overby and Lee (2006), <i>Journal of Business Research</i>	Value in online shopping	Utilitarian value, hedonic value, online shopping preference, shopping frequency	Survey	Intentions
Pascual-Miguel <i>et al.</i> (2015), <i>Journal of Business Research</i>	Gender and product type on online shopping	Product type (digital goods vs. non-digital goods), gender, UTAUT2 variables	Survey	Purchase behavior
Van Den Poel and Buckinx (2005), <i>European Journal of Operational Research</i>	General model for online-purchase behavior	Clickstream data, historical purchase behavior, demographics (gender, age, trust)	Secondary data analysis	Total purchases (behavior)
Ahuja <i>et al.</i> (2003), <i>Communications of the ACM</i>	Motivating factors and barriers to online shopping	Motivations (convenience, time savings, better prices, availability, customer service), barriers (privacy/security, customer	Survey	Purchase behavior

		service, lack of interaction, high prices, lack of time, intangible products).		
Forman <i>et al.</i> (2009), <i>Management Science</i>	Geographical location on online shopping	Product characteristics (relative price), availability of offline store	Secondary data analysis	Appearance in local top 10 ranking
Bijou and Lester (2004), <i>CyberPsychology & Behavior</i>	Attitudes toward online shopping	Convenience, efficiency, inconvenience/anxiety, effort/impersonality, shoppers vs. non-shoppers	Survey	Not applicable
Bijou <i>et al.</i> (2007), <i>CyberPsychology & Behavior</i>	Attitudes toward online shopping in the UK and America	Availability, efficiency, security-privacy, customer service, intangibility	Survey	Purchase behavior
(Li <i>et al.</i> , 1999), <i>Journal of Computer-Mediated Communication</i>	Drivers of online shopping	Demographics (Gender, income, education), channel factors (convenience, channel knowledge, experiential factors, accessibility)	Survey	Online buying behavior

APPENDIX B. MEASUREMENT

Table B1: Survey Questions, Measurement Model, and Confirmatory Factor Analysis

Construct (7-point Likert scale)	Loading and reliability
Time Availability (Lumpkin 1985)	.85
I am typically very busy.	.82
I do not have much free time.	.81
It is hard for me to find time for activities not related to work.	.82
Time Management (Hawes and Lumpkin 1984; Lumpkin 1985)	.80
I organize my time better than most people.	.77
I like to plan my activities by the clock.	.75
Because I schedule activities by the clock, I am able to get more things done.	.82
Novelty Shopping (Unger and Kernan 1983)	.79
I like to shop when there is novelty in it.	.69
I like to shop when it satisfies my sense of curiosity.	.72
I like to shop when offers novel experiences.	.75
I like to shop when it feels like I'm exploring new worlds.	.77
In-home Shopping (Hawes and Lumpkin 1984)	.85
I love to browse through catalogs.	.76
I am ordering more things from my home in order to save energy.	.80
By shopping at home through mail/phone order, I save a lot of time.	.82
I don't like to shop at home.	.81
I order from home because I can't find what I want in the local stores	.80
Local Shopping (Hozier and Stem 1985)	.80
I will pay slightly more for products if I can buy them locally.	.77
I shop locally to support the local merchants and business district.	.75
Because I am more familiar with local stores, I prefer shopping locally rather than out of town.	.82
I am loyal to my local shopping area.	.81
Price Consciousness (Lichtenstein, Ridgway, and Netemeyer 1993)	.89
I am willing to put in the extra effort needed to find lower prices.	.82
The money saved by finding low prices is usually not worth the time and effort.	.85
I would never shop at more than one store to find low prices.	.87
The time it takes to find low prices is usually not worth the effort.	.82
Quality Expectations (Gaski and Etzel 1986)	.87
The quality of most products I buy today is as good as can be expected.	.80
Most products I buy wear out too quickly.	.80
Too many of the products I buy are defective in some way.	.82
The companies that make the products I buy don't care enough about how well they perform.	.84
Value Consciousness (Lichtenstein, Ridgway, and Netemeyer 1993)	.81
When shopping, I compare the prices of different brands to be sure I get the best value for the money.	.82
When I purchase a product, I always try to maximize the quality I get for the money I spend.	.80
When I buy products, I like to be sure that I am getting my money's worth.	.87
I generally shop around for lower prices on products, but they still must meet certain quality requirements before I buy them.	.80
I always check the prices at the grocery store to be sure I get the best value for the money I spend.	.80
Branded Products (Moschis 1981)	.75
Advertised brands are better than those that are not advertised.	.72
Quality products are made by well-known companies.	.79
I prefer a certain brand of most products I buy or use.	.74
I don't care about the brand of most products I buy.	.80
Objective Consumption (Carlson and Grossbart 1988)	.82
Before purchasing a product, it is important to know guarantees on different brands.	.76
Before purchasing a product, it is important to know the name of the company that makes the product.	.75
Before purchasing a product, it is important to know whether any brands are on sale.	.72

