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**The Effects of Consumer Online**  
**Experiences on Delays during Online**  
**Purchase Process**

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# The Effects of Consumer Online Experiences on Delays during Online Purchase Process

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## Abstract<sup>1</sup>

This study aimed to discuss the effects of consumer online experiences on two kinds of delays during consumer online purchase process (i.e., delay to purchase; delay to consumption). Four types of consumer online experiences were developed (i.e., low human-message interactivity with low human-human interactivity,  $HMI^L-HHI^L$ ; low human-message interactivity with high human-human interactivity,  $HMI^L-HHI^H$ ; high human-message interactivity with low human-human interactivity,  $HMI^H-HHI^L$ ; high human-message interactivity with high human-human interactivity,  $HMI^H-HHI^H$ ) and this study proposed such experiences can deal with the negative outcomes of delays. In total, 1,985 online shoppers participated in this study. Results indicate when consumers decide to delay to purchase online, providing them with consumer online experiences could increase purchase intention. Besides, when consumers meet delay to consumption (i.e., delivery delay), proving them with consumer online experiences could increase satisfaction and decrease complaint intention. Additionally, cognitive dissonance (*CD*) caused from inconsistency between consumer online experiences and direct experience harms the effects of consumer online experiences on satisfaction and complaint intention. Finally, desire for control (*DC*) and consumer susceptibility to interpersonal influence (*CSII*) moderate effects of consumer online experiences on purchase intention, satisfaction, and complaint intention: consumers with low *DC* and low *CSII* prefer  $HMI^L-HHI^L$ ; consumers with high *DC* and low *CSII* prefer  $HMI^H-HHI^L$ , consumers with low *DC* and high *CSII* prefer  $HMI^L-HHI^H$ ; consumers with high *DC* and high *CSII* prefer  $HMI^H-HHI^H$ .

**Keywords:** Delays during Online Purchase Process, Consumer Online Experiences, Cognitive Dissonance, Desire for Control, Consumer Susceptibility to Interpersonal Influence

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## 1. Introduction

Consumer purchase process can be divided into the well-known stages (Engel et al., 1995) and was applied by many studies. However, is such process always

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<sup>1</sup> 本研究對於 Delay to Purchase 之前因變數 (Usefulness, Reliability, and Understandability of Ad) 、後果變數 (Purchase Intention) 與 Delay to Consumption 之後果變數 (Satisfaction, Repurchase Intention, and Complaint intention) 亦進行了質化或量化實證，因 30 頁篇幅規定，文中酌暫不討論。

continuous? This study found that the consumer purchase process may not be always continuous, the two kinds of delays may exist: delay during pre-purchase evaluation and purchase (hereinafter called as *delay to purchase*) (Dhar, 1997; Einhorn and Hogarth, 1981; Gefen, 2002; Greenleaf and Lehmann, 1995; Jarvenpaa et al., 1999; Kim et al., 2005; Kim et al., 2008; Luce et al., 1997; Payne, 1982; Tversky and Shafir, 1992; Urban, 2000; Walsh et al., 2007) and delay during purchase and consumption (hereinafter called as *delay to consumption*) (Bielen and Demoulin, 2007; Chebat and Filiatrault, 1993; Clemmer and Schneider, 1989; Comegys et al., 2009; Díaz and Ruíz, 2002; Hui et al., 1998; Katz et al., 1991; Kim, 2005; Marquis and Filiatrault, 2000; Nowlis et al., 2004; Ryan and Valverde, 2005; Sebastianelli et al., 2008; Tom and Lucey, 1995; Taylor, 1994). Because online shopping is the remote transaction and may cause asymmetric information, this study found that such two kinds of delays may especially occur in online environment.

*Delay to purchase* means consumers actively hesitate to make the purchase decision and *delay to consumption* is caused by sellers and may produce dissatisfaction (Díaz and Ruíz, 2002; Tom and Lucey, 1995), complaint intention (Díaz and Ruíz, 2002), and low repurchase intention (Díaz and Ruíz, 2002). However, a few studies discussed how to reduce the negative outcomes of delays during online purchase.

*Consumer experience* is defined as psychological and emotional states that consumers undergo while interacting with product (Li et al., 2001). As past studies suggested the positive advertising effects or consumer learning of consumer experiences (Daugherty et al., 2008; Griffith and Chen, 2004; Kim and Biocca, 1997; Li et al., 2001; Li et al., 2002; Li et al., 2003; Millar and Millar, 1996; Singh et al., 2000; Smith, 1993; Smith and Swinyard, 1983; Wright and Lynch, 1995), this study proposed that consumer experiences may decrease or deal with the negative outcomes of delays during consumer online purchase process.

Li et al. (2001) classified *consumer experiences* as *direct experience*, *indirect experience*, and *virtual experience*. Specifically, consumers experience products through physical trials (i.e., direct experience), through secondhand information sources such as advertising or labels (i.e., indirect experience) or through virtual representations of the products such as by virtual reality (i.e., virtual experience) (Suh and Lee, 2005). In the online environment, consumers could interact with product via *indirect experience* and *virtual experience*. The difference of indirect experience and virtual experience is virtual experience owns the higher level of the ability to “control the message” than indirect experience (Daugherty et al., 2008; Li, et al., 2001; Li et al., 2002, Li et al., 2003). However, this study found that according to the classification of consumer experiences in online environment (hereafter called *consumer online experiences*), past studies ignored an important concept which is “social cue” or “interpersonal cue”

because consumers could get product information by interacting with other people.

Some past studies classified interactivity as *human-message interactivity* and *human-human interactivity* (Cho and Cheon, 2005; Cho and Leckenby, 1997; Ko et al., 2005; Liu and Shrum, 2002; Yu et al., 2008). Human-message interactivity means the ability of the user to control and modify messages (Ariely 1998; Steuer, 1992), such perception seems similar to “indirect vs. virtual” experience. Human-human interactivity is defined as the two-way, reciprocal communication from senders to receivers and vice versa (Cho and Cheon, 2005; Ko et al., 2005) and contains the concept of “interpersonal communication”. Therefore, it seems acceptable to classified consumer online experiences as four categories: low human-message interactivity with low human-human interactivity (hereafter called as  $HMI^L-HHI^L$ ), low human-message interactivity with high human-human interactivity (hereafter called as  $HMI^L-HHI^H$ ), high human-message interactivity with low human-human interactivity (hereafter called as  $HMI^H-HHI^L$ ), and high human-message interactivity with high human-human interactivity (hereafter called as  $HMI^H-HHI^H$ ).

Additionally, although this study proposed that consumer online experiences may deal with the negative outcomes of delays during online purchase process, this study found the effects of consumer online experience may be moderated by some variables. The first moderating variable may be *cognitive dissonance* (hereafter called as *CD*) which means a psychologically uncomfortable state due to inconsistency between two cognitive elements (i.e., beliefs, attitudes, or behaviors) (Anderson, 2006; Brutus and Ryan, 1998; Hawkins et al., 2003; Keng and Liao, 2009; Matz et al., 2008; Mowen and Minor, 1998; Shiv et al., 2005; Statt, 1997). Based on the *cognitive dissonance theory* (Festinger, 1957), this study proposed *CD* which was caused by inconsistency between consumer online experiences and direct experience may nullify the positive effects of consumer online experiences on two kinds of delays.

The second moderating variable may be *desire for control* (hereafter called as *DC*) which is a stable personality trait reflecting the extent to which individuals generally are motivated to control events in their lives (Burger, 1985). Based on *theory of controlling the information flow* (Ariely, 2000), this study proposed that consumers with high *DC* may prefer high human-message online experiences (i.e.,  $HMI^H-HHI^L$  or  $HMI^H-HHI^H$ ) and consumers with low *DC* may prefer low human-message online experiences (i.e.,  $HMI^L-HHI^L$  or  $HMI^L-HHI^H$ ).

The final moderating variable may be *consumer susceptibility to interpersonal influence* (hereafter called as *CSII*) which means the need to identify with or enhance one's image in the opinion of significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding

purchase decisions, and/or the tendency to learn about products and services by observing others or seeking information from others (Bearden et al., 1989). Based on the *social response theory* (Moon, 2000; Nass et al., 1997; Reeves and Nass, 1996), this study proposed that consumers with high *CSII* may prefer high human-human online experiences (i.e.,  $HMI^L-HHI^H$  or  $HMI^H-HHI^H$ ) and consumers with low *CSII* may prefer low human-human online experiences (i.e.,  $HMI^L-HHI^L$  or  $HMI^H-HHI^L$ ).

Thus, this study tried to classify consumer online experiences as four categories (i.e.,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^H$ ) and applied consumer online experiences to overcome the negative outcomes of delays during online purchase process (i.e., delay to purchase and delay to consumption). Besides, the moderating role of cognitive dissonance (*CD*), desire for control (*DC*), and consumer susceptibility to interpersonal influence (*CSII*) were also discussed (Figure 1).

