Online Shopping Hesitation

CHANG-HOAN CHO, Ph.D.,1 JAEWON KANG, Ph.D.,2 and HONGSIK JOHN CHEON, Ph.D.3

ABSTRACT
This study was designed to understand which factors influence consumer hesitation or delay in online product purchases. The study examined four groups of variables (i.e., consumer characteristics, contextual factors, perceived uncertainty factors, and medium/channel innovation factors) that predict three types of online shopping hesitation (i.e., overall hesitation, shopping cart abandonment, and hesitation at the final payment stage). We found that different sets of delay factors are related to different aspects of online shopping hesitation. The study concludes with suggestions for various delay-reduction devices to help consumers close their online decision hesitation.

INTRODUCTION
Since the commercialization of the Internet in the early 1990s, online shopping has experienced exponential growth. According to eMarketer,14 despite the recent economic downturn, U.S. business-to-consumer e-commerce revenue in 2001 was estimated at 54.2 billion dollars and is projected to reach 126 billion dollars by 2004.15 The online shopping population in the United States is around 66 million, a figure that is expected to double to 132 million by 2007.35 Despite the explosive growth of e-commerce and the rapidly increasing number of consumers who shop online, very little is known about how consumers make purchase decisions in online environments. In addition, many people still experience frustrations when they shop online and thus hesitate to make online product purchases. About 75% of online consumers have abandoned or dropped their shopping carts before making final purchases online.33 According to the September 2001 Internet Users Consumer Panel study, as many as 36% of online shoppers reported being dissatisfied with their online shopping experiences, while only 2% reported being frustration-free, and one third of online shoppers said that there were specific websites they no longer shop.34 Why do consumers delay or hesitate in making purchase decisions online? This is the primary research question in the current study; that is, this study intends to offer insights into why consumers hesitate or delay when purchasing products online. In this study, online shopping hesitation or delay is defined as “postponing or deferring product purchases by having additional processing time before making final product-purchase decisions on the Internet” (e.g., abandoning shopping carts, hesitating to click the transaction button). The purposes of the study are fourfold. The first purpose of the study is to understand types of product purchase delay or hesitation online (e.g., overall hesitation, abandoning shopping carts, and hesitating to click the payment button). The second purpose is to provide a profile of reasons for delay or hesitation in online product purchases. The third purpose is to understand personal characteristics of online shopping hesitators. Finally, the fourth purpose is to suggest various ways to help consumers close their online decision delay (i.e., delay closure devices such as shopping agents/helpers and risk reducers).

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Online versus offline shopping

Internet online shopping is different in many aspects from such traditional offline shopping outlets as physical stores, telephone ordering, and mail order; for example, the vast number of alternatives available to consumers, higher machine interactivity, higher message customization and interaction, etc. Compared to offline shoppers, online shoppers put higher values on the perceived return on their money, time and effort investments. In addition, there are more risks involved in non-store shopping, including online shopping, than in offline brick-and-mortar shopping. This increased degree of perceived risk may be explained by lack of physical/tangible inspection, lack of interpersonal interaction, lack of security and trust, difficulty in returning the product, and so forth.

Because of the increased risks involved with online shopping, the degree of online purchase hesitation is expected to be higher than that of offline purchase hesitation. Similarly, online shoppers may have different reasons for delaying product purchase online (e.g., lack of skills and trust, confused by overchoice) and different types of delay behaviors (e.g., abandoning shopping carts, hesitating to click the payment button, hesitating to register as a buyer). Therefore, it is imperative to study the types of consumers’ delay behaviors online and the underlying reasons for hesitation in making online product purchases.

Reasons for delay in online product purchases

Several research studies have been conducted to form an understanding of why people delay their decisions or tasks in different contexts: daily tasks, personal projects, and term-paper writing by students. In a general shopping context, Greenleaf and Lehman developed fairly comprehensive typologies of reasons why consumers delay product purchase decisions. To date, however, there has been no attempt to understand consumer delay behaviors in an online shopping context. This was the starting point of the current study.

Four categories—perceived uncertainty, medium/channel innovation, contextual, and consumer characteristics factors—were included as predictors of online shopping hesitation in this study (Fig. 1). Perceived uncertainty and contextual factors were borrowed from Greenleaf and Lehman. Two groups of factors were newly added to the current study: (1) medium/channel factors were included because the current study focuses on the Internet as a new innovative shopping channel, and (2) shopping-related consumer characteristics were included because those factors are believed to influence general consumer shopping behaviors including shopping hesitation.

