ONLINE PURCHASE DELAY: THE ROLES OF ONLINE CONSUMER EXPERIENCES

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ABSTRACT

In this study, four types of online consumer experiences (OCEs) were developed to ameliorate the negative outcomes of purchase delay during online purchasing: low human-message interactivity (HMI) involving low human-human interactivity (HHI; HMI^{L}-HHI^{L}), high HMI involving low HHI (HMI^{H}-HHI^{L}), low HMI involving high HHI (HMI^{L}-HHI^{H}), and high HMI involving high HHI (HMI^{H}-HHI^{H}). This study comprised three experiments (pilot study, Study 1, and Study 2), in which 987 online shoppers participated (80 in pilot study; 187 in Study 1; 720 in Study 2). The results indicated that consumers who delay an online purchase might soon experience heightened purchase intention because of subsequent positive OCEs. Desire for control (DC) and consumer susceptibility to interpersonal influence (CSII) moderate the effects of OCEs on purchase intention; consumers who exhibit low levels of DC and CSII prefer HMI^{L}-HHI^{L}, consumers who exhibit high DC and low CSII levels prefer HMI^{H}-HHI^{L}, consumers who exhibit low DC and high CSII levels prefer HMI^{L}-HHI^{H}, and consumers who exhibit high DC and CSII levels prefer HMI^{H}-HHI^{H}.

Keywords: Online purchase delay; Online consumer experiences; Interactivity; Desire for control; Consumer susceptibility to interpersonal influence

1. Introduction

Online shopping has become increasingly prevalent in the last decade, and has the potential to grow continually [Song & Kim 2012]. However, unlike those shopping in traditional offline stores, online shoppers execute transactions without meeting a seller [Ye et al. 2013]. Online shopping is a remote transaction [Hsu et al. 2007; Poddar et al. 2009] that can cause asymmetric information [Ghose 2009; Román & Cuestas 2008]; thus, consumers may hesitate before making purchasing decisions (hereinafter called *online purchase delay*), preferring to search for supplementary information online and compare alternative products [Chen & Chang 2003; Haubl & Trifts 2000; Jensen et al. 2003; Teo 2006].

Online purchase delay can be defined as active consumer postponement of a decision to buy a product or service over the Internet [Greenleaf & Lehmann 1995; Tversky & Shafir 1992; Walsh et al. 2007]; this delayed decision may harm both e-tailers and consumers. For e-tailers, *online purchase delay* postpones or prevents cash flow, negatively affecting their profits [Walsh et al. 2007]. For consumers, purchase postponement increases costs because of the time and effort spent searching for and processing information [Walsh et al. 2007], only to potentially abandon the purchasing decision. Thus, determining methods of preventing and overcoming *online purchase delay* is critical; whereas, previous studies [Cho et al. 2006; Kukar-Kinney & Close 2010; Walsh et al. 2007] have discussed preventing purchasing delay, few have explored methods of overcoming it.

Online consumer experiences (OCEs) are defined as psychological and emotional states that consumers experience while interacting with products online [Li et al. 2001]. Because OCEs cause positive product knowledge,

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brand attitudes, and purchasing intentions [Daugherty et al. 2008; Li et al. 2002; Li et al. 2003; Suh & Lee 2005], it was proposed that OCEs may facilitate overcoming *online purchase delay*.

Previous studies have classified OCEs as indirect and virtual experiences based on their ability to "control the message" [Daugherty et al. 2008; Li, et al. 2001; Li et al. 2002; Li et al 2003]. However, such classification requires elaboration. The concepts of social cues [Wang et al. 2007] and interpersonal communication [Liu & Shrum 2002] also deserve consideration. "Interactivity" is a key feature of Web sites [Ghose & Dou 1998; Sicilia et al. 2005; Song & Zinkhan 2008] and can be classified as both a form of human-message interactivity (HMI) and human-human interactivity (HHI). HMI is the ability of the user to control and modify messages [Ariely 1998; Steuer 1992], which is similar to the basis of traditional OCE classification (i.e., controlling the message). HHI is the two-way, reciprocal communication between senders and receivers [Cho & Cheon 2005; Ko et al. 2005], involving social cues and interpersonal communication. Therefore, based on the concept of interactivity, this study proposed reclassifying OCEs by using HMI (i.e., high or low HMI) and HHI (i.e., high or low HHI).

Despite proposing that OCEs overcome the negative outcomes of *online purchase delay*, this study determined that two critical variables may moderate the effects of OCEs. The first possible moderating variable is desire for control (DC), which is a stable personality trait reflecting the extent to which people are motivated to control the events in their lives [Burger & Cooper 1979]. Based on Controlling the Information Flow Theory [Ariely 2000], consumers who exhibit a high level of DC may prefer high levels of HMI. The second possible moderating variable is consumer susceptibility to interpersonal influence (CSII), which is the need to identify with or to enhance personal image in the opinion of others by acquiring and using products and brands, demonstrating willingness to conform to the purchasing expectations of others, or learning about products and services by observing or seeking information from others [Bearden et al. 1989]. Based on Social Response Theory [Nass et al. 1995], consumers who exhibit high levels of CSII prefer high levels of HHI.

Therefore, this study involved a concerted effort to classify OCEs and determine which types of OCEs overcame the negative effects of purchase delays during the online-purchasing process. This study also discussed the moderating roles of DC and CSII.

2. Literature Review

2.1. Online Purchase Delay

Online purchase delay can be defined as the active postponement of a decision to buy a product or service on the Internet [Greenleaf & Lehmann 1995; Tversky & Shafir 1992; Walsh et al. 2007].

Tversky & Shafir [1992] indicated that consumers typically seek to maximize the value of their purchases. When consumers feel conflicted about a purchase, they may delay the decision and seek additional information. Dhar [1997] proposed that in the real world, decision makers have few choices because they seek information on existing products or search for new alternatives. Certain studies have indicated that consumers may hesitate to make purchasing decisions because they spend time gathering additional information regarding the possible purchase [Greenleaf & Lehmann 1995; Shugan 1980].

Luce et al. [1997] determined that decision difficulty results from information that is excessively abundant or complex for the decision maker; this finding that was consistent with those of other studies [Einhorn & Hogarth 1981; Huffman & Kahn 1998; Payne 1982]. Walsh et al. [2007] suggested that consumer overload confusion stemming from advertisements causes decision postponement and negatively influences brand loyalty.

Based on the aforementioned studies, reasons for purchase delay were separated into two categories: the "need for additional information" and "excessive or complex information." Although previous studies have focused on offline environments, this study proposed that the need for additional information and excessive or complex information can induce *online purchase delay*.

Cho et al. [2006] proposed that consumers hesitate to purchase on the Internet because they perceive Web sites as unreliable. According to Everard & Galletta [2006], consumers who perceive flaws in the information reliability of an online store exhibit decreased trust toward that store, negatively affecting their purchase intention. Studies have also proposed that information reliability is the critical antecedent of online purchase decisions [Kim et al. 2008; Urban et al. 2000]. Therefore, it was assumed that "low information reliability" may be an essential reason for *online purchase delay*.

Because *online purchase delay* may harm the profits of e-tailers and increase consumer search costs [Walsh et al. 2007], methods of increasing purchase intention after consumer hesitation warrant investigation. Previous studies have explored the reasons for purchase postponement to prevent such problems; however, few studies have discussed overcoming such problems after consumers actively delay a purchase. The next section introduces the concept of OCEs and how these can be applied to overcome *online purchase delays*.

2.2. Online Consumer Experiences (OCEs)

Consumer experience is defined as a psychological and emotional state that consumers experience while interacting with a product [Li et al. 2001]. Li et al. [2001] indicated that three types of consumer experiences exist: direct, indirect, and virtual experiences. A direct experience is an unmediated interaction between products and the full sensory capacity of consumers, primarily comprising the visual, auditory, gustatory, olfactory, somatic, and orienting senses [Klein 2003; Suh & Lee 2005]. None of these senses are used in indirect experiences because no physical contact with the product is involved [Li et al. 2002]. Although virtual experiences are a form of indirect experience, they tend to be richer than indirect experiences and typically involve only two senses (vision and hearing) because the virtual environments of most Web-based stores use the images and sounds displayed on monitors and speakers [Suh & Lee 2005]. Thus, OCEs can be classified as indirect and virtual experiences according to the message-control concept [Daugherty et al. 2008; Li et al. 2001; Li et al. 2002; Li et al. 2003].

Because social cues [Wang et al. 2007] and interpersonal communication [Liu & Shrum 2002] are central concepts in online communication, this study proposed that the typologies of OCEs must be extended. The concept of interactivity is introduced in the following paragraph, which discusses how this study attempted applies interactivity to OCE classification.

Interactivity is a key feature of Web sites [Ghose & Dou 1998; Sicilia et al. 2005; Song & Zinkhan 2008] because they are based on information and communication technologies that enable simple and rapid interactions between consumers and advertisers [Coyle & Thorson 2001; Ha & James 1998].

Interactivity is a complex and multidimensional concept that can be defined in several ways, but two dimensions most frequently appearing in relevant literature: HMI and HHI [Cho & Cheon 2005; Ko et al. 2005; Suntornpithug & Khamalah 2010; Yu et al. 2008]. From an HMI perspective, interactivity is the ability of the user to control and modify messages [Ariely 1998; Steuer 1992]. Control is a key characteristic of interactivity [Heeter 2000; Lombard & Ditton 1997; Yadav & Varadarajan 2005]. In traditional media, users have numerous choices, but exert little control over the messages. For example, consumers can only flip through the channels and look for messages that match their attitudes and interests [Westin et al. 1993]. By contrast, the Internet enables users to control the messages they receive and customize these messages according to their needs [Liu & Shrum 2002]. Users can manipulate and customize messages by altering the colors, shapes, graphics, sounds, and order of the content in a message [Ko et al. 2005].

From an HHI perspective, interactivity is defined as is the two-way, reciprocal communication between senders and receivers [Cho & Cheon 2005; Ko et al. 2005]. HHI is often discussed from an interpersonal-communication perspective [Liu & Shrum 2002]; the more that communication in a computer-mediated environment resembles interpersonal communication, the more it is considered interactive communication [Ha & James 1998]. The message flow in traditional mass media is one-way, from senders to receivers [Cook 1994]. By contrast, in new interactive media, marketers can deliver information to individual consumers and consumers can provide feedback [Ko et al. 2005].