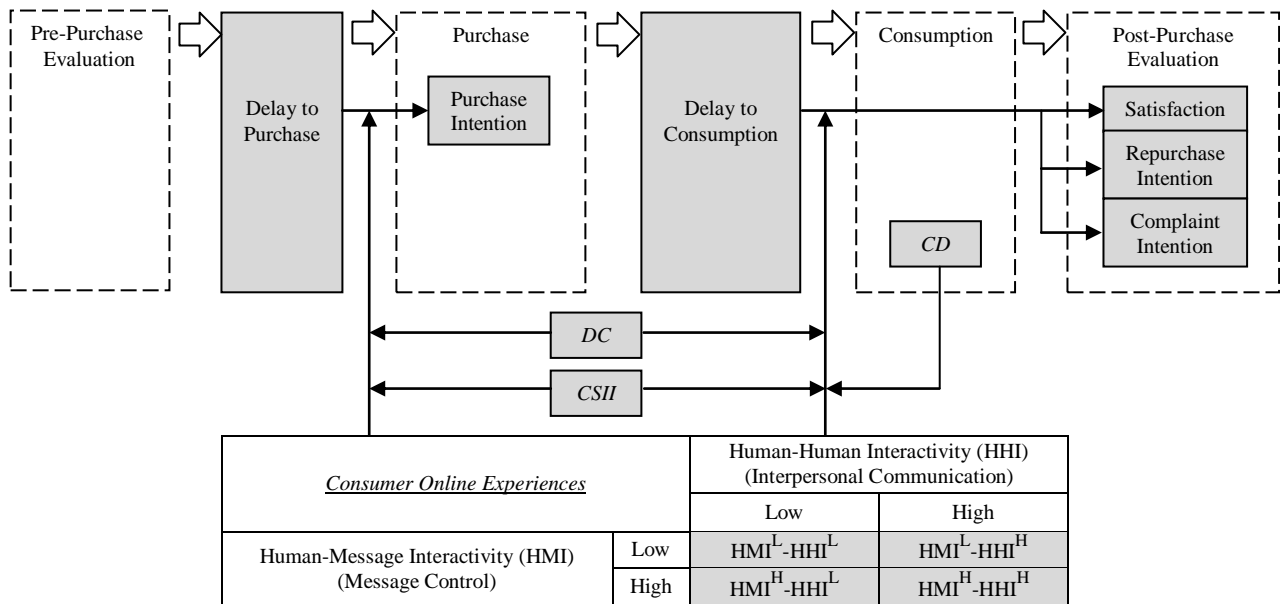


Figure 1. The Overview of This Study

## 2. Literature Review and Research Hypotheses

### 2.1 Delays during Online Purchase Process

Consumer purchase process can be divided into the well-known stages: need for recognition, information search, pre-purchase evaluation, purchase, consumption, and post-consumption evaluation (Engel et al., 1995). This study found that the purchase process may not be always continuous, especially in online environment. The two kinds of delays may exist: delay during pre-purchase evaluation and purchase (hereinafter called as *delay to purchase*) and delay during purchase and consumption (hereinafter called as *delay to consumption*).

Kim et al. (2008) found that trust is a prerequisite for successful e-commerce because consumers are hesitant to make purchase unless trust the seller and their findings were also consistent with other studies (Gefen, 2002; Jarvenpaa et al., 1999; Kim et al., 2005; Urban, 2000). Besides, Tversky and Shafir (1992) indicated consumers usually seek value maximization of purchasing, when they feel conflict toward the purchase decision, they may delay make the decision and seek additional information. Dhar (1997) proposed decision makers experience no-choice because of seeking more information on existing alternatives or searching for new alternatives. Some studies also pointed that consumer may hesitate to make the purchase decision because of spending time to gather additional information (Greenleaf and Lehmann, 1995). Additionally, Luce et al. (1997) found that decision difficulty is often thought to result from information that is too voluminous or complex for the decision maker's available cognitive resource and their finding were consistent with other studies (Einhorn and Hogarth, 1981; Payne, 1982). Walsh et al. (2007) suggested that consumer overload confusion toward advertisement may cause decision postponement. Thus, this study defined *delay to purchase online* as consumers actively delay to make the online purchase decision because they perceive the low usefulness, reliability, and understandability toward the information in Web pages.

*Delay to consumption* generally caused by product or service providers such as waiting in checkout line (Tom and Lucey, 1995), airline delay (Díaz and Ruíz, 2002; Taylor, 1994), waiting in bank (Chebat and Filiatrault, 1993; Clemmer and Schneider, 1989; Katz et al., 1991), and waiting in movie theater (Marquis and Filiatrault, 2000). When it comes to "online shopping", Ryan and Valverde (2005) indicated that e-consumers usually complain the delay delivery of the product. Besides, Kim (2005) proposed that delivery time is one of the main factors of consumer satisfaction online. Sebastianelli et al. (2008) indicated that on time delivery positively influence consumers perceived quality of online shopping. Comegys et al. (2009) proposed that online shopping (i.e., remote transaction) involves the delivery risk which means the product may not arrive or may arrive late. Thus, this study tried to adopt the *delay of product delivery* as the *delay to consumption online*.

## **2.2 Human-Message Interactivity and Human-Human Interactivity**

Interactivity is a key feature of Web sites (Ghose and Dou, 1998; Macias, 2003; Sicilia et al., 2005; Song and Zinkhan, 2008) because Web sites are based on information and communication technologies that enable easy and rapid interaction between consumers and advertisers (Coyle and Thorson, 2001; Ha and James, 1998). Interactivity is a multidimensional concept and could be defined in many ways (Heeter, 1989; Ko, et al., 2005; Liu and Shrum, 2002; McMillan, 2000; Newhagen et al., 1996; Steuer, 1992), but two dimensions appear most frequently in the extant literature:

human-message interactivity and human-human interactivity (Cho and Cheon, 2005; Cho and Leckenby, 1997; Ko et al., 2005; Liu and Shrum, 2002; Yu et al., 2008).

Human-message interactivity is defined as the ability of the user to control and modify messages (Ariely 1998; Steuer, 1992). The control is a key characteristic of interactivity (Downes and McMillan, 2000; Heeter, 1989; Heeter, 2000; Lombard and Ditton, 1997; Rogers, 1986; Yadav and Varadarajan, 2005). In traditional media, users have many choices, but little control over the messages. The only thing they can do is, for example, flip through the channels looking for messages that match with their own existing attitudes and interests (Klapper 1960; Westin et al., 1993). By contrast, Internet could gives users much more freedom in controlling the messages they receive and allows users to customize messages according to their own needs (Lui and Shrum, 2002), users can manipulate and customize the messages by alternating colors, shapes, graphics, sounds, and order of message contents (Ko et al., 2005).

Human-human interactivity is defined as the two-way, reciprocal communication from senders to receivers and vice versa (Cho and Cheon, 2005; Ko et al., 2005). Human-human interactivity is most often discussed from an interpersonal communication perspective (Liu and Shrum, 2002), the more that communication in a computer-mediated environment resembles interpersonal communication, the more interactive the communication is (Ha and James, 1998). In traditional mass media, there is usually only a one-way message flow from senders to receivers (Cook, 1994; Flaherty, 1985; Rogers, 1995; Wells et al., 1992; Williams et al., 1988). In contrast, in new interactive media, for example, marketers can deliver information to individual consumers, and the consumers can provide feedback to the marketers (Ko et al., 2005).

Thus, this study tried to classify *consumer online experiences* as four types.  $HMI^L-HHI^L$  refers to low human-message interactivity (low message control) and low human-human interactivity (low interpersonal communication), such as advertising with 2D product paragraph (Daugherty et al., 2008; Li, et al., 2001; Li et al., 2002, Li et al, 2003).  $HMI^H-HHI^L$  refers to high human-message interactivity (high message control) and low human-human interactivity (low interpersonal communication), such as advertising with 3D virtual reality (Daugherty et al., 2008; Li, et al., 2001; Li et al., 2002, Li et al, 2003).  $HMI^L-HHI^H$  refers to low human-message interactivity (low message control) and high human-human interactivity (high interpersonal communication), such as advertising with avatar (Wang et al., 2007).  $HMI^H-HHI^H$  refers to high human-message interactivity (high message control) and high human-human interactivity (high interpersonal communication), such as advertising with discussions or forums (Cho and Leckenby, 1999; Ko et al., 2005; Yu et al., 2008), and Q&A (Yu et al., 2008).

As past studies suggested the positive advertising effects or consumer learning of consumer experiences (Daugherty et al., 2008; Griffith and Chen, 2004; Kim and Biocca, 1997; Li et al., 2001; Li et al., 2002; Li et al., 2003; Millar and Millar, 1996; Singh et al., 2000; Smith, 1993; Smith and Swinyard, 1983; Wright and Lynch, 1995), this study proposed that consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ ) may deal with the negative outcomes of delays to purchase online (Figure 2).