Perceived uncertainty factors. There are many reasons why consumers delay or hesitate when making purchases in the general shopping context. One of the most critical reasons for delay is reduction of “perceived risk” or “uncertainty.” The perceived risk in the context of buying products or services has been conceptually defined as the degree of perceived uncertainty and negative consequences associated with product purchases. This perceived risk or uncertainty has been viewed as a major cause of delay in making a decision to purchase items. Delay (i.e., “having additional processing time before decision-making”) is an alternate means for decreasing uncertainty and for inducing the readiness to decide.

Previous studies identified various uncertainty or perceived risks in the context of consumer decision making, including financial, social, psychological, performance, procedural, and privacy risks. These risks are expected to influence consumers’ delay or hesitation behaviors. First, the financial risk regarding a product’s price, i.e., perceived future financial risk resulting from over-spending in buying the intended product, causes delay in consumer product purchases. That is, this variable involves the evaluation of financial resources available for spontaneous purchase (i.e., afford to buy or not), and is judged based on the expected impact of the product purchase on the resultant financial situation. In other words, consumers who cannot afford to pay for a product or service at the time, might delay or hesitate in purchasing the intended product because they can perceive future financial risk as a result of buying.

Applying this to the Internet, we anticipate that consumers hesitate to purchase a product or service online because they perceive financial risk (PI).

According to Sheth, social risk can influence consumers to hesitate in adopting the innovation (e.g., purchasing products on the Internet), since they are worried that their purchases could make other important people think less well of them. To reduce the social risk, consumers often try to obtain advice and/or consent from other people (e.g., family members, salespeople). If the perceived social risk is high and the consent or advice is not immediately available, consumers are more likely to delay their purchase decisions. In other words, consumers might delay decision-making because...
they feel left behind in a socially shared norm (i.e., social risk) and thus need advice or consent from others to reduce responsibility for their consequences.\textsuperscript{7} Therefore, we can anticipate that consumers hesitate to purchase a product or service online because they experience social risk (P2).

Similarly, consumers are influenced in delaying their purchase decisions when they are concerned that they might experience mental duress due to the possibility of future regrets concerning their purchasing decisions (i.e., psychological risks). In other words, consumers might delay decision-making because they feel uncertain or fearful regarding the negative consequences or failure associated with their product purchase decisions.\textsuperscript{24} This uncertainty or fear, in turn, can create perceived psychological risk and cause product purchase delay on the Internet. That is, consumers hesitate to purchase a product or service online because they experience psychological risk (P3).

Meanwhile, “procedural” uncertainty is concerned with the means to handle and process decisions (i.e., lack of knowledge about how to get information, how to invent alternatives, and how to evaluate consequences).\textsuperscript{20} In other words, consumers delay their purchase decisions by expanding the current context and bringing more alternatives into consideration until the perceived risk is reduced to a tolerable level of acceptability.\textsuperscript{7,21} This alternative seeking is to reduce “regret regarding a missed opportunity.”\textsuperscript{2} In short, consumers attempt to reduce their uncertainty, by means of inspecting further alternatives and identifying the differences among them until the conflict is reduced to an acceptable level and the value of the best available option passes the threshold.\textsuperscript{7,52} Otherwise, lack of knowledge (e.g., the price and quality of competing products or services, how to access the best channel for a certain product) can yield consumer “procedural uncertainty.” This uncertainty might prevent consumers from making spontaneous product or service purchases on the Internet. Therefore, we can anticipate that consumers hesitate to purchase a product or service on the Internet because they experience procedural uncertainty caused by lack of knowledge, need for

<table>
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<tr>
<th>Perceived Uncertainty Factors</th>
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<tr>
<td>Financial Risk</td>
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<tr>
<td>Social Risk</td>
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<tr>
<td>Psychological Risk</td>
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<td>Procedural Uncertainty</td>
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<tr>
<th>Medium/Channel Innovation Factors</th>
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<tr>
<td>Incompatibility</td>
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<td>Channel Unreliability</td>
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<td>Privacy Infringement</td>
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<th>Contextual Factors</th>
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<td>Time Pressure</td>
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<tr>
<td>Uncertain Need</td>
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<td>Negative Past Experiences</td>
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<tr>
<th>Consumer Characteristics Factors</th>
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<td>Unfavorable Attitude toward Online Shopping</td>
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<tr>
<td>High-quality-consciousness</td>
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<tr>
<td>High-value-consciousness</td>
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<tr>
<td>Confused by Overchoice</td>
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FIG. 1. Predictors of online shopping hesitation.
gathering more information, or need for comparison shopping in order to purchase the best product or service (P4).