This study applied the concept of interactivity to classify OCEs into four dimensions on the basis of previous studies [Cho & Cheon 2005; Ko et al. 2005; Liu & Shrum 2002; Yu et al. 2008] (Figure 1).

Online Consumer Experiences (OCEs)		Human-Human Interactivity (HHI) (Interpersonal Communication)	
		Low	High
Human-message Interactivity (HMI) (Message Control)	Low	HMI^{L}-HHI^{L}	HMI^{L}-HHI^{H}
	High	HMI^{H}-HHI^{L}	HMI^{H}-HHI^{H}

Figure 1: Typology of Online Consumer Experiences (OCEs)

HMI^{L}-HHI^{L} refers to low levels of message control and interpersonal communication such as online "print advertisements" that contain static text and product pictures.

HMI^{H}-HHI^{L} refers to high levels of message control and low levels of interpersonal communication, such as virtual reality or interactive Web pages, which enable consumers to actively choose the information they want.

HMI^{L}-HHI^{H} refers to low levels of message control and high levels of interpersonal communication such as online print advertisements involving a model, avatar or spokesperson.

HMI^{H}-HHI^{H} refers to high levels of message control and levels of high interpersonal communication, such as a discussion forum, Q&A, or online customer service center, which enables consumers to actively communicate with others.

This study proposed that the effects of these four OCEs are moderated by the two consumer trait variables (DC and CSII); these variables are introduced in the following sections.

2.3. Desire for Control (DC)

DC is defined as a stable personality trait reflecting the extent to which people are motivated to control events in their lives [Burger & Cooper 1979]. People who exhibit a high DC can be described as assertive, decisive, and active; they typically seek to influence others when doing so is advantageous and prefer to avoid unpleasant situations or failures by manipulating events to ensure their desired outcomes [Burger 1985; Burger & Cooper 1979]. People who exhibit a high DC typically seek leadership roles in group situations [Burger 1985; Burger & Cooper 1979]. People who exhibit a low DC are typically nonassertive, passive, and indecisive; they are unlikely to attempt to influence others, and may prefer that certain daily decisions be made by others [Burger 1985; Burger & Cooper 1979].

2.4. Consumer Susceptibility to Interpersonal Influence (CSII)

CSII is defined as the need to identify with or enhance personal image in the opinion of others by acquiring and using products and brands, demonstrating willingness to conform to the purchasing expectations of others, or learning about products and services by observing or seeking information from others [Bearden et al. 1989]. McGuire [1968] indicated that susceptibility to interpersonal influence is a general trait that varies among people and that the relative influenceability of a person in one a situation tends to be positively related to their influenceability in various social situations [Bearden et al. 1989]. Previous studies have applied CSII to advertising [Prendergast et al. 2008] and purchase behavior [Lalwani 2002].

3. Research Hypotheses

This study investigated the effects of OCEs on *online purchase delay*. One pilot study and two formal studies (Studies 1and 2) were conducted. Figure 2 shows the integrated research framework of this study.

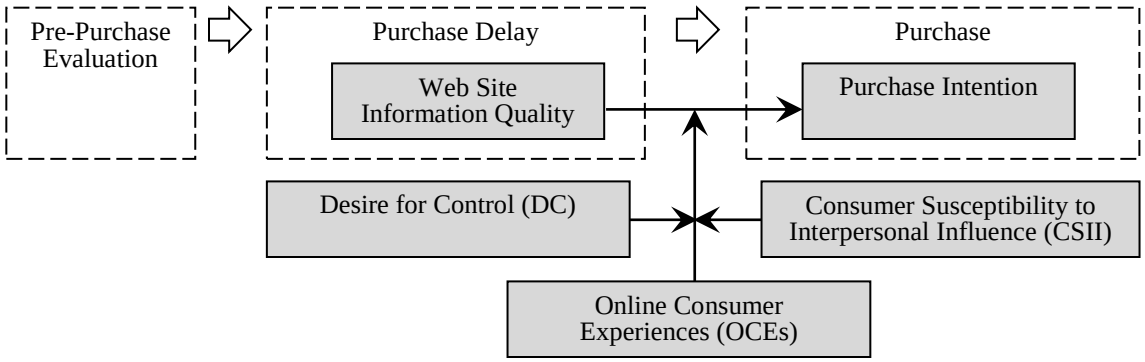

Figure 2: Integrated Research Framework

Because *online purchase delay* means that consumers actively postpone making online purchase decisions, this study were unable to assign participants to an *online purchase delay* condition. This study conducted the pilot study to facilitate Studies 1 and 2; understand the reasons for *online purchase delay*; and design a relatively impartial purchase situation, enabling participants to actively decide to either "buy now" or "buy later."

In Study 1, this study compared the effects of OCEs and non-OCEs in the condition of *online purchase delay* and verified that when consumers decide to delay a purchase, providing OCEs can increase their purchase intention. This study leveraged the concept of interactivity [Cho & Cheon 2005; Ko et al. 2005; Liu & Shrum 2002; Suntornpithug & Khamalah 2010; Yu et al. 2008] to develop four OCEs: HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}.

In Study 2, this study investigated the moderating roles of DC and CSII on the effects of OCEs. Based on Controlling the Information Flow Theory [Ariely 2000], this study proposed that consumer DC moderates the effects of OCEs. According to Social Response Theory [Nass et al. 1995], this study proposed that CSII moderates the effects of OCEs during *online purchase delay*.

3.1. Web Site Information Quality, Online Purchase Delay, and Purchase Intention (Pilot Study)

McKinney et al. [2002] defined Web site information quality as customer perceptions regarding the quality of information presented on a Web site. The measurement comprised three dimensions: information reliability (trustworthiness, accuracy, and credibility), information usefulness (informativeness and value), and information understandability (clarity of meaning, ease of understanding, and readability). These dimensions may facilitate integrating the reasons for delays in consumer purchases online. *Online purchase delay* may be caused by low levels of reliability (i.e., low information reliability), usefulness (i.e., need for additional information), or understandability

(i.e., excessive or complex information) in Web site information (Table 1). This study proposed the following hypothesis:

H1: Web site information quality (reliability, usefulness, and understandability) affects consumer online purchase delay. Consumers who delay their purchases may perceive a lower level of Web site information quality compared with those who do not delay their purchases (i.e., non-"online purchase delay").

Table 1: Web Site Information Quality and Reasons for Online Purchase Delay

Dimensions of Web Site Information Quality	Reasons for Online Purchase Delay	References
Information Reliability	Low Information Reliability	Cho et al. 2006; Everard & Galletta 2006; Kim et al. 2008; Urban et al. 2000
Information Usefulness	Needing Additional Information	Bettman et al. 1998; Dhar 1997; Greenleaf & Lehmann 1995; Shugan 1980; Tversky & Shafir 1992; Walsh et al. 2007
Information Understandability	Excessive or Complex Information	Einhorn &Hogarth 1981; Greenleaf &Lehmann 1995; Luce et al. 1997; Payne 1982; Walsh et al. 2007

Online purchase delay means the active postponement of a decision to buy a product or a service on the Internet. In the consumer purchase process [Blackwell et al. 2001], purchase delay may occur between the pre-purchase evaluation and the purchase stage. Moreover, the purchase delays of consumers may negatively influence purchase intention [Lee & Dubinsky 2003]. Hence, this study proposed that *online purchase delay* yields negative consumer purchase intentions; thus, the following hypothesis is proposed:

H2: Consumer decisions to delay an online purchase may lower purchase intention to a greater degree compared with the purchase intention when no online purchase delay occurs (non-"online purchase delay").

Ahn et al. [2004] indicated that Web site information quality is likely to help consumers compare shopping products, enhance shopping enjoyment, and make superior purchase choices online. Cheung et al. [2008] proposed that consumers purchase decisions are determined by the perceived quality of Web site information. Lim et al. [2009] suggested that perceived Web site information quality positively affects purchase intention. Gregg & Walczak [2010] verified that high-quality Web site information results in an increased intention to purchase online. Thus, Web site information quality may positively influence the online purchase intentions of consumers; thus, the following hypothesis is proposed (Pilot Study framework, Figure 3):

H3: Web site information quality (reliability, usefulness, and understandability) positively influences purchase intention.

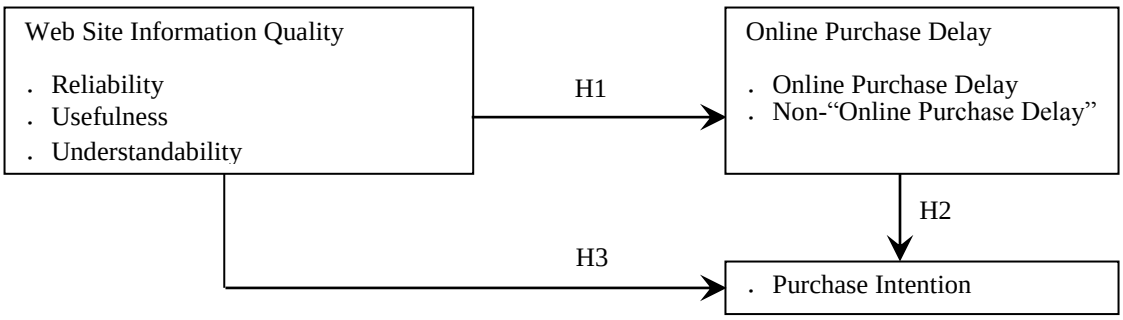

Figure 3: Framework of Pilot Study

3.2. Effects of OCEs during Online Purchase Delay (Study 1)

Past studies have suggested that OCEs positively influence advertising effects. Kim & Biocca [1997] concluded that the virtual experience created by a "presence" state could result in increased persuasion. Li et al. [2002] and Li et al. [2003] observed that 3D advertising (i.e., virtual experience) enhances presence and influences product knowledge, brand attitudes, and purchase intention. Griffith & Chen [2004] suggested that virtual experience enables consumers to directly evaluate product claims, thereby increasing their confidence. Studies have suggested

that OCEs increase product knowledge, brand attitudes, and purchase intention [Daugherty et al. 2008; Suh & Lee 2005]; therefore, this study proposed that OCEs ameliorate the negative outcomes of *online purchase delay*.