**H1:** In the condition of delay to purchase, consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) produce the higher purchase intention than non-consumer online experiences.

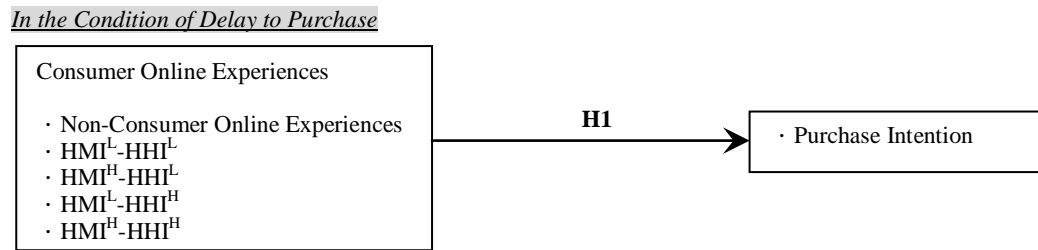


Figure 2. Framework of Study 1

### 2.3 Cognitive Dissonance during Online Purchase Process

A *theory of cognitive dissonance* was developed by social psychologist Festinger (1957). The concept of cognitive dissonance (*CD*) means a psychologically uncomfortable state due to inconsistency between two cognitive elements (i.e., beliefs, attitudes, or behaviors) (Anderson, 2006; Brutus and Ryan, 1998; Hawkins et al., 2003; Matz et al., 2008; Mowen and Minor, 1998; Shiv et al., 2005; Statt, 1997). In the consumer purchase process, *CD* occurs in the stage of consumption (Hawkins et al., 2003; Mowen and Minor, 1998; Shiv et al., 2005; Statt, 1997).

Some studies suggested *direct experience* may produce the higher effects than *consumer online experiences* (Daugherty et al., 2008; Griffith and Chen, 2004; Kim and Biocca, 1997; Millar and Millar, 1996; Singh et al., 2000; Smith, 1993; Smith and Swinyard, 1983; Wright and Lynch, 1995). When consumers find that the product they consumed/ used is inconsistent with their cognition before (i.e., the gap between direct experience and online indirect experience), they may produce the *CD*. This study proposed that this study proposed that consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ ) may deal with the negative outcomes of delay to consumption online. But *CD* may moderate the relationships between consumer online experiences and post-purchase evaluation (Figure 3).



- H2:** In the condition of delay to consumption, *CD* moderates relationships between consumer online experiences and satisfaction. When consumers perceived *CD*, the satisfaction among consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) and non-consumer online experiences are not significantly different. When consumer not perceived *CD*, consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) produce the higher satisfaction than non-consumer online experiences.
- H3:** In the condition of delay to consumption, *CD* moderates relationships between consumer online experiences and repurchase intention. When consumers perceived *CD*, the repurchase intention among consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) and non-consumer online experiences are not significantly different. When consumer not perceived *CD*, consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) produce the higher repurchase intention than non-consumer online experiences.
- H4:** In the condition of delay to consumption, *CD* moderates relationships between consumer online experiences and complaint intention. When consumers perceived *CD*, the complaint intention among consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) and non-consumer online experiences are not significantly different. When consumer not perceived *CD*, consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , or  $HMI^H-HHI^H$ ) produce the lower complaint intention than non-consumer online experiences.

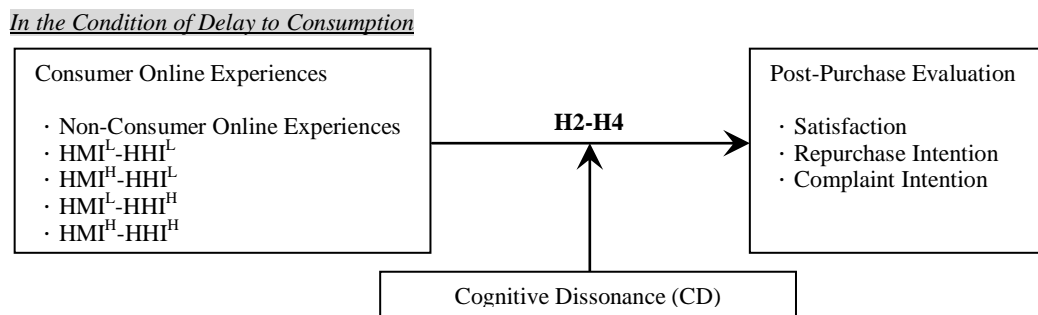


Figure 3. Framework of Study 2

## 2.4 Desire for Control

Desire for control (*DC*) is defined as a stable personality trait reflecting the extent to which individuals generally are motivated to control events in their lives (Burger, 1985). By the *theory of controlling the information flow* (Ariely, 2000), this study found that information control might not always be beneficial for enhancing consumers'

decision quality, memory, knowledge, and confidence. Providing consumers with too much control reduced their chances of finding necessary information, which in turn reduced the quality of their decisions (Sohn et al., 2007). Conversely, consumers can use the information more effectively when it matches their needs and preferences (Aksoy et al., 2006; Ylikoski, 2005).

Burger (1992) indicated that people with high *DC* prefer to control information closely, process the information in great detail, and seek to obtain control actively during an interaction, conversely, people with low *DC* do not prefer to and process control information diligently. MacIntyre and Donovan (2004) indicated that willingness to communication is positively related to *DC*. Liu and Shrum (2002) proposed that higher active control of interactivity produce more satisfaction for people with high *DC* than for people with low *DC*. Wrench et al. (2008) proposed that *DC* is negatively related to communication apprehension. Thus, this study proposed that consumers with high *DC* prefer high human-message online experiences (i.e.,  $HMI^H-HHI^L$  or  $HMI^H-HHI^H$ ); conversely, consumers with low *DC* prefer low human-message online experiences (i.e.,  $HMI^L-HHI^L$  or  $HMI^L-HHI^H$ ).

## 2.5 Consumer Susceptibility to Interpersonal Influence

Consumer susceptibility to interpersonal influence (*CSII*) is defined as the need to identify with or enhance one's image in the opinion of significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others or seeking information from others (Bearden et al., 1989).

According to the *social response theory*, people tend to treat computers as social actors even when they know that machines do not possess feelings, intentions, “selves,” or human motivations (Moon, 2000; Nass et al., 1997; Reeves and Nass, 1996). Besides, when presented with a technology possessing a set of characteristics normally associated with human behavior (e.g., language, turn taking, and interactivity) humans respond by exhibiting social behaviors and making social attributions (Moon, 2000; Moon and Nass, 1996; Nass et al., 1995; Wang et al., 2007). Murali et al. (2005) suggested that *CSII* positively relates to consumers’ relative preference for interpersonal information sources. Thus, this study proposed that consumers with high *CSII* prefer high human-human online experiences (i.e.,  $HMI^L-HHI^H$  or  $HMI^H-HHI^H$ ); conversely, consumers with low *CSII* prefer low human-human online experiences (i.e.,  $HMI^L-HHI^L$  or  $HMI^H-HHI^L$ ).

Integrating the literature review in section of 2.4 and 2.5, this study proposed that consumer personality such as *DC* and *CSII* may impact the effects of consumer online

experiences in both condition of delay to purchase online (Figure 4) and delay to consumption online (Figure 5).

**H5:** In the condition of delay to purchase, consumers with low *DC* and low *CSII* produce the higher purchase intention toward  $HMI^L-HHI^L$  than toward  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H6:** In the condition of delay to purchase, consumers with high *DC* and low *CSII* produce the higher purchase intention toward  $HMI^H-HHI^L$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ .

**H7:** In the condition of delay to purchase, consumers with low *DC* and high *CSII* produce the higher purchase intention toward  $HMI^L-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H8:** In the condition of delay to purchase, consumers with high *DC* and high *CSII* produce the higher purchase intention toward  $HMI^H-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^L$ .

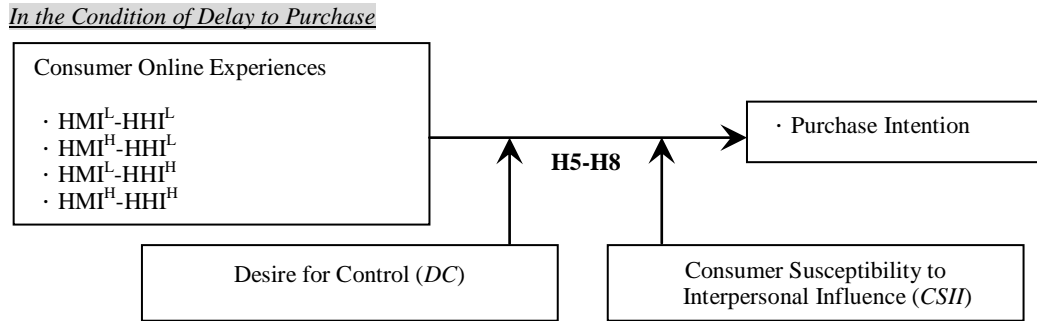


Figure 4. Framework of Study 3

**H9:** In the condition of delay to consumption, consumers with low *DC* and low *CSII* produce the higher satisfaction toward  $HMI^L-HHI^L$  than toward  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H10:** In the condition of delay to consumption, consumers with high *DC* and low *CSII* produce the higher satisfaction toward  $HMI^H-HHI^L$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ .

**H11:** In the condition of delay to consumption, consumers with low *DC* and high *CSII* produce the higher satisfaction toward  $HMI^L-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H12:** In the condition of delay to consumption, consumers with high *DC* and high *CSII*

produce the higher satisfaction toward  $HMI^H-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^L$ .

**H13:** In the condition of delay to consumption, consumers with low *DC* and low *CSII* produce the higher repurchase intention toward  $HMI^L-HHI^L$  than toward  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H14:** In the condition of delay to consumption, consumers with high *DC* and low *CSII* produce the higher repurchase intention toward  $HMI^H-HHI^L$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ .

**H15:** In the condition of delay to consumption, consumers with low *DC* and high *CSII* produce the higher repurchase intention toward  $HMI^L-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H16:** In the condition of delay to consumption, consumers with high *DC* and high *CSII* produce the higher repurchase intention toward  $HMI^H-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^L$ .

**H17:** In the condition of delay to consumption, consumers with low *DC* and low *CSII* produce the lower complaint intention toward  $HMI^L-HHI^L$  than toward  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H18:** In the condition of delay to consumption, consumers with high *DC* and low *CSII* produce the lower complaint intention toward  $HMI^H-HHI^L$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ .

**H19:** In the condition of delay to consumption, consumers with low *DC* and high *CSII* produce the lower complaint intention toward  $HMI^L-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ .

**H20:** In the condition of delay to consumption, consumers with high *DC* and high *CSII* produce the lower complaint intention toward  $HMI^H-HHI^H$  than toward  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^L$ .

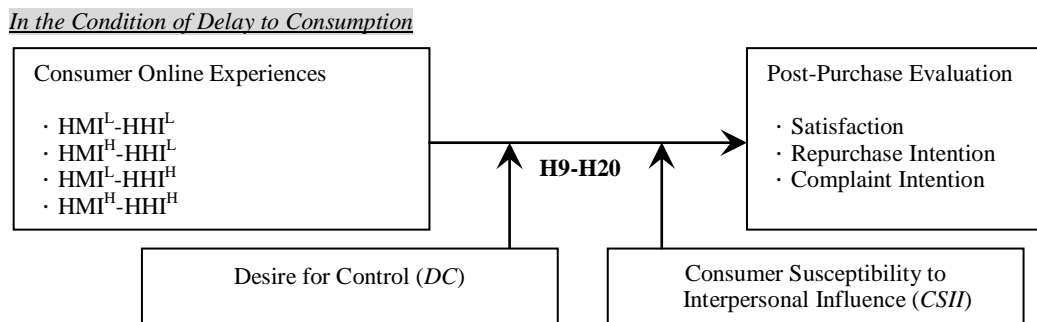


Figure 5. Framework of Study 4

### 3. Methodology

#### 3.1 Research Design

Four experiments were conducted in this study. In Study 1, consumer online experiences ( $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ ,  $HMI^H-HHI^H$ , or non-consumer online experience) were manipulated and then purchase intention was measured. In Study 2, this study conducted a 5 (consumer online experience:  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ ,  $HMI^H-HHI^H$ , or non-consumer online experience)  $\times$  2 (*CD* or non-*CD*) factorial design and then satisfaction, repurchase intention, and complaint intention were measured. In Study 3, this study conducted a 4 (consumer online experiences:  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$  or  $HMI^H-HHI^H$ )  $\times$  2 (*DC*: high or low)  $\times$  2 (*CSII*: high or low) factorial design and then purchase intention was measured. In Study 4, this study conducted a 4 (consumer online experiences:  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$  or  $HMI^H-HHI^H$ )  $\times$  2 (*DC*: high or low)  $\times$  2 (*CSII*: high or low) factorial design and then satisfaction, repurchase intention, and complaint intention were measured.

#### 3.2 Participants

The registered users of PTT Bulletin Board System composed the participants of this study. PTT is the largest BBS in Taiwan with more than 1.5 million registered users. This study posted the article on the topic of “e-shopping” board to recruit the volunteers participating in this study. In Study 1, there were 187 valid samples; in Study 2, there were 349 valid samples; in Study 3, there were 720 valid samples; in Study 4, there were 729 valid samples.

#### 3.3 Products

Daugherty et al. (2008) and Li et al. (2003) suggested the criteria to select the test product when exploring the comparison of consumer experiences: the test product needed (1) to require participants to engage in information processing, (2) to contain both search and experience attributes, and (3) to represent an impartial brand of interest (4) to be effectively represented in each type of experience.

The first criterion is necessary to engage the participants in active processing for evaluation of the test product (i.e., high involvement) (Daugherty et al., 2008; Li et al., 2003). Six products (notebook computer, digital camera, mobile phone, wristwatch, shoes, and clothes) were selected to pretest. The results showed that the involvement (Daugherty et al., 2008) (Cronbach's  $\alpha = 0.96$ ) among these products were significantly different ( $F_{(5, 264)} = 14.788$ ,  $p = .000 < .05$ ) and the top three involvement were notebook computer ( $M = 30.09$ ,  $SD = 6.53$ ), digital camera ( $M = 29.67$ ,  $SD = 6.14$ ),

and mobile phone ( $M = 26.42$ ,  $SD = 9.32$ ).

The second criterion is to select product with balance to search and experience attributes. Six products (notebook computer, digital camera, mobile phone, wristwatch, shoes, and clothes) were selected to pretest. The results showed that the experience quality (Weathers et al., 2007) (Cronbach's  $\alpha = 0.88$ ) among these products are significantly different ( $F_{(5, 264)} = 4.677$ ,  $p = .000 < .05$ ) and the top three experience quality were shoes ( $M = 11.89$ ,  $SD = 2.10$ ), clothes ( $M = 11.71$ ,  $SD = 2.02$ ), and digital camera ( $M = 11.51$ ,  $SD = 2.25$ ); search quality (Weathers et al., 2007) (Cronbach's  $\alpha = 0.80$ ) among these product are significantly different ( $F_{(5, 264)} = 4.673$ ,  $p = .000 < .05$ ) and the top three were wristwatch ( $M = 9.00$ ,  $SD = 2.20$ ), notebook computer ( $M = 8.67$ ,  $SD = 2.06$ ), and digital camera ( $M = 8.38$ ,  $SD = 1.91$ ).

The third criterion is to select product with median brand preference. The nine brands of digital camera (i.e., SAMSUNG, PENTAX, CASIO, OLYMPUS, FUJIFILM, Panasonic, SONY, Nikon, and Canon) were selected to measure their perceived quality and brand preference in pretest. The results showed perceived quality ( $F_{(8, 594)} = 18.903$ ,  $p = .000 < .05$ ) and brand preferences ( $F_{(8, 594)} = 14.629$ ,  $p = .000 < .05$ ) among these brand were significantly different. FUJIFILM produced the relative median level of perceived quality ( $M = 4.87$ ,  $SD = 1.41$ ) and brand preference ( $M = 4.51$ ,  $SD = 1.70$ ).

Base on the criteria of product selection proposed by Daugherty et al. (2008) and Li et al. (2003), this study select *FUJIFILM digital camera* as the test product.

The forth criterion means that the product is appropriate to minimize the differences between the stimulus materials (Daugherty et al., 2008; Li et al., 2003). Via pretest, this study found the purchase intention of the four kinds of consumer online experiences (i.e.,  $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ ,  $HMI^H-HHI^H$ ) were not significantly different ( $F_{(3, 116)} = 0.337$ ,  $p = .798 > .05$ ). Hence, *FUJIFILM digital camera* seems appropriate as test product.

### 3.4 Manipulations

Delay to Consumption Online Based on past studies (Comegys et al., 2009; Kim, 2005; Ryan and Valverde, 2005; Sebastianelli et al., 2008), this study adopted the *delay of product delivery* as the delay to consumption online. Besides, via depth interviews, this study found that the acceptable delivery day is within 15 days. Hence, this study manipulated delay to consumption online as “21 working days delay”. Participants may receive one message: “As inventory shortage, we are sorry to inform you that we will deliver your digital camera after 21 working days” (i.e., delivery delay).