Medium/channel innovation factors. Consumers have viewed the Internet as a new, dramatically innovative channel providing an alternative to existing offline stores for item purchasing. In other words, online shopping can be considered a “discontinuous” innovation that is not compatible with established ideas or patterns and one that creates a new pattern for the purchase of products or services. This discontinuous innovation stems from the unique characteristics of online shopping: infinite information sources, decreased space constraint, and instant transaction with high security risk. A discontinuous innovation normally causes high resistance to change and makes innovation adoption unlikely. In fact, consumer’s perceptual and cognitive mechanisms are likely to be tuned in to preserving their existing pattern since they tend to strive for consistency and status quo rather than embracing new patterns. This phenomenon becomes more apparent when the innovation is considered discontinuous from, or incompatible with, existing patterns. Therefore, discontinuous or incompatible characteristics of online shopping as an innovation might cause consumers to hesitate in adopting the new pattern (i.e., online shopping) and thus make them delay or resist online product purchases. Therefore, we propose that consumers hesitate to purchase a product or service on the Internet because they feel that online shopping is incompatible with their accustomed patterns of shopping the product or service (P5).

Trust is another important medium/channel innovation factor influencing online purchase hesitation. With online shopping, a website’s reliability or trustworthiness has been at the center of research on consumer decision-making. Unreliable websites cast some doubts on consumers’ adoption of the Internet as a new channel for purchasing items. In other words, consumers are unlikely to patronize online websites that fail to warrant a sense of trust. In fact, trust can exist as long as consumers believe that the websites have both capability and reliability to deliver items of the quality expected by consumers. Therefore, consumers might postpone their buying decision until their trust of specific websites rises to an “acceptable cutoff.” Hence, we propose that consumers hesitate to purchase a product or service on the Internet because they perceive the website selling the product or service is not reliable or trustworthy (P6).

According to Sheth, consumers tend to hesitate in adopting an innovation because of perceived negative side effects associated with the innovation. Here, privacy infringement can be considered as one of the negative side effects associated with the innovation (i.e., online shopping). According to Elliot, privacy risk is one of the major barriers to adoption of electronic retailing (i.e., online shopping via the Internet and television). When consumers provide information required to buy items on the Internet, they are still afraid of their private information (e.g., credit card number, mailing address) being misused for other commercial or criminal purposes. For example, the insecurity of using a credit card online has been a major obstacle to online shopping. Thus, consumers hesitate to purchase a product or service on the Internet because they feel afraid of infringement on their privacy (P7).

Other contextual factors. Solomon and Rothblum contended that perceived time pressure (i.e., too many other things to do) causes delay in purchasing products or services. This time pressure influences the consumer’s cognitive processing in purchasing items. More specifically, consumers tend to delay decisions because the demands of other decisions and activities prevent them from devoting time to the decisions of interest. When time pressure is severe, consumers appear to accelerate their processing, become more selective, and change strategies, ultimately leading to their delay in purchasing items. Applying this time pressure to online purchasing, this study proposes that consumers hesitate to purchase a product or service on the Internet because they perceive that they do not have enough time to devote to the decision (P8).

Another reason for general shopping hesitation is “uncertain need” for a product. Consumers hesitate to purchase a product because they are not convinced of their real need for a product. Likewise, unless consumers perceive the real need for a product on the Internet, they are likely to hesitate before making an Internet purchase. Therefore, we propose that the lower a consumer’s perceived need for a product or service when shopping on the Internet, the higher their hesitation to purchase the product or service (P9).

“Negative past experience” also affects the hesitation of adopting an innovation. Past experience is commonly equated to “mind set,” that is, a bias of previous experience to influence the present decision-making process. Thus, a consumer’s negative past experience (i.e., dissatisfaction) is ex-
pected to influence his/her current decision-making and thus increase the likelihood of delay in the decision. Therefore, it is legitimate to reason that if consumers were not satisfied with past experiences associated with online purchasing, they tend to hesitate to buy a product or service on the Internet. That is, the more negative consumers’ previous experiences associated with online shopping, the higher their hesitation to purchase a product or service on the Internet (P10).

Consumer characteristics. The consumer’s attitudinal and personal characteristics are major determinants of innovation resistance or hesitation. Considering that the Internet is a new innovation, it is believed that consumer characteristics may influence online product purchase behaviors such as delay or hesitation. In addition, online shoppers have different characteristics than general offline shoppers in terms of demographic profiles and motivations for shopping. One of the most important consumer characteristics influencing delay in online product purchases might be consumer attitude toward online shopping. In attempting to determine important reasons for “general” shopping hesitation, one study presented consumer attitude toward shopping. They argued that consumer hesitation takes place when consumers have unfavorable attitudes toward shopping in general. Delay increases when a person has a negative emotional response to a task and finds it unpleasant. In other words, consumers delay their purchase decisions because they feel that shopping is generally an unpleasant task. Likewise, more specifically to online shopping, we can expect that consumers hesitate to purchase a product or service on the Internet because they have unfavorable attitudes toward online shopping (P11).