The OCEs were classified as HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H} based on interactivity. Studies have indicated that Web sites that involve HMI or HHI positively influence consumer purchase intention [Jiang et al. 2010; Ko et al. 2005]. This study proposed that after consumers become determined to delay an online purchase, experiencing any of the aforementioned OCEs strengthens their purchase intention compared with the purchase intention when no such OCEs (i.e., non-OCEs) occur. Thus, we proposed the following hypothesis, and Figure 4 presents the framework of Study 1:

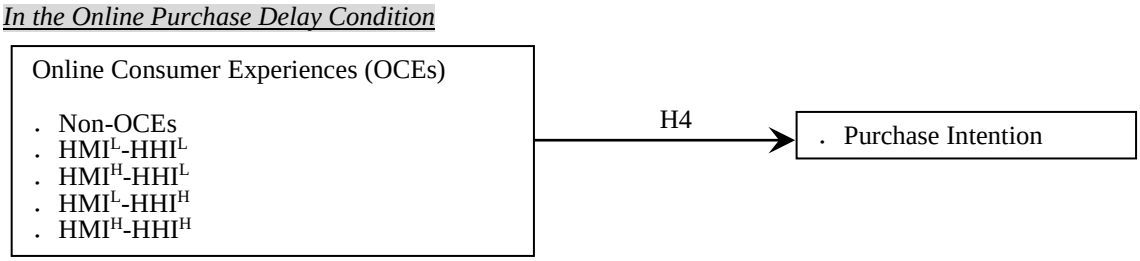

Figure 4: Framework of Study 1

H4: In the condition of an online purchase delay, situations in which OCEs (i.e., HMIL-HHIL, HMIH-HHIL, HMI^{L}-HHI^{H}, or HMI^{H}-HHI^{H}) occur yield higher purchase intentions compared with situations in which OCEs do not occur (i.e., non-OCEs).

3.3. The Moderating Effects of DC and CSII on OCEs during Online Purchase Delay (Study 2)

Providing consumers with information to assist their decision-making is a crucial objective for marketers [Bettman 1975]; however, substantial information may be not always effective because superfluous information can impede the ability of consumers to make decisions [Jacoby et al. 1974]. Hence, it is possible to provide interactive information systems that enable consumers to appropriately control and search for the information they require [Hoffman et al. 1996].

Controlling the Information Flow Theory was proposed by Ariely [2000], who discovered that even though information control allows consumers to use flexible information systems that fit their individual needs, information control might not always enhance the decision quality, memory, knowledge, and confidence of consumers. Excessive information control may increase consumer cognitive load, forcing consumers to spend substantial time managing the information flow (e.g., deciding what information will be presented first, for how long, which aspects of the information should be examined next, in what order, etc.) [Ariely 2000; Sohn et al. 2007]. Consumers can use effectively use information when it is controlled to match their individual preferences [Aksoy et al. 2006; Ylikoski 2005].

Burger [1992] indicated that people who exhibit a high DC prefer to closely control information and process it in detail, actively seeking to obtain control during interactions. People who exhibit a low DC prefer not to stringently control information. Liu & Shrum [2002] proposed that actively and stringently controlling interactivity is more satisfying for people who exhibit a high DC than for people who exhibit a low DC.

HMI implies that a user can control and modify messages [Ariely 1998; Steuer 1992]; therefore, based on Controlling the Information Flow Theory [Ariely 2000], this study proposed that consumers who exhibit a high DC prefer high levels of HMI (i.e., high message control) that matches their personality, thereby yielding an increased purchase intention. Conversely, consumers who exhibit a low DC demonstrate increased purchase intention in response to low levels of HMI (i.e., low message control).

Social Response Theory indicates that people tend to treat computers as social actors, even when they know that machines do not possess feelings, intentions, selves, or human motivations [Nass et al. 1995]. When presented with technology that exhibits a set of characteristics typically associated with human behavior (e.g., language, turn taking, and interactivity), humans respond by exhibiting social behaviors and creating social attributions [Moon 2000; Moon & Nass 1996; Sivaramakrishnan et al. 2007].

Chung & Ahn [2007] indicated that because people tend to believe that computers exhibit personalities and consider them social actors, being exposed to the various Web sites might yield differing responses among Web users; that is, the feelings generated in the initial interaction with a Web site affect the feelings in subsequent

interactions. Hence, a Web site exhibiting social cues may be more effective for those who are willing to accept the opinions of others than for those that are not.

Mourali et al. [2005] suggested that CSII is positively related to the relative preferences of consumers toward interpersonal information sources. HHI is two-way, reciprocal communication between senders and receivers [Cho & Cheon 2005; Ko et al. 2005] and involves interpersonal communication [Liu & Shrum 2002]. Based on Social Response Theory [Nass et al. 1995], this study proposed that consumers who exhibit a high CSII are willing to accept the opinions of others and prefer a high level of HHI (i.e., high levels of interpersonal communication); such conditions increase the purchase intentions of consumers. Conversely, consumers who exhibit a low CSII exhibit increased purchase intention in response to low levels of HHI (i.e., low levels of interpersonal communication).

Based on the aforementioned studies, we proposed that specific relationships exist among DC, CSII, and purchase intention in the presence of an *online purchase delay*. Thus, Hypotheses 5 through 8 are presented as follows, and the framework of Study 2 is presented in Figure 5.

H5: In the condition of an online purchase delay, consumers who exhibit a low DC and CSII exhibit higher purchase intentions in response to HMI^{L}-HHI^{L} than they do toward HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}.

H6: In the condition of an online purchase delay, consumers who exhibit a high DC and low CSII exhibit higher purchase intentions in response to HMI^{H}-HHI^{L} than they do toward HMI^{L}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}.

H7: In the condition of an online purchase delay, consumers who exhibit a low DC and high CSII exhibit higher purchase intentions in response to HMI^{L}-HHI^{H} than they do toward HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, and HMI^{H}-HHI^{H}.

H8: In the condition of an online purchase delay, consumers who exhibit a high DC and CSII exhibit higher purchase intentions in response to HMI^{H}-HHI^{H} than they do toward HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, and HMI^{L}-HHI^{H}.

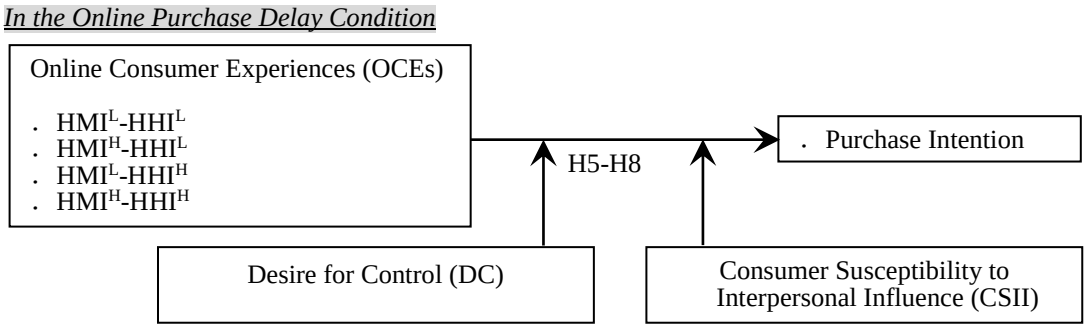

Figure 5: Framework of Study 2

4. Methods

4.1. Research Design

This study conducted three experiments. In the pilot study, the participants were provided with a brief list of digital camera specifications (weight, dimensions, number of effective pixels, lenses, lens focal lengths, focus distances, aperture, and image stabilization) and three pictures of digital cameras (in pink, white, and black) to familiarize them with the camera. Subsequently, the participants could click either "buy now" or "buy later" [Cho et al. 2006; Dhar & Nowlis 2004]. Finally, the participants provided their demographic characteristics, and expressed their perceptions regarding the Web site information quality (reliability, usefulness, and understandability) and their purchase intentions.

One factor was manipulated in Study 1 (HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, HMI^{H}-HHI^{H}, or non-OCEs). First, the participants were provided with a brief list of digital camera specifications (weight, dimensions, number of effective pixels, lens, lens focal lengths, focus distances, aperture, and image stabilization) and three pictures of digital cameras (in pink, white, and black) to familiarize them with the camera. Second, the participants could then click either buy now or buy later. Third, the participants who clicked buy later were randomly assigned one of the four OCEs (HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}) or were not provided with additional information (non-OCEs). A countdown timer was designed that corresponded to the HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H} scenarios, and the participants were required to spend more than 60 seconds browsing

relevant Web pages. Finally, the participants commented on their Web site socialness perceptions, active control, purchase intention, and demographics.

Study 2 involved a 4 (OCEs: HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, or HMI^{H}-HHI^{H}) × 2 (DC: high or low) × 2 (CSII: high or low) factorial design. First, the participants were provided a brief list of digital camera specifications (weight, dimensions, number of effective pixels, lens, lens focal lengths, focus distances, aperture, and image stabilization) and pictures of three digital cameras (in pink, white, and black) to familiarize them with the camera. Second, the participants could click either buy now or buy later. Third, the participants who clicked buy later were randomly assigned one of the four OCEs (i.e., HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, or HMI^{H}-HHI^{H}). A countdown timer was designed that functioned in the HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H} scenarios. The participants were then required to spend more than 60 seconds browsing relevant Web pages. Finally, the participants commented on their Web site socialness perceptions, active control, purchase intention, DC, CSII, and demographics.

4.2. Participants

The participants were registered users of the PTT bulletin board system (BBS), which is the largest BBS in Taiwan and has more than 1.5 million registered users. During peak hours, more than 150,000 users are typically online. The system contains more than 200,000 boards covering a multitude of topics. This study posted an e-shopping article on the PTT to recruit volunteers for participation in this study. In all, 987 PTT users (80 in the pilot study, 187 in Study 1, and 720 in Study 2) participated in the experiments.

4.3. Products

Daugherty et al. [2008] and Li et al. [2003] suggested using four criteria when comparing consumer experiences. These criteria require that the test product (a) engage participants in information processing, (b) contain both search and experience attributes, (c) represent an impartial brand of interest, and (d) be effectively represented in each type of experience. This study followed their criteria.