Consumer Online Experiences  $HMI^L-HHI^L$  refers to low human-message interactivity (low message control) and low human-human interactivity (low

interpersonal communication), and the manipulation such as static text (with product function and specification) (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); static 2D multi-angle product pictures (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001).

HMI<sup>H</sup>-HHI<sup>L</sup> refers to high human-message interactivity (high message control) and low human-human interactivity (low interpersonal communication), and the manipulation such as static text (with product function and specification) (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); 3D dynamic and multi-angle product display (with user-controlling: rotate and zoom in or out of the lens) (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); hyperlink (Keng and Lin, 2001).

HMI<sup>L</sup>-HHI<sup>H</sup> refers to low human-message interactivity (low message control) and high human-human interactivity (high interpersonal communication), and the manipulation such as static text (with product function and specification) (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); static 2D multi-angle product pictures (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); social role: an dynamic avatar introducing (with voice and subtitles) the product (Moon, 2000; Reeves and Nass, 1996; Steuer and Nass, 1993; Wang et al., 2007).

HMI<sup>H</sup>-HHI<sup>H</sup> refers to high human-message interactivity (high message control) and high human-human interactivity (high interpersonal communication), and the manipulation such as static text (with product function and specification) (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); static 2D multi-angle product pictures (Daugherty et al., 2008; Li et al., 2001; Li et al., 2002; Li et al., 2003; Keng and Lin, 2001); hyperlink (Keng and Lin, 2001); social role: an dynamic avatar introducing (with voice and subtitles) the product (with user-controlling: play/pause/ stop, fast-forward/ fast-reverse, and volume control) (Steuer and Nass, 1993; Wang et al., 2007); discussion forum (Q&A) (Cho and Cheon, 2005; Keng and Lin, 2006; Ko et al., 2005; Yu et al., 2008); E-mail (Yu et al., 2008).

Cognitive Dissonance (CD) This study conducted the pretest to found how to manipulate CD. The 13 attributes of digital camera (i.e., shooting modes, file format, boot speed, appearance, lens, LCD monitor, digital zoom, shutter speed, number of effective pixels, image stabilization, operational interface, price, and warranty) were selected to measure their importance. The results showed that importance among the attributes were significantly different ( $F_{(12, 858)} = 16.128, p = .000 < .05$ ). The top five important attributes are warranty ( $M = 6.64, SD = 0.54$ ), price ( $M = 6.31, SD = 0.91$ ), operational interface ( $M = 6.13, SD = 0.92$ ), image stabilization ( $M = 6.13, SD = 1.21$ ),

and number of effective pixels ( $M = 5.82$ ,  $SD = 1.37$ ).

This study found “warranty” and “price” are difficult to be presented as direct product experiences. Besides, since the participants are the registered users of PTT Bulletin Board System, it is difficult to provide participants with “real” digital camera and let them use/ check the operational interface of digital camera. Hence, this study selected attributes of “image stabilization” and “number of effective pixels” to manipulate *CD*. First, the message was presented: “Please image that you went to travel and used this digital camera to take the picture. Now, you are appreciating the pictures you took on your PC screen”. And then, three pictures were presented on the screen. For non-*CD*, the three pictures were clear and high definition. Contrarily, the three pictures with fuzzy and low definition represented the manipulation of *CD*.

### 3.5 Experiment Procedure

Study 1 First, experiment introduction was showed on the home page of experiment Web site. Second, a brief list of specification (i.e., weight, dimensions, number of effective pixels, lens, lens focal length, focus distances, aperture, and image stabilization) and three pictures (three colors: pink, white, and black) of digital camera (FUJIFILM FinePix Z300) were showed. Third, participants could actively click either “Buy Now” or “Buy Later”. Forth, the participants who actively click “Buy Later” are randomly assigned one of the five kinds of consumer online experiences: non-consumer online experience,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , or  $HMI^H-HHI^H$ . The countdown timer was designed in the Web site of  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$  and participants were required to spend more than 60 seconds to browse the Web sites. Finally, Web site socialness perceptions, active control, purchase intention and demographics were asked.

Study 2 First, experiment introduction was showed on the home page of experiment Web site. Second, a brief list of specification (i.e., weight, dimensions, number of effective pixels, lens, lens focal length, focus distances, aperture, and image stabilization) and three pictures (three colors: pink, white, and black) of digital camera (FUJIFILM FinePix Z300) were showed. Third, a message was presented: “Please Image that You Buy this Product Now”. Forth, a message was then presented: “As inventory shortage, we are sorry to inform you that we will deliver your digital camera after 21 working days”. Fifth, participants were randomly assigned one of the five kinds of consumer online experiences: non-consumer online experience,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , or  $HMI^H-HHI^H$ . The countdown timer was designed in the Web site of  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$  and participants were required to spend more than 60 seconds to browse the Web sites. Sixth, participants were then randomly assigned either “non-*CD*” or “*CD*”. Finally, *CD*, Web



site socialness perceptions, active control, satisfaction, purchase intention, complaint intention and demographics were asked.

Study 3 First, experiment introduction was showed on the home page of experiment Web site. Second, a brief list of specification (i.e., weight, dimensions, number of effective pixels, lens, lens focal length, focus distances, aperture, and image stabilization) and three pictures (three colors: pink, white, and black) of digital camera (FUJIFILM FinePix Z300) were showed. Third, participants could actively click either “Buy Now” or “Buy Later”. Forth, the participants who actively click “Buy Later” are randomly assigned one of the four kinds of consumer online experiences:  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , or  $HMI^H-HHI^H$ . The countdown timer was designed in the Web site of  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$  and participants were required to spend more than 60 seconds to browse the Web sites. Finally, Web site socialness perceptions, active control, purchase intention, *DC*, *CSII*, and demographics were asked.

Study 4 First, experiment introduction was showed on the home page of experiment Web site. Second, a brief list of specification (i.e., weight, dimensions, number of effective pixels, lens, lens focal length, focus distances, aperture, and image stabilization) and three pictures (three colors: pink, white, and black) of digital camera (FUJIFILM FinePix Z300) were showed. Third, a message was presented: “Please Image that You Buy this Product Now”. Forth, a message was then presented: “As inventory shortage, we are sorry to inform you that we will deliver your digital camera after 21 working days”. Fifth, participants were randomly assigned one of the four kinds of consumer online experiences:  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , or  $HMI^H-HHI^H$ . The countdown timer was designed in the Web site of  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$  and participants were required to spend more than 60 seconds to browse the Web sites. Finally, Web site socialness perceptions, active control, satisfaction, purchase intention, complaint intention, *DC*, *CSII*, and demographics were asked.

### **3.6 Operational Definition and Measurement**

Based on literature review, this study defined the major concepts as followed. *Delay to purchase online* was defined as consumers actively delay to make the online purchase decision because they perceive the low usefulness, low reliability, and low understandability toward the information in Web pages. *Delay to consumption online* means consumers are unable to consume (or use) the product immediately after purchasing due to product delivery delay. *Consumer online experience* is psychological and emotional states that consumers undergo while interacting with product online.

*Purchase intention* means the likelihood of consumers purchasing (Holzwarth et al., 2006); *satisfaction* is defined as consumer fulfillment response which is a judgment of a product or service, or the level of pleasure achieved post-purchase (Keng and Liao, 2009); *repurchase intention* means the likelihood continuing to use a product or choosing a product again after their first purchase (Keng and Liao, 2009); *complaint intention* is defined as the likelihood of consumers complaining to vendor stores/manufacturers, other consumers, or other stores/manufacturers post-purchase (Keng and Liao, 2009). This study developed measures based on those used in previous studies to assess *purchase intention* (Burton et al., 2009; Holzwarth et al., 2006), *satisfaction* (Keng and Liao, 2009), *repurchase intention* (Keng and Liao, 2009), and *complaint intention* (Keng and Liao, 2009).

*Cognitive dissonance (CD)* is a psychologically uncomfortable state due to inconsistency between consumer online experiences and direct experience after online purchase. *Desire for control (DC)* is defined as a stable personality trait reflecting the extent to which individuals generally are motivated to control events in their lives (Burger, 1985). *Consumer susceptibility to interpersonal influence (CSII)* means the need to identify with or enhance one's image in the opinion of significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others or seeking information from others (Bearden et al., 1989). This study developed measures based on those used in previous studies to assess *CD* (Keng and Liao, 2009), *DC* (Burger and Cooper, 1979), and *CSII* (Bearden, 1989).

All of above measures were used a 7-point Likert scale (where 1 = *strongly disagree* and 7 = *strongly agree*).