In general, consumers approach purchasing products or services with certain personal consumption styles. For instance, consumers make purchases in accordance with their personal traits, such as being “high-quality-conscious,” “value-conscious,” and “confused by over choice.” High-quality-consciousness—the degree to which a consumer searches carefully and systematically for the best quality products—influences the consumer’s decision-making process in product purchases. Some researchers stress that consumers tend to purchase a product more slowly and deliberately when they are suspicious of the product's quality. Similarly, with online shopping, those consumers who are highly conscious of a product’s quality are expected to shop more carefully and systematically and thus delay purchasing of the product. That is, consumers who have a high-quality-conscious shopping style are more likely to delay purchasing a product or service on the Internet (P12).

Value consciousness is concerned with the ratio of quality perceived to price paid in a purchase transaction, and how it affects consumer decision-making. Consumers who appear conscious of lower prices attempt to get the best value for their money. Thus, they tend to actively search for and compare several sale prices for the product they intend to buy. In other words, they are viewed as comparison shoppers who spend additional time exploring many products or seeking information (e.g., prices, testimonials). Hence, consumers with high value-consciousness are expected to delay purchasing a product or service on the Internet. Consumers who have a tendency to be confused by too much information have different decision-making styles from those who are less confused by overchoice when purchasing products or services. Corbin suggested that consumers delay purchasing decisions or hesitate in order to get more information about their targeted products. Similarly, consumers feel less uncertain of decisions when they acquire more information. However, if they have too much information about the products they intend to buy, they may experience confusion or difficulty in making choices. Especially on the Internet, consumers are more likely to experience information overload since the Internet can offer a variety of information about numerous brands with varying prices. For example, online shopping stores do not have physical constraints in terms of product display, which makes shelf space in online stores virtually infinite and thus allows the online stores to offer a large number of alternatives within a product category. Although the access to numerous products within a product category might be desirable to consumers, they may not be able to process the all available information because of their limited cognitive resources. Hence, consumers who have a tendency to be confused by information overload are more likely to delay purchasing a product or service on the Internet (P13).

Types of delay in online product purchases

The current study is concerned with what reasons or factors motivate consumers to delay their decisions to purchase items on the Internet. Online
shopping hesitation or delay as a dependent variable may be classified based on the stages of decision-making. The hesitation can be in the stream or process of alerting, exploring, and analyzing that precede the final decision moment. The current study examines product purchase delay in three procedural aspects: (1) overall hesitation, (2) shopping cart abandonment, and (3) hesitation to click the final payment button. First, overall hesitation regards general hesitation tendency in online shopping stemming from perceived risk or uncertainty aspects of the medium (e.g., information overload, privacy concerns, technological avoidance). Second, shopping cart abandonment regards the dropping of product items placed into the shopping cart as determined by various reasons such as, lack of confidence in quality, more price comparison, expensive shipping costs, etc. The last aspect of product purchase delay concerns hesitation in the final stage of the transaction (i.e., hesitating to click the final payment button to complete the order of products online, induced by being afraid of credit card misuses, uncertainty of return policies and secure delivery). Figure 1 shows a diagram summarizing the research propositions.

METHODS

Study I: Structure of delay reasons in online purchases

The delay reasons utilized in the current study were compiled from various previous studies on consumer decision-making, identifying such reasons as diffusion of product innovations and perceived risk or uncertainty in product purchases. We also reviewed online-shopping related trade journals such as eMarketer and MediaPost to compile medium/channel related factors. This process resulted in a total of 47 delay reasons, included in Study I. The main purpose of Study I was to create an understanding of the structure of delay reasons for online purchases. Subjects were first screened by inquiring whether they had refused or delayed product purchases online in the last six months. If so, they rated the degree of delay for three hesitation aspects (overall hesitation, shopping cart abandonment, and hesitation to click a payment button), using a Likert scale ranging from 1 (never hesitate) to 7 (always hesitate). Then, the subjects listed the product categories for which they delayed or refused their online purchase decisions in the past six months. Next, each subject went through 47 delay reason statements to indicate how much they agreed on individual reasons for their past delay or hesitation in the context of the product categories they had listed earlier. Seven-point Likert scales (1, strongly disagree; 7, strongly agree) were used to measure the agreement on the delay reasons.