The first criterion is necessary because participants should process product information when evaluating the test product (i.e., high involvement). For pretesting, this study selected six products (notebook computer, digital camera, mobile phone, wristwatch, shoes, and clothes). The results of an analysis of variance (ANOVA) indicated that participant involvement [Daugherty et al. 2008] (Cronbach's $\alpha = 0.96$) significantly differed from product to product ($F_{(5, 264)} = 14.788$, $p = .000 < .05$) and that the top three involvement levels corresponded to notebook computers ($M = 30.09$, $SD = 6.53$), digital cameras ($M = 29.67$, $SD = 6.14$), and mobile phones ($M = 26.42$, $SD = 9.32$).

The second criterion required that this study selected a product featuring a balance between search and experience attributes. For pretesting, the study selected six products (notebook computer, digital camera, mobile phone, wristwatch, shoes, and clothes). The results indicated that the experience quality [Weathers et al. 2007] (Cronbach's $\alpha = 0.88$) significantly differed from product to product ($F_{(5, 264)} = 4.677$, $p = .000 < .05$) and that the top three experience-quality products were shoes ($M = 11.89$, $SD = 2.10$), clothes ($M = 11.71$, $SD = 2.02$), and digital cameras ($M = 11.51$, $SD = 2.25$). The search quality [Weathers et al. 2007] (Cronbach's $\alpha = 0.80$) significantly differed from product to product ($F_{(5, 264)} = 4.673$, $p = .000 < .05$), and the top three search-quality products were wristwatches ($M = 9.00$, $SD = 2.20$), notebook computers ($M = 8.67$, $SD = 2.06$), and digital cameras ($M = 8.38$, $SD = 1.91$). Thus, this study selected digital cameras as the test product.

The third criterion required that this study selected a product of median brand preference. This study selected nine brands of digital cameras to measure participant perceptions of brand quality and brand preferability in a pretest. The results indicated that perception of brand quality ($F_{(8, 594)} = 18.903$, $p = .000 < .05$) and brand preferability ($F_{(8, 594)} = 14.629$, $p = .000 < .05$) significantly differed from brand to brand. This study selected the brand that produced the relative median level for perception of brand quality ($M = 4.87$, $SD = 1.41$) and perception of brand preferability ($M = 4.51$, $SD = 1.70$).

The fourth criterion was that the product should satisfactorily minimize the differences between the stimuli. Through a pre-test, this study discovered that the purchase intention [Burton et al. 2009; Holzwarth et al. 2006] (Cronbach's $\alpha = 0.92$) of the four OCEs (i.e., HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, HMI^{H}-HHI^{H}) did not significantly differ from one to the other ($F_{(3, 116)} = 0.337$, $p = .798 > .05$).

4.4. Manipulation of OCEs

This study developed four OCEs (HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}). HMI^{L}-HHI^{L} referred to low levels of message control and low levels interpersonal communication. This experience featured static text (related to the product functions and specifications) and static 2D multiangle product pictures [Keng & Liu 2013; Keng et al. 2012; Li et al. 2003].

HMI^{H}-HHI^{L} referred to high levels of message control and low levels of interpersonal communication. This experience featured static text (related to the product functions and specifications), a 3D dynamic and multiangle

product display (enabling users to control the rotation, zoom in, and zoom out) [Keng & Liu 2013; Keng et al. 2012; Li et al. 2003], and hyperlinks [Keng & Liu 2013; Keng et al. 2012].

HMI^{L}-HHI^{H} referred to low levels of message control and high levels of interpersonal communication. This experience featured static text (related to the product functions and specifications), static 2D multiangle product pictures [Keng & Liu 2013; Keng et al. 2012; Li et al. 2003], and a social function comprising a dynamic avatar that introduced (with audible speech and readable subtitles) the product to the user [Keng & Liu 2013; Wang et al. 2007].

HMI^{H}-HHI^{H} referred to high levels of message control and high levels of interpersonal communication. This experience featured static text (related to the product functions and specifications), static 2D multiangle product pictures [Keng & Liu 2013; Keng et al. 2012; Li et al. 2003], hyperlinks [Keng & Liu 2013; Keng et al. 2012], social function in which a dynamic avatar (enabling users to play, pause, stop, fast-forward, fast-reverse, and control the volume) introduced (with audible speech and readable subtitles) the product to the user [Keng & Liu 2013; Wang et al. 2007], online community input (discussion forum/Q&A) [Keng et al. 2012; Ko et al. 2005; Yu et al. 2008], and e-mail [Yu et al. 2008].

4.5. Measures

Web site information quality was measured based on McKinney et al. [2002]. Purchase intention was measured using five items from Holzwarth et al. [2006] and Burton et al. [2009]. DC was measured using 20 items based on Burger & Cooper [1979]. CSII was measured using 12 items based on Bearden et al. [1989].

According to manipulation check of OCEs, Liu [2003] developed the active control scale to measure how users perceived their ability to voluntarily participate in and influence Web site communication; this scale has been adopted by following studies [Jiang et al. 2010; Voorveld et al. 2011]. Because HMI involves user ability to control and modify messages, this study used the active control scale to measure HMI.

Wang et al. [2007] adopted the Web site socialness perceptions scale to measure the extent to which users detect socialness as a result of social cues on a Web site. Based on a previous study [Nass et al. 1996; Steuer & Nass 1993; Wang et al. 2007], this study adopted the scale of Web site socialness perceptions to measure the HHI.

The variables were assessed on a seven-point Likert scale (where 1 = *strongly disagree* and 7 = *strongly agree*). In addition, this study tested for internal consistency by using the Cronbach's α coefficient. Table 2 shows that Cronbach's α coefficients for all concepts in this study exceeded the recommended cutoff point of 0.7 [Nunnally 1978]; hence, summated scales were created for use in hypothesis testing [Chen & Jia 2012; Lukaszewski et al. 2008].

Table 2: Scale Reliability

Variables	Cronbach's α	References
Information Quality: Reliability (3 items)	0.97	McKinney et al. 2002
Information Quality: Usefulness (2 items)	0.89	McKinney et al. 2002
Information Quality: Understandability (3 items)	0.93	McKinney et al. 2002
Purchase Intention (5 items)	0.92	Holzwarth et al. 2006; Burton et al. 2009
DC (20 items)	0.82	Burger & Cooper 1979
CSII (12 items)	0.94	Bearden et al. 1989
Active Control (4 items)	0.94	Liu 2003
Web site socialness perceptions (5 items)	0.93	Wang et al. 2007

5. Results and Discussion

5.1. Demographic Descriptions

The study comprised 987 valid participants, of which 54% were female (N = 533) and 46% were male (N = 454). Furthermore, approximately 12.5% of the participants were ≤ 19 years (N = 123), 58.6% were 20–29 years (N = 578), 25.6% were 30–39 years (N = 253), 2.7% 40–49 years (N = 27), and 0.6% were ≥ 50 years (N = 6). Regarding highest education level, approximately 7.8% of participants were high school graduates (N = 77), 64.7% had a bachelor's degree (N = 639), and 27.5% had a master's degree or Ph.D. (N = 271). The dominant group of online shoppers in Taiwan was women who were 20–29 years old and had a bachelor's degree. These findings are similar to those outlined in an official Taiwanese report on online shopping [ITIS 2012].

5.2. Manipulation Check of OCEs

A multivariate analysis of variance (MANOVA) indicated that the active control significantly differed among the four OCEs ($F_{(4, 182)}$ = 10.016, p = .000 < .05). The Scheffe multiple comparison test indicated that the active control was significantly higher for HMI^{H}-HHI^{H} (M = 20.88, SD = 3.72) and HMI^{H}-HHI^{L} (M = 19.75, SD = 4.99)

than it was for HMI^{L}-HHI^{H} (M = 15.97, SD = 4.75), HMI^{L}-HHI^{L} (M = 15.85, SD = 5.27), and non-OCEs (M = 15.10, SD = 5.75). No significant difference was observed between the active controls of HMI^{H}-HHI^{H} and HMI^{H}-HHI^{L} or among the active controls of HMI^{L}-HHI^{H}, HMI^{L}-HHI^{L}, and non-OCEs.

Another MANOVA indicated that Web site socialness perceptions significantly differed among OCEs ($F_{(4, 182)}$ = 12.531, p = .000 < .05). A Scheffe multiple comparison test demonstrated that the Web site socialness perceptions of HMI^{H}-HHI^{H} (M = 26.09, SD = 4.03) and HMI^{L}-HHI^{H} (M = 25.75, SD = 5.01) were significantly higher compared with those of HMI^{H}-HHI^{L} (M = 21.75, SD = 5.89), HMI^{L}-HHI^{L} (M = 21.20, SD = 4.53), and non-OCEs (M = 18.75, SD = 6.97). The Web site socialness perceptions of HMI^{H}-HHI^{H} and HMI^{L}-HHI^{H} were not significantly different. Furthermore, no significant differences were observed among the Web site socialness perceptions of HMI^{H}-HHI^{L}, HMI^{L}-HHI^{L}, and non-OCEs.

5.3. Test for Random Allocation

This study conducted a chi-square test to evaluate the randomness of the participant assignments to the experimental conditions (groups) [Kimes & Wirtz 2003].

In the pilot study, the participants could choose either the *online purchase delay* (N = 40) or non-"*online purchase delay*" (N = 40). The chi-square results indicated that gender (Pearson $\chi^2_{(1)}$ = 0.808, p = .369 > .05), age (Pearson $\chi^2_{(4)}$ = 5.398, p = .249 > .05), education level (Pearson $\chi^2_{(2)}$ = 1.735, p = .420 > .05), occupation (Pearson $\chi^2_{(3)}$ = 4.844, p = .184 > .05), and online time (Pearson $\chi^2_{(6)}$ = 2.214, p = .899 > .05) were independent of *online purchase delay* and non-"*online purchase delay*".

For Study 1, there were five groups of OCEs (i.e., non-OCEs, HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}). The results of a chi-square test show that participants' gender (Pearson $\chi^2_{(4)}$ = 0.531, p = .970 > .05), age (Pearson$\chi^2_{(16)}$ = 14.399, p = .569 > .05), education (Pearson $\chi^2_{(8)}$ = 9.762, p = .282 > .05), occupation (Pearson $\chi^2_{(12)}$ = 4.607, p = .970 > .05), and online time (Pearson $\chi^2_{(24)}$ = 30.666, p = .164 > .05) were independent of the manipulation of OCEs.