## **4. Results**

### **4.1 Demographic Descriptions**

In total, there were 1,985 valid participants in this study (participants of four studies were independent). Approximately 54.7% of participants are female ( $n = 1,085$ ) and 45.3% are male ( $n = 900$ ). Roughly 14.4% of participants are aged below 19 years old ( $n = 285$ ), 55.9% are 20-29 years old ( $n = 1,110$ ), 26.4% are 30-39 years old ( $n = 524$ ), 2.7% are 40-49 years old ( $n = 54$ ), and 0.6% are over 50 years old ( $n = 12$ ). Roughly 7.9% participants have high school graduate or below degree ( $n = 156$ ), 64.9% participants have bachelor's degree ( $n = 1288$ ), and 27.3% have master or Ph.D. degree ( $n = 541$ ).

The contribution of gender, age, and education of this study seems similar to the

official Taiwanese report (ITIS, 2009). In this report, In Taiwan, 56.0% of online shoppers are female and 44.0% are male. Besides, 14.0% of online shoppers are aged below 19 years old, 52.8% are 20-29 years old, 25.7% are 30-39 years old, 5.9% are 40-49 years old, and 1.6% over 50 years old. Moreover, 21.9% online shoppers have high school graduate or below degree, 65.8% have bachelor's degree, and 12.3% have master or Ph.D. degree.

#### 4.2 Random Allocation Test

A chi-square test is conducted to test for random assignment of the participants to the experimental conditions (groups) (Kimes and Wirtz, 2003). For Study 1, there were five groups of consumer online experience (i.e., non-consumer online experience,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ ). The results of chi-square test showed that participants' gender (Pearson  $\chi^2_{(4)} = 0.531$ ,  $p = .970 > .05$ ), age (Pearson  $\chi^2_{(16)} = 14.399$ ,  $p = .569 > .05$ ), and education (Pearson  $\chi^2_{(8)} = 9.762$ ,  $p = .282 > .05$ ) are independent to the manipulation of consumer online experience. For Study 2, there were five groups of consumer online experience (i.e., non-consumer online experience,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ ). The results of chi-square test showed that participants' gender (Pearson  $\chi^2_{(4)} = 2.278$ ,  $p = .685 > .05$ ), age (Pearson  $\chi^2_{(16)} = 19.512$ ,  $p = .243 > .05$ ), and education (Pearson  $\chi^2_{(8)} = 3.960$ ,  $p = .861 > .05$ ) were independent to the manipulation of consumer online experience.

For Study 3, there were four groups of consumer online experience (i.e.,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ ). The results of chi-square test showed that participants' gender (Pearson  $\chi^2_{(3)} = 1.225$ ,  $p = .747 > .05$ ), age (Pearson  $\chi^2_{(12)} = 5.659$ ,  $p = .932 > .05$ ), and education (Pearson  $\chi^2_{(6)} = 8.234$ ,  $p = 0.221 > 0.05$ ) were independent to the manipulation of consumer online experience. For Study 4, there were four groups of consumer online experience (i.e.,  $HMI^L-HHI^L$ ,  $HMI^H-HHI^L$ ,  $HMI^L-HHI^H$ , and  $HMI^H-HHI^H$ ). The results of chi-square test showed that participants' gender (Pearson  $\chi^2_{(3)} = 6.917$ ,  $p = .073 > .05$ ), age (Pearson  $\chi^2_{(12)} = 5.543$ ,  $p = .937 > .05$ ), and education (Pearson  $\chi^2_{(6)} = 2.753$ ,  $p = .839 > .05$ ) were independent to the manipulation of consumer online experience. Hence, the participant allocation to the experimental conditions (groups) is indeed random.

#### 4.3 Manipulation Check

Consumer Online Experiences This study checked the manipulation of consumer online experiences by using measures of *active control* (Liu, 2003) and *Web site socialness perceptions* (Wang et al., 2007). *Active control* is a user's ability to voluntarily participate in and instrumentally influence a communication (Liu, 2003); *Web site socialness perception* is defined as the extent to which consumers detect social presence as a result of the use of social cues on a Web site (Wang et al., 2007).

MANOVA showed that *active control* of four kinds of consumer online experiences are significantly different ( $F_{(4, 344)} = 12.420, p = .000 < .05$ ). The Scheffe Multiple Comparison Test shows that active control of  $HMI^H-HHI^H$  ( $M = 21.07, SD = 5.55$ ) and  $HMI^H-HHI^L$  ( $M = 19.44, SD = 4.61$ ) are significantly higher than  $HMI^L-HHI^H$  ( $M = 16.09, SD = 6.04$ ),  $HMI^L-HHI^L$  ( $M = 15.85, SD = 6.04$ ), and non-consumer online experience ( $M = 15.58, SD = 6.86$ ). Besides, active control between  $HMI^H-HHI^H$  and  $HMI^H-HHI^L$  are not significantly different; active control among  $HMI^L-HHI^H$ ,  $HMI^L-HHI^L$ , and non-consumer online experience are not significantly different.

MANOVA showed that *Web site socialness perceptions* of four kinds of consumer online experiences are significantly different ( $F_{(4, 344)} = 14.639, p = .000 < .05$ ). The Scheffe Multiple Comparison Test shows that Web site socialness perceptions of  $HMI^H-HHI^H$  ( $M = 26.51, SD = 6.17$ ) and  $HMI^L-HHI^H$  ( $M = 25.57, SD = 5.78$ ) are significantly higher than  $HMI^H-HHI^L$  ( $M = 21.77, SD = 6.05$ ),  $HMI^L-HHI^L$  ( $M = 21.04, SD = 7.06$ ), and non-consumer online experience ( $M = 19.39, SD = 8.01$ ). Besides, Web site socialness perceptions between  $HMI^H-HHI^H$  and  $HMI^L-HHI^H$  are not significantly different; Web site socialness perceptions between  $HMI^H-HHI^L$ ,  $HMI^L-HHI^L$ , and non-consumer online experience are not significantly different.

*Cognitive Dissonance (CD)* This study checked the manipulation of *CD* based on the measures of cognitive dissonance scale (Keng and Liao, 2009). ANOVA showed that the cognitive dissonance scale of *CD* manipulation ( $M = 22.10, SD = 5.94$ ) is significantly higher than non-*CD* manipulation ( $M = 12.88, SD = 4.62$ ) ( $F_{(1, 347)} = 263.266, p = .000 < .05$ ).

#### 4.4 Scale Reliability

This study test for internal consistency using Cronbach's  $\alpha$  coefficient. Cronbach's  $\alpha$  coefficients for all concepts are higher than the recommend cutoff point of 0.7 (Nunnally, 1978): purchase intention ( $\alpha = 0.92$ ); satisfaction ( $\alpha = 0.98$ ); repurchase intention ( $\alpha = 0.95$ ); complaint intention ( $\alpha = 0.93$ ); *CSII* ( $\alpha = 0.93$ ); *DC* ( $\alpha = 0.81$ ); *CD* ( $\alpha = 0.95$ ); active control ( $\alpha = 0.92$ ); Web site socialness perceptions ( $\alpha = 0.90$ ).

#### 4.5 Hypotheses Test

*Study 1* This study test **H1** via an ANOVA Test. Result showed that the purchase intention among four types of consumer online experiences and non-consumer online experience are significantly different ( $F_{(4, 182)} = 11.516, p = .000 < .05$ ). The Scheffe Multiple Comparison Test showed that purchase intention of  $HMI^L-HHI^L$  ( $M = 22.07, SD = 9.01$ ),  $HMI^H-HHI^L$  ( $M = 22.97, SD = 9.97$ ),  $HMI^L-HHI^H$  ( $M = 22.22, SD = 10.45$ ), and  $HMI^H-HHI^H$  ( $M = 23.09, SD = 5.66$ ) are significantly higher than

non-consumer online experience ( $M = 12.45$ ,  $SD = 5.60$ ) and supports **H1**.

Study 2 A MANOVA is used to test **H2**, **H3**, and **H4**. Results showed the interaction of consumer online experiences and *CD* significantly impacts satisfaction ( $F_{(4, 339)} = 5.327$ ,  $p = .000 < .05$ ). The Scheffe Multiple Comparison Test showed that for non-*CD*, satisfaction of  $HMI^L-HHI^L$  ( $M = 12.73$ ,  $SD = 5.55$ ),  $HMI^H-HHI^L$  ( $M = 12.84$ ,  $SD = 6.97$ ),  $HMI^L-HHI^H$  ( $M = 12.76$ ,  $SD = 6.80$ ), and  $HMI^H-HHI^H$  ( $M = 12.91$ ,  $SD = 6.98$ ) are significantly higher than non-consumer online experience ( $M = 7.89$ ,  $SD = 3.16$ ). For *CD*, satisfaction of  $HMI^L-HHI^L$  ( $M = 5.52$ ,  $SD = 3.61$ ),  $HMI^H-HHI^L$  ( $M = 7.91$ ,  $SD = 3.67$ ),  $HMI^L-HHI^H$  ( $M = 7.00$ ,  $SD = 5.24$ ),  $HMI^H-HHI^H$  ( $M = 5.68$ ,  $SD = 4.04$ ), and non-consumer online experience ( $M = 7.66$ ,  $SD = 4.26$ ) are not significantly different. Hence, **H2** is supported.