A sample of 40 students from a large southeastern university completed the survey. Factor analysis was conducted to examine the underlying structure of delay reasons. Ten principal components, explaining 88.1% of total variance, had eigenvalues greater than one and were retained for varimax rotation. In interpreting the rotated factors, we focused on items that loaded at least ±0.5 on the factor of interest and did not load higher than ±0.4 on any other factor. The interpretation of each factor along with an individual item’s factor loading is reported in Table 1. Ten identified factors representing 30 items successfully reflect 10 propositions for delay reasons proposed earlier (P1–P10): P1 as factor 6 (can’t afford), P2 as factor 3 (need consent) and factor 9 (social risk), P3 as factor 8 (psychological risk), P4 as factor 2 (comparison shopping), P5 as factor 1 (website reliability) and factor 2 (comparison shopping), P6 as factor 1 (website reliability), P7 as factor 4 (online security), P8 as factor 10 (time pressure), P9 as factor 5 (uncertain needs), and P10 as factor 7 (negative past experience). Thirty delay items representing the ten factors were included in the following main survey, Study II.

Study II: Relative importance of delay reasons

The main purpose of Study II was to examine the relationship between ten delay factors and three procedural hesitation types identified in Study I. In addition, the study was constructed to examine the impact of four consumer characteristic factors on three hesitation types (P11–P14). Finally, we examined the relative importance of delay reasons in predicting three types of online shopping hesitation.

Sample. In Study II, college students were again used as the study sample. According to MediaPost, younger shoppers are more likely to be dissatisfied with their online shopping experiences than older shoppers. Therefore, college students appear to be more hesitant shoppers and thus should be a reasonable segment for study of shopping hesitation. Student samples have also been used in previous research studies on delay. A sample of 245 students enrolled in two large undergraduate communication courses participated in the main survey.
**TABLE 1. TEN FACTORS OF DELAY REASONS IDENTIFIED THROUGH STUDY I**

<table>
<thead>
<tr>
<th>Ten factors and factor loading in brackets</th>
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**Factor 1: Website reliability, quality, and trustworthy**
1. I felt the checkout required too much personal information (0.73)
2. I felt the checkout process was too complicated (0.79)
3. The checkout process was confusing (0.86)
4. I felt the sites were unstable (0.91)
5. I felt the sites were unreliable (0.86)
6. It took too long to download necessary product information (slow load times) (0.62)
7. I felt shipping prices were too high (0.59)

**Factor 2: Comparison shopping/more information needed**
1. I wanted to get a better idea of prices charged at different websites (0.63)
2. I wanted to get a better idea of prices charged at physical retail stores (0.82)
3. I wanted to conduct comparison shopping or browsing (0.81)
4. I felt I would find the products in retail stores at similar or even lower prices (0.71)
5. I was concerned that the products could not be held, felt or tried on as those in physical retail stores (0.52)
6. I was concerned that it would be difficult to return the products if not satisfied after purchasing (0.77)

**Factor 3: Need consent/advice**
1. I needed to get other people to agree on the choice (0.87)
2. I wanted to get someone else’s help in making the decision (0.90)
3. I needed to check with someone else before making a choice (0.88)

**Factor 4: Online security/privacy**
1. I did not feel secure about online credit card transactions (0.80)
2. I was concerned that the companies would misuse the personal information I provided (0.52)
3. I was concerned about secure delivery of the products (0.54)

**Factor 5: Avoid regrets/uncertain needs**
1. I wanted to avoid any regrets over having made the wrong decision (0.75)
2. I was reluctant to actually spend the money, even though I had the money to buy the item (0.62)
3. Other things had higher priority at that time (0.59)

**Factor 6: Can’t afford/better not purchase now**
1. I couldn’t afford to make the purchase at that time (0.75)
2. I thought making wrong decisions would be more costly than not making or delaying decisions (0.78)

**Factor 7: Negative past experience**
1. I am overall dissatisfied with the products I have purchased online (0.89)
2. My overall online shopping experiences are unsatisfactory (0.72)

**Factor 8: Psychological risks**
1. I had made poor purchase decisions in the past (0.55)
2. I thought a better product might be introduced soon (0.72)

**Factor 9: Social Risk**
I wanted to select a product which would make other people think highly of me (0.73)

**Factor 10: Time pressure**
I was too busy to devote time to the purchase decisions (0.84)

Each item was measured by a seven-point Likert scale (1, strongly disagree; 7, strongly agree).