Study 2 involved four groups of OCEs (HMI^{L}-HHI^{L}, HMI^{H}-HHI^{L}, HMI^{L}-HHI^{H}, and HMI^{H}-HHI^{H}). The chi-square results indicated that gender (Pearson $\chi^2_{(3)}$ = 1.225, p = .747 > .05), age (Pearson $\chi^2_{(12)}$ = 5.659, p = .932 > .05), education level (Pearson $\chi^2_{(6)}$ = 8.234, p = 0.221 > 0.05), occupation (Pearson $\chi^2_{(12)}$ = 13.518, p = .333 > .05), and online time (Pearson $\chi^2_{(18)}$ = 15.383, p = .636 > .05) were independent of the manipulation of OCEs.

Hence, the allocation of participants to the experimental conditions (groups) was random.

5.4. Testing of the Hypotheses

5.4.1. Pilot Study

H1 was tested using logistic regression (*online purchase delay* was coded as "1" and non-"*online purchase delay*" was coded as "0"). Table 3 shows that the information reliability (B = -.276, p = .023 < .05), information usefulness (B = -.380, p = .034 < .05), and information understandability (B = -.350, p = .012 < .05) significantly and negatively influenced *online purchase delay*. An omnibus test was used to determine whether at least one independent variable significantly predicted the dependent variable; the Hosmer and Lemeshow test was used to test the goodness-of-fit of the regression model. The results of both the omnibus ($\chi^2_{(3)}$ = 60.799, p = .000 < .05) and the Hosmer and Lemeshow tests ($\chi^2_{(8)}$ = 11.737, p = .169 > .05) indicated that the model met the requirements. The MANOVA demonstrated that the information reliability (M = 9.63) of *online purchase delay* was significantly lower than was the non-"*online purchase delay*" (M = 16.33) ($F_{(1, 78)}$ = 57.488, p = .000 < .05); the information usefulness (M = 7.48) of *online purchase delay* was significantly lower than was that of non-"*online purchase delay*" (M = 11.18) ($F_{(1, 78)}$ = 36.837, p = .000 < .05); and the information understandability (M = 10.05) of *online purchase delay* was significantly lower than was that of non-"*online purchase delay*" (M = 16.35) ($F_{(1, 78)}$ = 55.831, p = .000 < .05). Hence, H1 was supported.

Table 3: Logistic Regression (Pilot Study)

	Coefficient (B)	S.E.	Wald	df	Sig.
Reliability	-.276	.122	5.144	1	.023
Usefulness	-.380	.179	4.507	1	.034
Understandability	-.350	.139	6.286	1	.012
Constant	12.036	2.905	17.168	1	.000
Goodness-of-fit	Omnibus Test		$\chi^2_{(3)}$ = 60.799 (p = .000 < .05)		
	Hosmer and Lemeshow Test		$\chi^2_{(8)}$ = 11.737 (p = .169 > .05)		

Note: Dependent Variable = Purchase Intention

This study used an ANOVA to test H2. Table 4 shows that the intention of *online purchase delay* (M = 14.98) was significantly lower than that of non-"*online purchase delay*" (M = 24.20) ($F_{(1, 78)}$ = 38.354, p = .000 < .05), thereby supporting H2.

H3 was tested using multiple regression analysis. Table 5 shows that information reliability (B = .260, p = .036 < .05), information usefulness (B = .243, p = .014 < .05), and information understandability (B = .360, p = .003 < .05) significantly and positively influenced purchase intention. Collinearity diagnostics were used to test the multicollinearity, determining whether two or more independent variables in the multiple regression model were highly correlated. The results indicated a tolerance > 0.1 and VIF < 10, indicating no collinearity problems [Fox & Monette 1992]. Hence, H3 was supported.

Table 4: ANOVA Test (Pilot Study)

		Non-"Online purchase delay"	Online purchase delay	F-value
Purchase Intention	*M*	24.20	14.98	$F_{(1, 78)}$ = 38.354, p = .000 < .05
	SD	6.78	6.55	
	N	40	40	

Table 5: Multiple Regression (Pilot Study)

	Standard Coefficient (β) [a b]	t	Sig.	Collinearity Diagnostics	
				Tolerance	VIF
Constant		0.455	.650		
Reliability	.260	2.136	.036	.383	2.608
Usefulness	.243	2.524	.014	.613	1.632
Understandability	.360	3.124	.003	.428	2.335

Note: [a] Dependent variable = purchase intention
[b] $F_{(3, 76)}$ = 33.318 (p = .000); R^2 = .586

5.4.2. Study 1

This study tested H4 by using an ANOVA. Table 6 shows that the purchase intentions among the four OCEs and non-OCEs significantly differed ($F_{(4, 182)}$ = 11.516, p = .000 < .05). A Scheffe multiple comparison test indicated that the purchase intention were significantly higher among HMI^L-HHI^L (M = 22.07), HMI^H-HHI^L (M = 22.97), HMI^L-HHI^H (M = 22.22), and HMI^H-HHI^H (M = 23.09) than they in the non-OCEs condition (M = 12.45, SD = 5.60), supporting H4.

Table 6: ANOVA and the Scheffe Multiple Comparison Test (Study 1)

		Online Consumer Experiences (OCEs) [a]					Scheffe Significant Effect[c]
		N	A	B	C	D	
Purchase Intention [b]	*M*	12.45	22.07	22.97	22.22	23.09	N < (A, C, B, D)
	SD	5.60	9.01	9.97	10.45	5.66	
	N	40	41	36	36	34	

Note: [a] N = Non-OCEs; A = HMI^L-HHI^L; B = HMI^H-HHI^L; C = HMI^L-HHI^H; D = HMI^H-HHI^H
[b] The ANOVA shows that purchase intention ($F_{(4, 182)}$ = 11.516, p = .000 < .05) differed significantly among online consumer experiences.
[c] Between-group means were significantly different (p < .05) whereas within-group means were not.

5.4.3. Study 2

This study tested whether DC and CSII moderated the effect of OCEs on purchase intention. Based on previous studies [Blodgett & Anderson 2000; Wang & Yang 2007], K-means clustering was used to classify DC and CSII into low or high clusters (i.e., low DC and high DC, low CSII and high CSII). The ANOVA demonstrated that the desire for control of high DC (M = 103.07, SD = 7.72, N = 367) was significantly higher compared with the desire for control of low DC (M = 84.56, SD = 6.88, N = 353) ($F_{(1, 718)}$ = 1151.371, p = .000 < .05) and that the consumer susceptibility to interpersonal influence of high CSII (M = 62.82, SD = 7.35, N = 400) was significantly higher compared with that of low CSII (M = 40.71, SD = 10.10, N = 320) ($F_{(1, 718)}$ = 1153.138, p = .000 < .05).

An ANOVA was used to test H5, H6, H7, and H8. Table 7 shows that the three-way interaction of OCEs, DC, and CSII significantly affected purchase intention ($F_{(3, 704)}$ = 3.197, p = .023 < .05). Figure 6 presents the results.

A Scheffe multiple comparison test indicated that consumers who exhibited a low DC and low CSII demonstrated significantly higher purchase intentions relative to HMI^{L}-HHI^{L} (M = 29.05) than they did relative to HMI^{H}-HHI^{L} (M = 23.90), HMI^{L}-HHI^{H} (M = 23.41), and HMI^{H}-HHI^{H} (M = 16.23), supporting H5. Consumers who exhibited a high DC and low CSII demonstrated significantly higher purchase intentions relative to HMI^{H}-HHI^{L} (M = 28.89) than they did relative to HMI^{H}-HHI^{H} (M = 23.30), HMI^{L}-HHI^{L} (M = 23.21), and HMI^{L}-HHI^{H} (M = 13.80), supporting H6. Consumers who exhibited a low DC and high CSII demonstrated significantly higher purchase intentions relative to HMI^{L}-HHI^{H} (M = 30.01) than they did relative to HMI^{H}-HHI^{H} (M = 24.17), HMI^{L}-HHI^{L} (M = 21.40), and HMI^{H}-HHI^{L} (M = 15.43), supporting H7. Consumers who exhibited a high DC and high CSII demonstrated significantly higher purchase intentions relative to HMI^{H}-HHI^{H} (M = 28.94) than they did relative to HMI^{H}-HHI^{L} (M = 25.04), HMI^{L}-HHI^{H} (M = 23.71), and HMI^{L}-HHI^{L} (M = 20.34), supporting H8.

Table 7: ANOVA and the Scheffe Multiple Comparison Test (Study 2)

		Online consumer experiences (OCEs) [a]				Scheffe Significant Effect [c]
		A	B	C	D	
Purchase Intention [b]						
Low DC and Low CSII	*M*	29.05	23.90	23.41	16.23	D < (C, B) < A
	SD	6.45	3.45	4.34	9.19	
	N	37	41	37	44	
High DC and Low CSII	*M*	23.21	28.89	13.80	23.30	C < (A, D) < B
	SD	4.73	5.73	7.89	4.85	
	N	42	35	40	44	
Low DC and High CSII	*M*	21.40	15.43	30.01	24.17	B < (A, D) < C
	SD	8.33	8.74	5.39	4.34	
	N	48	54	45	47	
High DC and High CSII	*M*	20.34	25.04	23.71	28.94	A < (C, B) < D
	SD	7.99	4.93	5.25	4.41	
	N	50	51	52	53	

Note: [a] A = HMI^{L}-HHI^{L}; B = HMI^{H}-HHI^{L}; C = HMI^{L}-HHI^{H}; D = HMI^{H}-HHI^{H}.
[b] The ANOVA shows that the OCEs*DC*CSII significantly affected purchase intention ($F_{(3, 704)} = 3.197$, $p = .023 < .05$).
[c] Between-group means were significantly different ($p < .05$) whereas within-group means were not.