The interaction of consumer online experiences and *CD* doesn't significantly impact repurchase intention ( $F_{(4, 339)} = 0.162$ ,  $p = .957 > .05$ ). The Scheffe Multiple Comparison Test showed that for non-*CD*, repurchase intention of  $HMI^L-HHI^L$  ( $M = 12.78$ ,  $SD = 6.25$ ),  $HMI^H-HHI^L$  ( $M = 12.94$ ,  $SD = 6.99$ ),  $HMI^L-HHI^H$  ( $M = 12.87$ ,  $SD = 6.87$ ),  $HMI^H-HHI^H$  ( $M = 13.12$ ,  $SD = 7.10$ ) and non-consumer online experience ( $M = 12.00$ ,  $SD = 3.65$ ) are not significantly different. For *CD*, repurchase intention of  $HMI^L-HHI^L$  ( $M = 7.42$ ,  $SD = 4.90$ ),  $HMI^H-HHI^L$  ( $M = 8.85$ ,  $SD = 4.35$ ),  $HMI^L-HHI^H$  ( $M = 7.94$ ,  $SD = 4.77$ ),  $HMI^H-HHI^H$  ( $M = 8.65$ ,  $SD = 4.30$ ), and non-consumer online experience ( $M = 6.74$ ,  $SD = 4.29$ ) are also not significantly different. Hence, **H3** is not supported.

The interaction of consumer online experiences and *CD* significantly impacts complaint intention ( $F_{(4, 339)} = 2.723$ ,  $p = .029 < .05$ ). The Scheffe Multiple Comparison Test showed that for non-*CD*, complaint intention of  $HMI^L-HHI^L$  ( $M = 11.22$ ,  $SD = 6.46$ ),  $HMI^H-HHI^L$  ( $M = 10.90$ ,  $SD = 6.95$ ),  $HMI^L-HHI^H$  ( $M = 11.00$ ,  $SD = 6.84$ ), and  $HMI^H-HHI^H$  ( $M = 9.66$ ,  $SD = 6.56$ ) are significantly lower than non-consumer online experience ( $M = 15.76$ ,  $SD = 3.64$ ). For *CD*, complaint intention of  $HMI^L-HHI^L$  ( $M = 16.76$ ,  $SD = 3.51$ ),  $HMI^H-HHI^L$  ( $M = 15.00$ ,  $SD = 4.66$ ),  $HMI^L-HHI^H$  ( $M = 15.66$ ,  $SD = 4.97$ ),  $HMI^H-HHI^H$  ( $M = 14.59$ ,  $SD = 5.63$ ), and non-consumer online experience ( $M = 15.80$ ,  $SD = 5.69$ ) are not significantly different. Hence, **H4** is supported.

Study 3 Based on past studies (Blodgett and Anderson, 2000; Wang and Yang, 2007), a K-means Cluster was used to classified desire for control (*DC*) as low or high clusters (i.e., Low *DC* and High *DC*) and classified consumer susceptibility to interpersonal influence (*CSII*) into low or high clusters (i.e., Low *CSII* and High *CSII*).

An ANOVA was used to test **H5**, **H6**, **H7**, and **H8**. Results showed that the interaction of consumer online experiences, *DC*, and *CSII* significantly impacts purchase intention ( $F_{(3, 704)} = 3.197$ ,  $p = .023 < .05$ ). The Scheffe Multiple Comparison

Test showed that for consumers with Low *DC* and Low *CSII*, their purchase intention of  $HMI^L-HHI^L$  ( $M = 29.05$ ,  $SD = 6.45$ ) are significantly higher than  $HMI^L-HHI^H$  ( $M = 23.41$ ,  $SD = 4.34$ ),  $HMI^H-HHI^L$  ( $M = 23.90$ ,  $SD = 3.45$ ), and  $HMI^H-HHI^H$  ( $M = 16.23$ ,  $SD = 9.19$ ) and supports the **H5**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and Low *CSII*, their purchase intention of  $HMI^H-HHI^L$  ( $M = 28.89$ ,  $SD = 5.73$ ) are significantly higher than  $HMI^H-HHI^H$  ( $M = 23.30$ ,  $SD = 4.85$ ),  $HMI^L-HHI^L$  ( $M = 23.21$ ,  $SD = 4.73$ ), and  $HMI^L-HHI^H$  ( $M = 13.80$ ,  $SD = 7.89$ ) and supports the **H6**.

The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and High *CSII*, their purchase intention of  $HMI^L-HHI^H$  ( $M = 30.01$ ,  $SD = 5.39$ ) are significantly higher than  $HMI^H-HHI^H$  ( $M = 24.17$ ,  $SD = 4.34$ ),  $HMI^L-HHI^L$  ( $M = 21.40$ ,  $SD = 8.33$ ), and  $HMI^H-HHI^L$  ( $M = 15.43$ ,  $SD = 8.74$ ) and supports the **H7**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and High *CSII*, their purchase intention of  $HMI^H-HHI^H$  ( $M = 28.94$ ,  $SD = 4.41$ ) are significantly higher than  $HMI^L-HHI^H$  ( $M = 23.71$ ,  $SD = 5.25$ ),  $HMI^H-HHI^L$  ( $M = 25.04$ ,  $SD = 4.93$ ), and  $HMI^L-HHI^L$  ( $M = 20.34$ ,  $SD = 7.99$ ) and supports the **H8**.

Study 4 Based on past studies (Blodgett and Anderson, 2000; Wang and Yang, 2007), a K-means Cluster was used to classified desire for control (*DC*) as low or high clusters (i.e., Low *DC* and High *DC*) and classified consumer susceptibility to interpersonal influence (*CSII*) into low or high clusters (i.e., Low *CSII* and High *CSII*).

A MANOVA was used to test **H9-H20**. Results showed that the interaction of consumer online experiences, *DC*, and *CSII* significantly impacts satisfaction ( $F_{(3, 713)} = 2.703$ ,  $p = .045 < .05$ ) and complaint intention ( $F_{(3, 713)} = 4.831$ ,  $p = .002 < .05$ ) but doesn't significantly impact repurchase intention ( $F_{(3, 713)} = 2.193$ ,  $p = .088 > .05$ ).

The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and Low *CSII*, their satisfaction of  $HMI^L-HHI^L$  ( $M = 16.38$ ,  $SD = 4.02$ ) are significantly higher than  $HMI^H-HHI^L$  ( $M = 13.86$ ,  $SD = 2.89$ ),  $HMI^L-HHI^H$  ( $M = 13.39$ ,  $SD = 3.53$ ), and  $HMI^H-HHI^H$  ( $M = 7.90$ ,  $SD = 5.30$ ) and supports the **H9**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and Low *CSII*, their satisfaction of  $HMI^H-HHI^L$  ( $M = 16.97$ ,  $SD = 3.27$ ) are significantly higher than  $HMI^H-HHI^H$  ( $M = 14.10$ ,  $SD = 4.30$ ),  $HMI^L-HHI^L$  ( $M = 14.02$ ,  $SD = 2.91$ ), and  $HMI^L-HHI^H$  ( $M = 10.17$ ,  $SD = 5.71$ ) and supports the **H10**. The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and High *CSII*, their satisfaction of  $HMI^L-HHI^H$  ( $M = 16.82$ ,  $SD = 4.19$ ) are significantly higher than  $HMI^H-HHI^H$  ( $M = 14.24$ ,  $SD = 3.60$ ),  $HMI^L-HHI^L$  ( $M = 14.00$ ,  $SD = 2.93$ ), and  $HMI^H-HHI^L$  ( $M = 11.58$ ,  $SD = 5.56$ ) and supports the **H11**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and High *CSII*, their

satisfaction of  $HMI^H-HHI^H$  ( $M = 18.02$ ,  $SD = 2.67$ ) are significantly higher than  $HMI^L-HHI^H$  ( $M = 15.83$ ,  $SD = 2.78$ ),  $HMI^H-HHI^L$  ( $M = 15.82$ ,  $SD = 3.31$ ), and  $HMI^L-HHI^L$  ( $M = 11.53$ ,  $SD = 5.87$ ) and supports the **H12**.