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Procedure. This survey was conducted online. Subjects were initially screened with a question about whether they had refused or delayed product purchases online in the previous 6 months. This screening resulted in 220 usable respondents. The remaining procedure was as follows: (1) rating the degree of delay for three hesitation aspects, (2) listing product categories for which subjects delayed their decisions, (3) rating delay reasons and their personal and shopping characteristics, and (4) re-
sponding to demographic questions, including online shopping frequencies. The products for which students delayed their purchase decisions in the previous 6 months represented a broad range of product categories, including computer products, clothes, shoes, electronics, CDs, books, DVDs, airline tickets, accessories, makeup, and home furnishings.

Results. Table 2 represents means and standard deviations from question items used to measure three hesitation types and all predictor variables. Table 2 also shows each variable’s reliability coefficient (Cronbach’s alpha), which were all higher than the recommended level (0.70), except “can’t afford/better not purchase now” (0.58). To examine the impact of various delay factors on online shopping hesitation, a hierarchical regression model, similar to that used by Ferguson,16 Wenner and Dennehy,54 and Speck and Elliott,47 was employed. The researcher ran four regressions for each hesitation type.

Regression 1. Consumer characteristics including demographic variables were entered in the first regression. The set of consumer characteristic variables accounts for 14% of the variance in overall hesitation, 12% of the variance in shopping cart abandonment, and 10% of the variance in hesitation at the final payment. This suggests that consumer characteristic factors explain more variance in overall hesitation than in cart abandonment and payment hesitation. More specifically on the effects of individual variables, the result shows that, overall, white students are more likely to hesitate while online shopping (β = 0.22; p < 0.01). Similarly, college students who have unfavorable attitudes toward online shopping and who are highly product-quality-and value-conscious tend to hesitate more in the final payment stage (β = −0.22, 0.23, and 0.25, respectively; p < 0.01). The effects of gender, shopping frequency and shopping money are not significant for any type of shopping hesitation.

Regression 2. The set of contextual factors was entered in the second regression. The incremental $R^2$ for three types of hesitation was 0.11 for overall hesitation, 0.16 for shopping cart abandonment, and 0.19 for hesitation at payment. College students generally hesitated at making online purchases because they wanted to avoid regrets over making wrong decisions (β = 0.17; p < 0.05). They abandoned or dropped their shopping carts because they had negative past experience (β = 0.30; p < 0.01). College students hesitated to click the final payment button because of possible future regrets over their decisions (β = 0.23) and negative previous experience (β = 0.26; p < 0.01).

Regression 3. Perceived uncertainty factors were considered next. The incremental $R^2$ for three types of hesitation was 0.13 for overall hesitation, 0.18 for shopping cart abandonment, and 0.04 for hesitation at payment. This group of factors provides the most explanatory power for shopping cart abandonment with the highest incremental $R^2$ of 0.18. College students generally hesitated at making online purchases because of perceived social risk (i.e., they wanted to select a product which would make other people think highly of them; β = 0.18; p < 0.05). They dropped product items off their shopping carts because they wanted to conduct comparison shopping in order to get a better idea of prices charged at different websites or physical retail stores (β = 0.33; p < 0.01). None of perceived uncertainty factors are significant for hesitation at payment. The effects of “need consent/advice,” “cannot afford,” and “psychological risk” are not significant for any type of shopping hesitation.

Regression 4. Channel/medium innovation factors were entered in the final regression. This group of factors provides the most explanatory power for overall hesitation and hesitation at the final payment stage, showing the highest incremental $R^2$ (0.15 for overall hesitation and 0.21 for hesitation in the final payment stage). College students generally hesitate in making online purchases because of perceived privacy risk (i.e., they
TABLE 2. DESCRIPTIVE STATISTICS OF ALL VARIABLES USED IN STUDY II