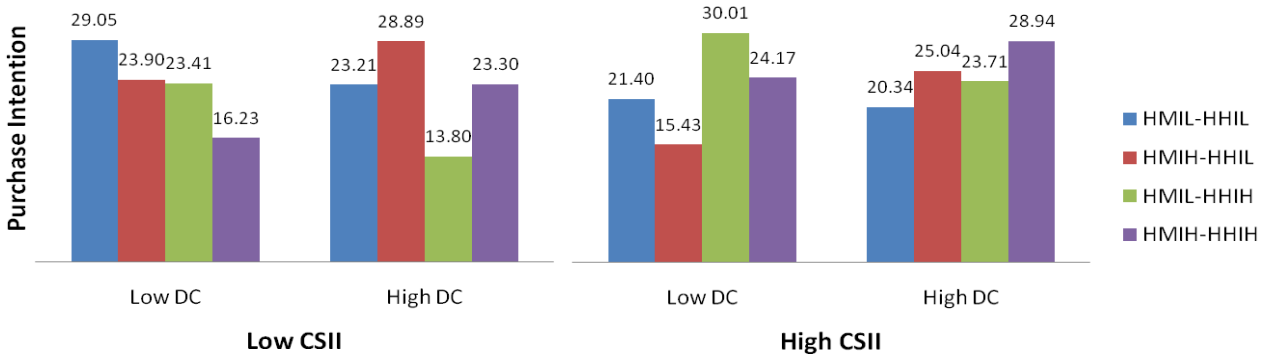

Figure 6: OCEs*DC*CSII Interactions on Purchase Intention

6. Discussion

Web site information quality (reliability, usefulness, and understandability) is an antecedent of consumer purchase delay during the online purchase process and H1 was supported. Hence, consumers who perceived that the information in online advertisements was unreliable, not useful, and difficult to understand tend to delay their purchase decisions and spend additional time gathering information. H2 was also supported. Consistent with the definition of *online purchase delay*, consumers who actively postponed purchasing were also likely to exhibit a low level of purchase intention. Resting on H1 and H2, this study further discussed the relationships between Web site

information quality and purchase intention; the results supported H3, indicating that the perceived information quality of a Web site significantly and positively influenced consumer purchase intentions.

In a purchase-delay context, the OCEs (HMI^L-HHI^L, HMI^L-HHI^H, HMI^H-HHI^L, or HMI^H-HHI^H) yielded higher purchase intentions than did a non-OCEs situation, and H4 was supported. Thus, when consumers decide to delay making a purchase decision, providing OCEs can increase their purchase intentions.

This study verified that the consumer personality traits of DC and CSII can moderate the relationship between OCEs and purchase intention, supporting H5, H6, H7, and H8. Therefore, these two personality traits may influence consumer preferences regarding certain types of OCEs.

When consumers decide to postpone purchasing, online sellers should provide low HMI and low HHI (i.e., HMI^L-HHI^L) to consumers who exhibit a low DC and low CSII; this approach should increase their purchase intentions. When consumers exhibit a high DC and low CSII, providing them with high HMI and low HHI (i.e., HMI^H-HHI^L) can increase their purchase intentions. Regarding consumers with a low DC and high CSII, businesses should provide low HMI and high HHI (i.e., HMI^L-HHI^H) to increase purchase intention. Finally, concerning consumers who exhibit a high DC and high CSII, businesses can strengthen purchase intentions by providing high HMI and high HHI (i.e., HMI^H-HHI^H).

7. Conclusion

7.1. Theoretical Contributions

The theoretical contributions of this study can be summarized in two parts: consumer online purchase processes and OCEs.

First, the consumer decision process [Blackwell et al. 2001] has been widely researched. However, few studies have discussed the purchase delay that takes place during consumer purchase and online purchase processes. This study verified that purchase delay occurs during consumer online purchase processes, providing evidence that consumer online purchase processes can be discontinuous. Furthermore, this study determined that *online purchase delays* can produce negative purchase intentions and that OCEs facilitate decreasing the negative consequences of such delays.

Second, previous studies have classified OCEs as indirect and virtual experiences, based on the concept of controlling the message [Daugherty et al. 2008; Li et al. 2001; Li et al. 2002; Li et al. 2003]. However, these studies have ignored the crucial concepts of social and interpersonal cues. Hence, this study developed a new OCEs typology (HMI^L-HHI^L, HMI^H-HHI^L, HMI^L-HHI^H, and HMI^H-HHI^H).

Although past studies have proposed that OCEs generate positive advertising effects [Daugherty et al. 2008; Griffith & Chen 2004; Keng et al. 2012; Kim & Biocca 1997; Li et al. 2001; Li et al. 2002; Li et al. 2003; Millar & Millar 1996; Singh et al. 2000; Smith 1993; Smith & Swinyard 1983; Wright & Lynch 1995], we determined that OCEs are not always effective. The personality traits of consumers, namely, DC and CSII, affect their preferences (i.e., produce increased purchase intentions) depending on the OCE: consumers who exhibit a low DC and low CSII prefer HMI^L-HHI^L, consumers who exhibit a high DC and low CSII prefer HMI^H-HHI^L, consumers who exhibit a low DC and high CSII prefer HMI^L-HHI^H, and consumers who exhibit a high DC and high CSII prefer HMI^H-HHI^H. Therefore, considering the moderating roles of these personality traits can enhance OCEs effectiveness.

7.2. Managerial Implications

The results of this study can be applied to both prevent and overcome *online purchase delays*. To prevent *online purchase delay*, online sellers should improve the usefulness, reliability, and understandability of their Web site information. Online sellers can use online consultation services to answer consumer questions regarding Web site information, and use expert recommendations to increase consumer trust in this information [Smith et al. 2005].

To overcome *online purchase delay*, online sellers should provide consumers with OCEs when *online purchase delay* occurs, countering negative consequences and increasing consumer willingness to purchase products online. This study determined that consumer personality traits, such as DC and CSII, influence consumer OCEs preferences. Online sellers can provide coupons to induce consumers to participate in DC and CSII surveys, and consumers could receive additional discounts for recommending that other potential consumers complete the survey. Thus, online sellers can develop a consumer database and apply collaborative filtering [Kim et al. 2010] to provide consumers with personalized Web pages when they visit an online shopping Web site. Regarding consumers who exhibit a low DC and low CSII, online sellers can provide static text and static 2D multiangle product images that describe the product. Regarding consumers who exhibit a high DC and low CSII, online sellers can design a 3D dynamic and multiangle product display and provide hyperlinks about product descriptions on the Web page. Concerning consumers who exhibit a low DC and high CSII, online sellers can leverage the social roles of Web sites, designing dynamic avatars that speak to the visitors, both introducing the product and strengthening consumer attraction toward it. Finally, concerning consumers who exhibit a high DC and high CSII, Web pages can be designed to play

a social role (e.g., a dynamic avatar using a voice to introduce a product), involve online communities (e.g., a discussion forum, Q&A), or provide consumers with contact information pertaining to the seller/ avatar, thereby strengthening consumer purchase intention.

7.3. Limitations and Future Research

This study involved an experimental design in which participants were required to imagine that they decided to either buy a product now or later. However, the magnitude of delay was ignored and the purchase decisions seemed unrealistic. Creating real purchase situations and tracking consumer waiting times by using mass samples can be difficult; thus, future studies could involve minor field surveys, using panel studies to select consumers making actual purchases, and tracking their actual purchase delays such as the duration of the delay or the abandoning of the purchase decision (i.e., no choice).

Because the purpose of this study was to discuss the role of OCEs in online purchasing delay, we did not explore the effects of OCEs when consumers did not experience a purchase delay online (i.e., buy now). The Cognitive Resource Matching Theory indicated that any message enhances persuasion a match exists between required and available cognitive resources [Coulter & Punj 2004]. When consumers hesitate to make a purchase decision, they may be willing to spend time gathering additional information about the possible purchase [Greenleaf & Lehmann 1995; Shugan 1980]; hence, additional OCEs may yield positive effects. However, providing additional OCEs to consumers that have decided to purchase may yield limited effects. Future research could explore such issues.

M-commerce, meaning any transaction with a monetary value that is conducted using a mobile telecommunications network [Okazaki 2005], is currently a booming market that is increasingly integrated with Internet applications [Khalifa et al. 2012]. Thus, future studies could compare the effects and conditions of OCEs in e-commerce and m-commerce purchase delays.

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REFERENCES

Ahn, T., S. Ryu, and I. Han, "The Impact of the Online and Offline Features on the User Acceptance of Internet Shopping Mall," *Electronic Commerce Research and Applications*, Vol. 3, No. 4:405-420, 2004.

Aksoy, L., P.N. Bloom, N.H. Lurie, and B. Cooil, "Should Recommendation Agents Think Like People?" *Journal of Service Research*, Vol. 8, No. 4:297-315, 2006.

Ariely, D., Controlling the Information Flow: On the Role of Interactivity in Consumers' Decision Making and Preferences, PhD dissertation, NC, Duke University, Durham, 1998.

Ariely, D., "Controlling the Information Flow: Effects on Consumers' Decision Making and Preferences," *Journal of Consumer Research*, Vol. 27, No. 2:233-248, 2000.

Bearden, W.O., R.G. Netemeyer, and J.E. Teel, "Measurement of Consumer Susceptibility to Interpersonal Influence," *Journal of Consumer Research*, Vol. 15, No. 4:473-481, 1989.

Bettman, J. "Issues in Designing Consumer Information Environments," *Journal of Consumer Research*, Vol. 2, No. 3:169-177, 1975.

Bettman, J.R., M.F. Luce, and J.W. Payne, "Constructive Consumer Choice Process," *Journal of Consumer Research*, Vol. 25, No. 3, 187-217, 1998.

Blackwell, R.D., P.W. Miniard, and J.F. Engel, Consumer Behavior, 9th ed., FL, Orlando: Harcourt College Publishers, 2001.

Blodgett, J.G. and R.D. Anderson, "A bayesian Network Model of the Consumer Complaint Process," *Journal of Service Research*, Vol. 2, No. 4:321-338, 2000.

Burger, J.M. and H.M. Cooper, "The Desirability of Control," *Motivation and Emotion*, Vol. 3, No. 4:381-393, 1979.

Burger, J.M., "Desire for Control and Achievement-Related Behaviors," *Journal of Personality and Social Psychology*, Vol. 48, No. 6:1520-1533, 1985.

Burger, J.M., Desire for Control: Personality, Social, and Clinical Perspectives, NY, New York: Plenum Press, 1992.