The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and Low *CSII*, their repurchase intention of  $HMI^L-HHI^L$  ( $M = 15.79$ ,  $SD = 3.70$ ) are significantly higher than  $HMI^H-HHI^H$  ( $M = 11.23$ ,  $SD = 5.20$ ) but not significantly higher than  $HMI^H-HHI^L$  ( $M = 13.91$ ,  $SD = 2.58$ ) and  $HMI^L-HHI^H$  ( $M = 13.74$ ,  $SD = 3.52$ ). Hence, **H13** is not supported. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and Low *CSII*, their repurchase intention of  $HMI^H-HHI^L$  ( $M = 16.87$ ,  $SD = 3.27$ ) are significantly higher than  $HMI^L-HHI^H$  ( $M = 10.56$ ,  $SD = 5.25$ ), but not significantly higher than  $HMI^H-HHI^H$  ( $M = 14.23$ ,  $SD = 4.56$ ) and  $HMI^L-HHI^L$  ( $M = 14.20$ ,  $SD = 3.18$ ). Hence, **H14** is not supported. The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and High *CSII*, their repurchase intention of  $HMI^L-HHI^H$  ( $M = 15.86$ ,  $SD = 4.07$ ) are significantly higher than  $HMI^H-HHI^L$  ( $M = 10.89$ ,  $SD = 5.86$ ) but not significantly higher than  $HMI^H-HHI^H$  ( $M = 14.70$ ,  $SD = 3.47$ ) and  $HMI^L-HHI^L$  ( $M = 14.67$ ,  $SD = 3.45$ ). Hence, **H15** is not supported. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and High *CSII*, their repurchase intention of  $HMI^H-HHI^H$  ( $M = 17.26$ ,  $SD = 2.86$ ) are significantly higher than  $HMI^L-HHI^L$  ( $M = 13.12$ ,  $SD = 5.49$ ) but not significantly higher than  $HMI^L-HHI^H$  ( $M = 16.00$ ,  $SD = 2.57$ ) and  $HMI^H-HHI^L$  ( $M = 16.08$ ,  $SD = 3.26$ ). Hence, **H16** is not supported.

The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and Low *CSII*, their complaint intention of  $HMI^L-HHI^L$  ( $M = 5.41$ ,  $SD = 2.62$ ) are significantly lower than  $HMI^H-HHI^L$  ( $M = 8.81$ ,  $SD = 2.96$ ),  $HMI^L-HHI^H$  ( $M = 8.87$ ,  $SD = 3.59$ ), and  $HMI^H-HHI^H$  ( $M = 14.25$ ,  $SD = 5.96$ ) and supports the **H17**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and Low *CSII*, their complaint intention of  $HMI^H-HHI^L$  ( $M = 5.18$ ,  $SD = 2.43$ ) are significantly lower than  $HMI^H-HHI^H$  ( $M = 8.59$ ,  $SD = 4.17$ ),  $HMI^L-HHI^L$  ( $M = 8.78$ ,  $SD = 5.02$ ), and  $HMI^L-HHI^H$  ( $M = 14.46$ ,  $SD = 6.17$ ) and supports the **H18**. The Scheffe Multiple Comparison Test showed that for consumers with Low *DC* and High *CSII*, their complaint intention of  $HMI^L-HHI^H$  ( $M = 5.82$ ,  $SD = 3.15$ ) are significantly lower than  $HMI^H-HHI^H$  ( $M = 8.42$ ,  $SD = 3.24$ ),  $HMI^L-HHI^L$  ( $M = 9.14$ ,  $SD = 3.74$ ), and  $HMI^H-HHI^L$  ( $M = 13.21$ ,  $SD = 5.85$ ) and supports the **H19**. The Scheffe Multiple Comparison Test showed that for consumers with High *DC* and High *CSII*, their complaint intention of  $HMI^H-HHI^H$  ( $M = 5.35$ ,  $SD = 2.60$ ) are significantly lower than  $HMI^H-HHI^L$  ( $M = 7.80$ ,  $SD = 3.85$ ),  $HMI^L-HHI^H$  ( $M = 7.83$ ,  $SD = 3.17$ ), and  $HMI^L-HHI^L$  ( $M = 13.67$ ,  $SD = 6.31$ ) and supports the **H20**.

## 5. Conclusion

Via data analysis in section 4.5, this study supported the hypotheses except **H3**, **H13**, **H14**, **H15**, and **H16**. Hence, when consumers actively decide to delay to purchase, providing them with consumer online experiences could increase *purchase intention*. Besides, when consumers meet delay to consumption (i.e., delivery delay caused by seller online), providing them with consumer online experiences could help to increase *satisfaction* and decrease *complaint intention*. Additionally, *cognitive dissonance* (*CD*) caused from inconsistency between consumer online experiences and direct experience harms the effects of consumer online experiences on satisfaction and complaint intention. Finally, *DC* and *CSII* moderate effects of consumer online experiences on purchase intention, satisfaction, and complaint intention: consumers with low *DC* and low *CSII* prefer  $HMI^L-HHI^L$ ; consumers with high *DC* and low *CSII* prefer  $HMI^H-HHI^L$ , consumers with low *DC* and high *CSII* prefer  $HMI^L-HHI^H$ ; consumers with high *DC* and high *CSII* prefer  $HMI^H-HHI^H$ .

Conversely, consumer online experiences *can't* help to increase *repurchase intention* in both condition of *CD* and non-*CD* when they meet delay to consumption. Besides, *DC* and *CSII* do not moderate the relationship between consumer online experiences and repurchase intention and consumer experience *can't* help to increase *repurchase intention* in the condition of delay to consumption. The digital camera belongs to “durable goods” (Keller et al., 1998; Koh, 2005). As consumers are more highly involved when making a purchase of durable goods than when purchasing nondurables because they are more concerned about reducing risk when purchasing durables (Zhou et al., 2003), advertisement needs to create a “long memory” effect in the minds of consumers (Zhou et al., 2003). Even if this study asked participants spend more than 60 seconds to browse the consumer online experiences Web sites, this study made the inference that it may be not enough time to help consumer create a long memory and *repurchase intention* during the experiment of this study.

### 5.1 Theoretical Contributions

The results of this study could help to extent the existing theories. The theoretical contributions of this study could be summarized as three parts which are *consumer online purchase process*, *consumer online experiences*, and *cognitive dissonance online*. First, the well-known of *consumer purchase process* (Engel et al., 1995) has been widely applied in much past research. However, a few study integrated the delays during consumer purchase process, as well as consumer “online” purchase process. This study verified that two delays (i.e., delay to purchase and delay to consumption) were existent during consumer online purchase process and proved the consumer online purchase process may not be always continuous. Besides, this study found that



both such two kinds of delays cause the negative consequences and consumer online experiences actually can help to decrease the negatives consequences of delays.

Seconds, past studies classified consumer online experience as “direct experience” and “virtual experience” 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, past studies ignored an important concept which is “social cue” or “interpersonal cue”. Hence, this study developed a new typology of consumer online experiences ( $HMI^L-HHI^L$ ,  $HMI^L-HHI^H$ ,  $HMI^H-HHI^L$ , and  $HMI^H-HHI^H$ ) based on the two dimensions: human-message interactivity and human-human interactivity.

Finally, since *cognitive dissonance theory* was first developed by social psychologist Festinger (1957), many studies have applied it in consumer-psychology research. As online shopping is the remote transaction, cognitive dissonance during consumer online purchase process seems extremely important. However, a few studies discussed the cognitive dissonance online. This study first applied cognitive dissonance theory to discuss the inconsistency between direct experience and consumer online experiences. The results proved that cognitive dissonance is existent and cognitive dissonance actually harms the positive effects of consumer online experiences.

## 5.2 Managerial Implications

This study proved that delay to purchase and delay to consumption exist during consumer online purchase process and both which produce the negative outcomes. As delay to purchase online is actively caused by consumers, this study found that online seller can do their best improving the usefulness, reliability, and understandability of advertisement in order to prevent consumer make the decision of postpone to purchase. Besides, when delay to purchase occurring, this study found that online seller can provide consumers with online experiences to deal with the negative consequence and increase consumers willing to purchase. Most delay to consumption online is caused by online seller (e.g., delivery delay). When delay to consumption is inevitable, this study found that providing consumers with online experiences during “waiting time” can help to deal with the negative satisfaction and complaint intention.

This study found that consumer personality, such as *DC* and *CSII* influence their preference toward the types of consumer online experiences. This study suggest that online seller can develop the consumer database to collect consumers personal information and then providing them with personalized Web page when they visit the online shopping Web site. For consumers with low *DC* and low *CSII*, online sellers can provide them with static text and static 2D multi-angle product pictures to describe the product; for consumers with high *DC* and low *CSII*, it is appropriate that online seller design the 3D dynamic and multi-angle product display and hyperlink in the Web page.

For consumers with low *DC* and high *CSII*, online sellers can use the social role, such as an avatar or a dynamic avatar introducing the product with voice, to attract them. Finally, for consumers with high *DC* and high *CSII*, the Web page includes social role (a dynamic avatar introducing the product with voice), discussion forum (Q&A), and E-mail to seller/ avatar can increase consumers' purchase intention, satisfaction and decrease their complaint intention. Finally, this study found that cognitive dissonance online harms the positive effects of online consumer experiences. The advertisement should not be exaggerated because this way will cause the inconsistency between online advertising and direct product usage and produce consumer discomfortable state.

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