<table>
<thead>
<tr>
<th>Variables</th>
<th>Reliab. α</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
<tr>
<td><strong>Overall hesitation (1, never; 7, always)</strong></td>
<td>0.91</td>
<td>4.53</td>
<td>1.39</td>
</tr>
<tr>
<td>I have hesitated to purchase products online at the final decision stage after spending some time finding the products.</td>
<td></td>
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<tr>
<td>I have delayed my final purchase decision online at the checkout stage.</td>
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<tr>
<td>I have decided not to buy products that I spent some time online trying to find.</td>
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<tr>
<td>I was almost ready to buy products online, but could not make the final decision.</td>
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<tr>
<td>I have searched for specific products online with some purchase intention, but have not made the final decisions at the same time I browsed the net.</td>
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</tr>
<tr>
<td><strong>Shopping cart abandonment (1, never; 7, always)</strong></td>
<td>0.87</td>
<td>4.33</td>
<td>1.42</td>
</tr>
<tr>
<td>I have abandoned my shopping carts, delaying my purchase decision.</td>
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<tr>
<td>I have abandoned my shopping carts, saving the product items I put into the carts for later purchase.</td>
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<tr>
<td>I have abandoned my shopping carts, without saving the product items I put into the carts for later purchase.</td>
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<td></td>
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<tr>
<td>I have abandoned my shopping carts, refusing all purchase options (removing all product items I put into the carts).</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I have abandoned my shopping carts, deciding not to buy the items at that time or later.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hesitation to click the payment button (1, never; 7, always)</strong></td>
<td>0.88</td>
<td>4.74</td>
<td>1.56</td>
</tr>
<tr>
<td>I have hesitated to click the final payment button to purchase products online.</td>
<td></td>
<td></td>
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<tr>
<td>It has taken some time for me to click the final payment button to purchase products online.</td>
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<tr>
<td>I have thought twice before I have clicked the final payment button to purchase products online.</td>
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<tr>
<td><strong>10 Delay Factors (1, strongly disagree; 7, strongly agree)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 1: Website reliability, quality, and trustworthy</td>
<td>0.91</td>
<td>4.26</td>
<td>1.47</td>
</tr>
<tr>
<td>Factor 2: Comparison shopping/more information needed</td>
<td>0.88</td>
<td>4.98</td>
<td>1.36</td>
</tr>
<tr>
<td>Factor 3: Need consent/advice</td>
<td>0.92</td>
<td>3.66</td>
<td>1.74</td>
</tr>
<tr>
<td>Factor 4: Online security/privacy</td>
<td>0.90</td>
<td>4.68</td>
<td>1.61</td>
</tr>
<tr>
<td>Factor 5: Avoid regrets/uncertain needs</td>
<td>0.79</td>
<td>4.87</td>
<td>1.42</td>
</tr>
<tr>
<td>Factor 6: Can’t afford/better not purchase now</td>
<td>0.58</td>
<td>4.43</td>
<td>1.53</td>
</tr>
<tr>
<td>Factor 7: Negative past experience</td>
<td>0.83</td>
<td>3.56</td>
<td>1.70</td>
</tr>
<tr>
<td>Factor 8: Psychological risks</td>
<td>0.77</td>
<td>3.94</td>
<td>1.60</td>
</tr>
<tr>
<td>Factor 9: Social Risk</td>
<td>n/a</td>
<td>2.96</td>
<td>1.92</td>
</tr>
<tr>
<td>Factor 10: Time pressure</td>
<td>n/a</td>
<td>3.16</td>
<td>1.80</td>
</tr>
<tr>
<td><strong>High quality conscious</strong> (borrowed from Sproles and Sproles50) (1, strongly disagree; 7, strongly agree)</td>
<td>0.87</td>
<td>5.69</td>
<td>1.33</td>
</tr>
<tr>
<td>Getting very good quality is very important to me.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When it comes to purchasing products, I try to get the very best or perfect choice.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, I usually try to buy the best overall quality.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Confused by overchoice</strong> (borrowed from Sproles and Sproles50) (1, strongly disagree; 7, strongly agree)</td>
<td>0.90</td>
<td>4.18</td>
<td>1.60</td>
</tr>
<tr>
<td>There are so many brands to choose from that I often feel confused.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes it’s hard to choose which stores to shop.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The more I learn about products, the harder it seems to choose the best.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All the information I get on different products confuses me.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)
... do not feel secure about online credit card transactions, and they worry that websites may misuse their personal information they provide; $\beta = 0.18; p < 0.05$). They abandon their online shopping carts because they feel websites are unreliable, require too much personal information, and have confusing checkout processes ($\beta = 0.23; p < 0.01$). Similarly, college students tend to hesitate in clicking the final payment button because they are concerned about online security and privacy infringement ($\beta = 0.34; p < 0.01$).

Overall, the final regression explains 53–60% of variance in online shopping hesitation. The strongest predictor of shopping hesitation varied with types of hesitation. The strongest predictor of overall hesitation was “consumers’ value-consciousness traits” ($\beta = 0.22; p < 0.01$). “Comparison shopping/need more information” for shopping cart abandonment ($\beta = 0.33; p < 0.01$) and “online security/privacy” was the strongest predictor for hesitation at the final payment stage ($\beta = 0.34; p < 0.01$).