Burton, S., E. Howlett, and A.H. Tangari, "Food for Thought: How Will the Nutrition Labeling of Quick Service Restaurant Menu Items Influence Consumers' Product Evaluations, Purchase Intentions, and Choices?" *Journal of Retailing*, Vol. 85, No. 3:258-273, 2009.

Chen, S.J. and T.Z. Chang, "A Descriptive Model of Online Shopping Process: Some Empirical Results," *International Journal of Service Industry Management*, Vol. 14, No. 5:556-569, 2003.

Chen, R. and J. Jia, "Regret and Performance Uncertainty in Consumer Repeat Choice," *Marketing Letters*, Vol. 23, No. 1: 353-365, 2012.
Cho, C.H. and H.J. Cheon, "Cross-Cultural Comparisons of Interactivity on Corporate Web Sites: The United States, the United Kingdom, Japan, and South Korea," *Journal of Advertising*, Vol. 34, No. 2:99-115, 2005.
Cho, C.H., J. Kang, and H.J. Cheon, "Online shopping hesitation," *CyberPsychology & Behavior*, Vol. 9, No. 3:261-74, 2006.
Chung, H. and E. Ahn, "The Effects of Web Site Structure: The Role of Personal Difference," *CyberPsychology & Behavior*, Vol. 10, No. 6:749-755, 2007.
Cook, W.A. "Is It Interactive media, or Hyperactive Media?" *Journal of Advertising Research*, Vol. 34, No. 1:7-9, 1994.
Coulter, K.S. and G.N. Punj, "The Effects of Cognitive Resource Requirements, Availability, and Argument Quality on Brand Attitudes: A Melding of Elaboration Likelihood and Cognitive Resource Matching Theories," *Journal of Advertising*, Vol. 33, No. 4:53-64, 2004.
Coyle, J.R. and E. Thorson, "The Effects of Progressive Levels of Interactivity and Vividness in Web Marketing Sites," *Journal of Advertising*, Vol. 30, No. 3:13-28, 2001.
Daugherty, T., H. Li, and F. Biocca, "Consumer Learning and the Effects of Virtual Experience Relative to Indirect and Direct Product Experience," *Psychology & Marketing*, Vol. 25, No. 7:568-586, 2008.
Dhar, R., "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, Vol. 24, No. 2:215-231, 1997.
Dhar, R. and S.M. Nowlis, "To Buy or not to Buy: Response Mode Effects on Consumer Choice," *Journal of Marketing Research*, Vol. 41, No. 4:423-432, 2004.
Cheung, C.M.K., M.K.O. Lee, and N. Rabjohn, "The Impact of Electronic Word-of-Mouth: The Adoption of Online Opinions in Online Customer Communities," *Internet Research*, Vol. 18, No. 3:229-247, 2008.
Einhorn, H.J. and R.M. Hogarth, "Behavioral Decision Theory: Processes of Judgment and Choice," *Annual Review of Psychology*, Vol. 32:53-88, 1981.
Everard, A. and D.F. Galletta, "How Presentation Flaws Affect Perceived Site Quality, Trust, and Intention to Purchase from an Online Store," *Journal of Management Information System*, Vol.22, No. 3: 55-95, 2006.
Fox, J. and G. Monette, "Generalized Collinearity Diagnostics," *Journal of the American Statistical Association*, Vol. 87, No. 417:178-183, 1992.
Ghose, A. "Internet Exchanges for Used Goods: An Empirical Analysis of Trade Patterns and Adverse Selection," *MIS Quarterly*, Vol. 33, No. 2:263-291, 2009.
Ghose, S. and W. Dou, "Interactive Functions and Their Impacts on the Appeal of Internet Presence Sites," *Journal of Advertising Research*, Vol. 38, No. 2:29-43, 1998.
Greenleaf, E.A. and D.R. Lehmann, "Reasons of Substantial Delay in Consumer Decision Making," *Journal of Consumer Research*, Vol. 22, No. 2:186-199, 1995.
Gregg, D.F. and S. Walczak, "The Relationship between Website Quality, Trust and Price Premiums at Online Auctions," *Electronic Commerce Research*, Vol. 10, No. 1:1-25, 2010.
Griffith, D.A. and Q. Chen, "The Influence of Virtual Direct Experience (VDE) on On-Line Ad Message Effectiveness," *Journal of Advertising*, Vol. 33, No. 1:55-68, 2004.
Ha, L. and E.L. James, "Interactivity Reexamined: A Baseline Analysis of Early Business Web Sites," *Journal of Broadcasting and Electronic Media*, Vol. 42, No. 4:457-469, 1998.
Haffman, C. and B.E. Kahn, "Variety for Sale: Mass Customization or Mass Confusion?" *Journal of Retailing*, Vol. 74, No. 4: 491-513, 1998.
Haubl, G. and V. Trifts, "Consumer Decision Making in Online Shopping Environments: The Effects of Interactive Decision Aids," *Marketing Science*, Vol. 19, No. 1:4-21, 2000.
Heeter, C., "Interactivity in the Context of Designed Experiences," *Journal of Interactive Advertising*, Vol. 1, No. 1, (http://jiad.org/article2.html) assessed 2014-04-01, 2000.
Hoffman, D. L., and T. P. Novak, "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, Vol. 60, No.3:50-68, 1996.
Holzwarth, M., C. Janiszewski, and M.M. Neumann, "The Influence of Avatars on Online Consumer Shopping Behavior," *Journal of Marketing*, Vol. 70, No. 4:19-36, 2006.
Hsu, H.C., C.S. Lai, and C.H. Chen, "Extrinsic Cue of Warranty by Selling through a Reputable Website," *Journal of Advertising Research*, Vol. 47, No. 2, 158-164, 2007.
ITIS (Industry and Technology Intelligence Service), Online Shopping Research Projects, Taiwan, Taipei: Ministry of Economic Affairs, R.O.C., 2012.
Jacoby, J., D.E. Speller, and C.K. Berning, "Brand Choice Behavior as a Function of Information Load: Replication

and Extension," *Journal of Consumer Research*, Vol. 1, No. 1:33-42, 1974.
Jensen, T., J. Kees, S. Burton, and F.L. Turnipseed, "Advertised Reference Prices in an Internet Environment: Effects on Consumer Price Perceptions and Channel Search Intentions," *Journal of Interactive Marketing*, Vol. 17, No. 2:20-33, 2003.
Jiang, Z., J. Chan, B.C.Y. Tan, and W.S. Chua, "Effects of Interactivity on Website Involvement and Purchase Intention," *Journal of the Association for Information Systems*, Vol. 11, No. 1:34-59, 2010.
Keng, C.J., T.H. Liao, and Y.I. Yang, "The Effects of Sequential Combinations of Virtual Experience, Direct Experience, and Indirect Experience: The Moderating Roles of Need for Touch and Product Involvement," *Electronic Commerce Research*, Vol. 12, No 2:177-199, 2012.
Keng, C.J., and C.C. Liu, "Can Avatar and Self-Referencing Really Increase the Effects of Online 2-D and 3-D Advertising?" *Computers in Human Behavior*, Vol. 29, No. 3:791-802, 2013.
Khalifa, M., S.K.N. Cheng, and K.N. Shen, "Adoption of Mobile Commerce: A Confidence Model," *Journal of Computer Information Systems*, Vol. 53, No. 1:14-22, 2012.
Kim, D.J., D.L. Ferrin, and H.R. Rao, "A Trust-Based Consumer Decision-Making Model in Electronic Commerce: The Role of Trust, Perceived Risk, and Their Antecedents," *Decision Support Systems*, Vol. 44, No. 2:544-564, 2008.
Kim, H.N., A.T. Ji, I. Ha, and G.S. Jo, "Collaborative Filtering Based on Collaborative Tagging for Enhancing the Quality of Recommendation," *Electronic Commerce Research and Applications*, Vol. 9, No. 1:73-83, 2010.
Kim, T. and F. Biocca, "Telepresence via Television: Two Dimensions of Telepresence May Have Different Connections to Memory and Persuasion," *Journal of Computer-Mediated Communication*, Vol. 3, No. 2, (http://jcmc.indiana.edu/vol3/issue2/kim.html) assessed 2014-04-01, 1997.
Kimes, S.E. and J. Wirtz, "Has Revenue Management Become Acceptable?" *Journal of Service Research*, Vol. 6, No. 2:125-135, 2003.
Klein, L.R., "Creating Virtual Product Experiences: The Role of Telepresence," *Journal of Interactive Marketing*, Vol. 17, No. 1:41-55, 2003.
Ko, H., C.H. Cho, and M.S. Roberts, "Internet Uses and Gratifications: A Structural Equation Model of Interactivity Advertising," *Journal of Advertising*, Vol. 34, No. 2:57-70, 2005.
Kukar-Kinney, M., and A.G. Close, "The Determinants of Consumers' Online Shopping Cart Abandonment," *Journal of the Academy Marketing Science*, Vol. 38, No. 2: 240-250, 2010.
Lalwani, A.K., "Interpersonal Orientation of Spouses and Household Purchase Decisions: The Case of Restaurants," *The Service Industries Journal*, Vol. 22, No. 1:184-200, 2002.
Lee, S. and A.J. Dubinsky, "Influence of Salesperson Characteristics and Customer Emotion on Retail Dyadic Relationships," *The International Review of Retail, Distribution and Consumer Research*, Vol. 13, No. 1:21-36, 2003.
Li, H., T. Daugherty, and F. Biocca, "Characteristics of Virtual Experience in Electronic Commerce: A Protocol Analysis," *Journal of Interactive Marketing*, Vol. 15, No. 3:13-30, 2001.
Li, H., T. Daugherty, and F. Biocca, "Impact of 3-D Advertising on Product Knowledge, Brand Attitude, and Purchase Intention: The Mediating Role of Presence," *Journal of Advertising*, Vol. 31, No. 3:43-59, 2002.
Li, H., T. Daugherty, and F. Biocca, "The Role of Virtual Experience in Consumer Learning," *Journal of Consumer Psychology*, Vol. 13, No. 4:395-407, 2003.
Lim, S.H., S. Lee, Y. Hur, and C.E. Koh, "Role of Trust in Adoption of Online Auto Insurance," *Journal of Computer Information Systems*, Vol. 5, No. 2:151-159, 2009.
Liu, Y., "Developing a Scale to Measure the Interactivity of Websites," *Journal of Advertising Research*, Vol. 43, No. 2:207-216, 2003.
Liu, Y. and L.J. Shrum, "What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness," *Journal of Advertising*, Vol. 31, No. 4:53-64, 2002.
Lombard, M. and T. Ditton, "At the Heart of It All: The Concept of Presence," *Journal of Computer-Mediated Communication*, Vol. 3, No. 2, (http://jcmc.indiana.edu/vol3/issue2/lombard.html) assessed 2014-04-01, 1997.
Luce, M.F., J.R. Bettman, and J.W. Payne, "Choice Processing in Emotionally Difficult Decisions," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, Vol. 23, No. 2: 384-408, 1997.
Lukaszewski, K.M., D.L. Stone, and E.F. Stone-Romero, "The Effects of the Ability to Choose the Type of Human Resources System on Perceptions of Invasion of Privacy and System," *Journal of Business Psychology*, Vol. 23, No. 3-4:73-86, 2008.
McGuire. W.J. "Personality and Susceptibility to Social Influence," *Handbook of Personality Theory and Research*, E.F. Borgatta and W.W. Lambert (eds.), Rand McNally, Chicago, IL, pp. 1130-1187, 1968.