Before purchasing a product, it is important to know the kinds of materials different brands are made of.	.78
Before purchasing a product, it is important to know the quality of the store selling a particular brand.	.80
Social Consumption (Carlson and Grossbart 1988)	.80
Before purchasing a product, it is important to know what friends think of different brands or products.	.77
Before purchasing a product, it is important to know what kinds of people buy certain brands or products.	.77
Before purchasing a product, it is important to know what others think of people who use certain brands or products.	.78
Before purchasing a product, it is important to know what brands or products to buy to make good impressions on others.	.78
Convenience (Maher, Marks, and Grimm 1997)	.86
I shop when and where it is convenient.	.79
I shop when and where I can save time.	.80
I shop when and where it is easy.	.80
Risk (Bettman 1973)	.87
I purchase products/services when I believe that my purchase transaction is very secure.	.80
I purchase a product/service when I believe I can return a defective or unwanted purchase easily.	.81
I purchase a product/service when I believe the purchase I have made will completely meet my expectations.	.80
Shopping Enjoyment (O'Guinn and Faber 1989)	.81
I shop because buying things makes me happy.	.77
Shopping is fun.	.75
I get a real "high" from shopping.	.77
Browsing Enjoyment (Raju 1980)	.78
I go shopping to browse a variety of products.	.72
I go shopping to browse for unique crafts or foods.	.70
I go shopping to browse for new things.	.68
I go shopping to browse for good prices.	.79
Congruence (Self-developed)	.79
I am more likely to shop online when I have a clear idea of the product/service.	.71
I am less likely to shop online for products/services that I need to interact with (or interact with someone about) prior to buying.	.76
I am less likely to shop online for products/services that I need to experience (look, touch, feel) before buying.	.75
I am more likely to shop online when a rich description (including supporting video, audio) of products/services is provided.	.72
Shopping Experience (Dawson, Bloch, and Ridgway 1990)	.78
When shopping, I like to watch other people.	.70
When shopping, I like to see and hear entertainment	.70
When shopping, I like to experience interesting sights, sounds, and smells.	.68
I like to shop to get out of the house.	.80
Comparison Shopping (Hawes and Lumpkin 1984)	.84
"Never buy the first one you look at" is my motto.	.78
I make it a rule to visit a number of stores before I buy.	.72
You can save a lot of money by shopping around.	.70
Impulse Buying Behavior (O'Guinn and Faber 1989)	.81
I have frequently bought something and when I got home wasn't sure why I had bought it.	.76
There are often times where I just wanted to buy things and didn't care what I bought.	.75
My closets are full of unopened items.	.70
Online Shopping Intentions (Davis, Bagozzi, and Warshaw 1989, 1992)	.90
I intend to shop online in the next six months.	.84
I predict I would shop online in the next six months.	.86
I plan to shop online in the next six months.	.86
Demographics	
Gender (0: men; 1: women)	
Age (in years)	

Internet shopping experience (frequency, money spent online in USD)	
Income (in USD)	
Device speed (1: Very slow to 7: Very fast)	
Multimedia capability (1: None to 7: Excellent)	
Download speed (1: None to 7: Excellent)	
Comp. experience (years)	
Internet experience (years)	
Internet shopping experience (years)	
Behavior	
On average, how frequently did you shop on the web in the past six months—that is, since you filled out our detailed consumer behavior survey?	
On average, how much did you spend during each “shopping visit” to the web in the past six months—that is, since you filled out our detailed consumer behavior survey?	