### DISCUSSION

Little has been understood about why consumers delay or hesitate when making online product purchases, and the current study tries to provide insight into the question by providing comprehensive delay reason items and examining the underlying structure of delay reasons in online product purchases. This study considered four groups of variables (i.e., consumer characteristics, contextual factors, perceived uncertainty factors, and medium/channel innovation factors), that predict three types of online shopping hesitation (i.e., overall hesitation, shopping cart abandonment, and hesitation at the final payment stage).

In terms of explained variance, delay reasons related to perceived uncertainty explain shopping cart abandonment better than overall hesitation and final payment hesitation, while medium/channel innovation factors predict better for hesitation in payment than for shopping cart abandonment.
and overall hesitation. Consumer characteristic factors are more closely related to overall hesitation than to payment hesitation and cart abandonment. This varying degree of explained variance by different groups of delay reasons supports the value of studying these procedural aspects of online shopping hesitation. The summary of findings regarding factors affecting online shopping hesitation is as follows. Corresponding proposition (P) for each finding is listed in brackets:

- **Overall hesitation.** College students are more likely to overall hesitate when purchasing a product or service online if they are white, have an unfavorable attitude toward online shopping (P11), are highly quality-conscious (P12) are highly value-conscious (P13), want to avoid regrets over making wrong decisions, feel time pressure (P8), perceive high social risk (P2), or perceive high privacy/online security risk (P7). Value-consciousness is the strongest predictor of overall shopping hesitation.

- **Shopping cart abandonment.** College students are more likely to drop product items off their online shopping carts if they spend more time on the Internet, tend to be confused by overchoice (P14), are highly value-conscious (P13), have a negative past experience (P10), want to conduct
comparison shopping to get a better idea of prices charged at different websites or physical retail stores (P4), or feel websites are unreliable, require too much personal information or have confusing checkout processes (P6). Comparison shopping is the strongest predictor of shopping cart abandonment.

- **Hesitation at the final payment stage.** College students are more likely to hesitate to click the final payment button if they have unfavorable attitudes toward online shopping (P11), are highly quality-conscious (P12) or value-conscious (P13), want to avoid regrets over making wrong decisions, have a negative past experience (P10), or perceive high privacy/online security risk (P7). Online security/privacy risk is the strongest predictor of hesitation at the final payment stage.

The current study has an important managerial implication. This study finds that different sets of delay factors are related to different aspects of online shopping hesitation. The managerial implication of this finding is that by observing different delay reasons associated with different aspects of online shopping hesitation, online marketers can develop various hesitation-reduction devices or decision-helping agents to enhance consumer's purchase completion in each stage of online decision-making. For example, use of devices to reduce various delay reasons in the shopping cart stage (e.g., price comparison, negative past experience, website reliability) may decrease decision deferral and help consumers complete the online purchase more easily. These devise may include expert advice, reference appeal, endorsement from other buyers, price comparison with other websites or physical stores, etc. Similarly, using various devices to reduce privacy/online security risk may diminish hesitation likelihood in the final payment stage and make consumers have confidence in completing the transaction. The possible devices may include a guarantee that no personal information would be misused, advanced encryption methods for secure card transaction, money-back guarantee, etc. The appropriate use of delay-reduction devices or decision-helping agents may help consumers close delay reasons, complete the purchases, and make them more confident and satisfied with their final product purchase decisions (e.g., this product is the best choice, so I will not regret my purchase; the website guaranteed safe card transactions and no misuse of personal information, so I feel safe).

While the current study provides valuable insights into consumer hesitation in making online product purchases, further research will be needed to obtain a deeper understanding of behavioral hesitation for online shopping. The presence and importance of delay reasons may vary with product purchase situations. However, our study did not examine delay reasons for specific product purchase situations (e.g., high- vs. low-involvement product purchases, expensive vs. cheap product purchases, emotional vs. rational product purchases). For example, emotion-driven products such as jewelry and designer clothes may yield different delay reasons (e.g., social risk: this product may or may not make other people think highly of me), compared to rational or thought-driven products such as a personal computer or scanner, which might be more associated with product-performance reasons (e.g., this product may or may not deliver reliable performance). Therefore, an area for future research of interest to both consumer researchers and online marketers should be to undertake a comprehensive study examining the effect of delay reasons in various product purchase situations. In addition, the current study did not examine detailed delay reasons in stage-by-stage decision-making processes (e.g., need recognition, information search, narrowing down alternatives, adding to the cart, selecting payment and shipping method, providing necessary personal information, and final transaction). The result of such research would help online marketers design specific delay reduction tools for each individual decision-making stage. In conclusion, the current study was initial attempt to examine comprehensive factors influencing hesitation for online product purchases and lays a significant foundation for future research in this field.

**REFERENCES**


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