McKinney, V., K. Yoon, and F.M. Zahedi, "The Measurement of Web-Customer Satisfaction: An Expectation and Disconfirmation Approach," *Information Systems Research*, Vol. 13, No. 3:296-315, 2002.

Millar, M.G. and K.U. Millar, "The Effects of Direct and Indirect Experience on Affective and Cognitive Responses and the Attitude-Behavior Relation," *Journal of Experimental Social Psychology*, Vol. 32, No. 6:561-579, 1996.

Moon, Y., "Intimate Exchanges: Using Computers to Elicit Self-Disclosure from Consumers," *Journal of Consumer Research*, Vol. 26, No. 4:323-339, 2000.

Moon, Y. and C. Nass, "How 'Real' are Computer Personalities? Psychological Responses to Personality Types in Human-Computer Interaction," *Communication Research*, Vol. 23, No. 6:651-674, 1996.

Mourali, M., M. Laroche, and F. Pons, "Antecedents of Consumer Relative Preference for Interpersonal Information Sources in Pre-Purchase Search," *Journal of Consumer Behavior*, Vol. 4, No. 5:307-318, 2005.

Nass, C.I, B.J. Fogg, and Y. Moon, "Can Computers be Teammates?" *International Journal of Human-Computer Studies*, Vol. 45, No. 6:669–678, 1996.

Nass, C.I., Y. Moon, and N. Green, "Are Machines Gender Neutral? Gender-Stereotypic Responses to Computers with Voices," *Journal of Applied Social Psychology*, Vol. 27, No. 10:864-876, 1997.

Nass, C., Y. Moon, B.J. Fogg, B. Reeves, and D. Christopher Dryer, "Can Computer Personalities be Human Personalities?" *International Journal of Human- Computer Studies*, Vol. 43, No. 2:223-239, 1995.

Nunnally, J.C., Psychometric Theory, 2nd ed., NY, New York: McGraw-Hill, 1978.

Okazaki, S., "New Perspectives on M-Commerce Research," *Journal of Electronic Commerce Research*, Vol. 6, No. 3:160-164, 2005.

Payne, J.W. "Contingent Decision Behavior," *Psychological Bulletin*, Vol. 92, No. 2:382-402, 1982.

Poddar, A., J. Mosteller, and P.S. Ellen, "Consumers' Rules of Engagement in Online Information Exchanges," *Journal of Consumer Affairs*, Vol. 43, No. 3:419-448, 2009.

Prendergast, G., W.L. Cheung, and D. West, "How Far Is Too Far? The Antecedents of Offensive Advertising in Modern China," *Journal of Advertising Research*, Vol. 48, No. 4:484-495, 2008.

Román, S. and P.J. Cuestas, "The Perceptions of Consumers Regarding Online Retailers' Ethics and Their Relationship with Consumers' General Internet Expertise and Word Of Mouth: A Preliminary Analysis," *Journal of Business Ethics*, Vol. 83, No. 4:641-656, 2008.

Shugan, S.M. "The Cost of Thinking," *Journal of Consumer Research*, Vol. 7, No. 2:99-111, 1980.

Sicilia, M., S. Ruiz, and J.L. Munuera, "Effects of Interactivity in a Web Site: The Moderating Effect of Need for Cognition," *Journal of Advertising*, Vol. 34, No. 3, 31-45, 2005.

Singh, M., S.K. Balasubramanian, and G. Chakraborty, "A Comparative Analysis of Three Communication Formats: Advertising, Infomercial, and Direct Experience," *Journal of Advertising*, Vol. 29, No. 4, 59-75, 2000.

Sivaramakrishnan, S., F. Wan, and Z. Tang, "Giving an 'E-Human Touch' to E-Tailing: the moderating roles of static Information Quantity and Consumption Motive in the Effectiveness of an Anthropomorphic Information Agent," *Journal of Interactive Marketing*, Vol. 21, No. 1:60-75, 2007.

Smith, R.E. "Integrating Information from Advertising and Trial: Processes and Effects on Consumer Response to Product Information," *Journal of Marketing Research*, Vol. 30, No. 2:204-219, 1993.

Smith, D., S. Menon, and K. Sivakumar, "Online Peer and Editorial Recommendations, Trust, and Choice in Virtual Markets," *Journal of Interactive Marketing*, Vol. 19, No. 3:15-37, 2005.

Smith, R.E. and W.R. Swinyard, "Attitude-Behavior Consistency: The Impact of Product Trial versus Advertising," *Journal of Marketing Research*, Vol. 20, No. 3:257-267, 1983.

Sohn, D., Ci, C. and B.K. Lee, "The Moderating Effects of Expectation on the Patterns of the Interactivity-Attitude Relationship," *Journal of Advertising*, Vol. 36, No. 3:261-271, 2007.

Song, S.S. and M. Kim, "Does More Mean Better? An Examination of Visual Product Presentation in E-Retailing," *Journal of Electronic Commerce Research*, Vol. 13, No. 4: 345-355, 2013.

Song, J.H. and G.M. Zinkhan, "Determinants of Perceived Web Site Interactivity," *Journal of Marketing*, Vol. 72, No. 2:99-113, 2008.

Suntornpithug, N. and J. Khamalah, "Machine and Person Interactivity: The Driving Forces Behind Influences on Consumers' Willingness to Purchase Online," *Journal of Electronic Commerce Research*, Vol. 11, No. 4:299-325, 2010.

Steuer, J., "Defining Virtual Reality: Dimensions Determining Telepresence," *Journal of Communication*, Vol. 42, No. 4:73-93, 1992.

Steuer, J. and C. Nass, "Voices, Boxes, and Sources of Messages Computers and Social Actors," *Human Communication Research*, Vol. 19, No. 4:504-527, 1993.

Suh, K.S. and Y.E. Lee, "The Effects of Virtual Reality on Consumer Learning: An Empirical Investigation," *MIS Quarterly*, Vol. 29, No. 4:673-697, 2005.

Teo, T.S.H., "To Buy or not to Buy Online: Adopters and Non-Adopters of Online Shopping in Singapore," *Behaviour & Information Technology*, Vol. 25, No. 6:497-509, 2006.

Tversky, A. and E. Shafir, "Choice under Conflict: The Dynamics of Deferred Decision," *Psychological Science*, Vol. 3, No. 6:358-361, 1992.

Urban, G.L., F. Sultan, and W.J. Qualls, "Placing Trust at the Center of Your Internet Strategy," *Sloan Management Review*, Vol. 42, No. 1, 39-48, 2000.

Voorveld, H.A.M., P.C. Neijens, and E.G. Smit, "The Relation between Actual and Perceived Interactivity: What Makes the Web Sites of Top Global Brands Truly Interactive?" *Journal of Advertising*, Vol. 40, No. 2:77-92, 2011.

Walsh, G., T. Hennig-Thurau, and V.W. Mitchell, "Consumer Confusion Proneness: Scale Development, Validation, and Application," *Journal of Marketing Management*, Vol. 23, No. 7-8:697-721, 2007.

Wang, C.C. and Y.J. Yang, "Personality and Intention to Share Knowledge: An Empirical Study of Scientists in an R&D Laboratory," *Social Behavior and Personality: An International Journal*, Vol. 35, No. 10:1427-1436, 2007.

Wang, L.C., J. Baker, J.A. Wagner, and K. Wakefield, "Can a Retail Web Site be Social," *Journal of Marketing*, Vol. 71, No. 3:143-157, 2007.

Weathers, D., S. Sharma, and S.L. Wood, "Effects of Online Communication Practices on Consumer Perceptions of Performance Uncertainty for Search and Experience Goods," *Journal of Retailing*, Vol. 83, No. 4:393-401, 2007.

Westin, S., N. Mundorf, and N. Dholakia, "Exploring the Use of Computer-Mediated Communication: A Simulation Approach," *Telematics and Informatics*, Vol. 10, No. 2:89-102, 1993.

Wright, A.A. and Jr. J.G. Lynch, "Communication Effects of Advertising versus Direct Experience When both Search and Experience Attributes are Present," *Journal of Consumer Research*, Vol. 21, No. 4:708-718, 1995.

Yadav, M.S. and R. Varadarajan, "Interactivity in the Electronic Marketplace: An Exposition of the Concept and Implications for Research," *Journal of the Academy of Marketing Science*, Vol. 33, No. 4:585-603, 2005.

Ye, Q., M. Xu, M. Kiang, W. Wu, and F. Sun, "In-Depth Analysis of the Seller Reputation and Price Premium Relationship: A Comparison Between eBay US and Taobao China," *Journal of Electronic Commerce Research*, Vol. 14, No. 1:1-10, 2013.

Ylikoski, T., "A Sequence Analysis of Consumers' Online Searches," *Internet Research*, Vol. 15, No. 2:181-94, 2005.

Yu, H., H.J. Paek, and B. Bae, "Cross-Cultural Comparison of Interactivity and Advertising Appeals on Antismoking Web Sites in the United States and South Korea," *Internet Research*, Vol. 18, No. 5:454-476, 2008.