Table B2. Construct Descriptive Statistics and Correlations

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10
1: Time availability	4.60	1.17	.81									
2: Time management	4.87	1.94	.14	.77								
3: Income	33.168	17,140	-.13	.14	NA							
4: Gender (1: Women)	41%	NA	.17	-.10	-.17	NA						
5: Age	31.68	13.84	-.16	.13	.19	.04	NA					
6: Social consumption	3.74	1.69	.14	.13	.17	.13	.13	.73				
7: Objective consumption	3.80	1.84	.15	.17	.19	-.13	.17	.08	.76			
8: Device speed	2.91	1.44	.02	.04	.05	.03	.03	.02	.03	NA		
9: Multimedia capability	3.07	1.81	.07	.08	.08	.08	.02	.06	.04	.06	NA	
10: Download speed	3.53	1.70	.09	.06	.02	.10	-.05	.08	-.07	.02	.14	NA
11: Computer experience	4.62	6.66	-.13	.04	.07	-.02	.06	-.03	-.02	.07	.17	.20
12: Internet experience	3.75	7.85	-.07	.10	.06	.04	.02	-.05	-.07	.02	.13	.21
13: Internet shopping experience	3.90	10.67	-.08	.05	.02	-.20	-.20	-.06	-.04	.13	.14	.24
14: Risk	4.19	1.34	.04	.04	.27	.16	-.26	.08	.10	.07	.06	.05
15: Quality	3.90	1.87	.06	.08	.28	.31	.14	.02	.21	-.08	.08	.10
16: Congruence	3.12	1.95	.10	.06	.02	.14	.15	.02	.19	.09	.05	.08
17: In-home shopping	4.62	1.74	-.26	.10	.07	.29	.25	.07	.20	.02	.05	.02
18: Local shopping	4.17	1.94	.28	.02	.06	.34	.06	.08	.10	.10	.10	.06
19: Price consciousness	4.98	1.65	.30	.06	.08	-.13	.31	.09	.17	.07	.08	.09
20: Value consciousness	5.07	1.69	.29	.02	.07	-.14	.17	.10	.05	.08	.06	.04
21: Impulse buying behavior	3.66	1.94	.14	-.26	.11	.19	-.14	.34	-.13	.02	.06	.13
22: Shopping experience	2.68	2.12	.14	.02	.07	-.10	-.17	.29	.06	.04	.15	.14
23: Comparison shopping	3.66	1.95	-.35	.07	-.10	.12	.14	.09	.08	.07	.12	.07
24: Branded products	2.63	1.80	-.07	.09	.30	.33	.31	.08	.10	.14	.06	.02
25: Convenience	3.94	1.68	-.27	.10	.14	.10	.10	.14	.13	.13	.24	.06
26: Browsing enjoyment	4.16	1.98	.03	.10	.02	-.08	-.13	.13	.06	.28	.07	.31
27: Shopping enjoyment	3.94	1.63	.02	.06	.06	-.13	-.17	.12	.02	.08	.26	.09
28: Novelty shopping	2.87	1.43	.07	.02	.04	-.09	.02	.13	.17	.14	.02	.04
29: Online shopping intention	4.51	1.99	.10	.07	.13	.15	.13	.08	.10	.10	.04	.08
30: Behavior			.10	.04	.14	.20	.12	.09	.12	.07	.06	.09

Notes. Diagonals show Cronbach's alpha values. Correlations > .06 significant at p < .05 or lower.

Construct	11	12	13	14	15	16	17	18	19	20	21	22
11: Computer experience	NA											
12: Internet experience	.40	NA										
13: Internet shopping experience	.37	.39	NA									
14: Risk	.19	.30	-.28	.82								
15: Quality	.07	.06	.06	.10	.80							
16: Congruence	.05	.24	.14	.14	.02	.79						
17: In-home shopping	.08	.20	.13	-.09	.06	.06	.82					
18: Local shopping	.10	.20	.06	.14	.09	.09	.13	.80				
19: Price consciousness	.06	.02	.02	.05	.04	.05	.14	.10	.77			
20: Value consciousness	.04	.03	.06	.02	.03	.08	.07	.07	.24	.79		
21: Impulse buying behavior	.08	.21	.18	-.06	.02	.10	.08	.06	-.14	-.16	.80	
22: Shopping experience	.10	.02	.07	.09	-.05	-.08	-.10	.10	.14	.13	.12	.80
23: Comparison shopping	.12	.07	-.08	-.10	-.06	.02	.03	.04	.06	.07	.02	.05
24: Branded products	-.07	.06	.02	.10	.06	.02	.07	.04	.02	.06	.03	.02
25: Convenience	-.04	.21	.22	.06	-.10	.06	.02	.09	.04	.02	.03	.07
26: Browsing enjoyment	.12	.14	.17	.02	.06	.05	.10	.13	.02	.06	.01	.01
27: Shopping enjoyment	.16	.19	.24	.03	.07	.10	.05	.06	.09	.04	.02	.10
28: Novelty shopping	.08	.04	.07	.06	.10	.08	.05	.07	.04	.09	.21	.10
29: Online shopping intention	.02	.05	.08	-.34	-.20	.39	.14	-.28	.29	.29	.35	.20
30: Behavior	.04	.06	.09	-.31	-.14	.34	.08	-.24	.24	.24	.31	.13

Construct	23	24	25	26	27	28	29	30
23: Comparison shopping	.77							
24: Branded products	-.19	.80						
25: Convenience	.14	-.13	.79					
26: Browsing enjoyment	.02	-.07	.02	.84				
27: Shopping enjoyment	.05	-.04	.07	.10	.80			
28: Novelty shopping	.06	-.03	.05	.12	.10	.79		
29: Online shopping intention	.30	.19	.14	.20	.27	.15	.83	
30: Behavior	.24	.14	.10	.19	.19	.19	.62	NA