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**EXTENDING THE HOMOPHILY THEORY TO HUMAN IMAGES
WITH APPLICATIONS TO HOTEL WEBSITES**

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PhD
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The Hong Kong Polytechnic University

School of Hotel and Tourism Management

**EXTENDING THE HOMOPHILY THEORY TO HUMAN IMAGES
WITH APPLICATIONS TO HOTEL WEBSITES**

Cheng Chu Chan

A thesis submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

January 2019

CERTIFICATE OF ORIGINALITY

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Cheng Chu Chan

ABSTRACT

Hotel products are inherently experiential in nature. Browsing a hotel website, a customer enters a virtual lobby, through which perceived quality and impression towards the hotel may be developed before actual consumption. Hotels increasingly use human images on their websites to bring the impersonal online experience closer to face-to-face interaction. However, the effects of hotel websites with human images, as well as the appropriate human images to be used on hotel websites, have yet to be studied extensively.

Grounded on the homophily theory, this study aims to examine the effect of “similar human images” on consumers’ hotel booking intention. The Mehrabian and Russell’s (1974) Stimuli-Organism-Response model is adapted to examine the mechanism driving the homophily effect in the hotel website context. In addition to the mediator (i.e., Affective States) in the existing S-O-R model, this research extends the model by investigating the effects of two mediators, Cognition towards the Hotel and Website Stickiness, and two moderators, Consumers’ Need for Status (CNFS) and Consumers’ Need for Uniqueness (CNFU) on consumers’ responses. The independent variables including status homophily and value homophily are operationalized as demographic similarity and behavioral similarity respectively. These two independent variables are hypothesized to individually and jointly influence consumers’ affective states generated by the hotel website and cognitions towards the hotel, which then influence website stickiness and booking intentions. Three experiments are conducted to test the hypotheses and the overall conceptual framework. PROCESS analysis is mainly used to analyze the data.

The findings of this research show that human-present hotel websites do not generate more positive feelings and thoughts in consumers. Moreover, consumers prefer dissimilar over similar human images on hotel websites. Dissimilar human images not only generate more positive feelings toward the website, but also enhance consumers' perceived quality of the hotel, and promote bookings. Nevertheless, the effects of human-present website and dissimilar human images depend on consumers' social needs, including need for status and need for uniqueness. This study contributes to the website design and visual communications literature by extending the homophily theory to investigate the effect of "similar human images" online. It also extends existing knowledge about homophily by observing its impact on inducing affective and cognitive states, and providing empirical evidence on the combined effects of both status and value homophily. Additionally, this study provides practical contributions to hotel practitioners on website design in terms of the more effective human images to be integrated on their websites.

This research has been approved by the Human Subjects Ethics Subcommittee (HSESC) of The Hong Kong Polytechnic University (HSESC Reference Number: HSEARS20181213002).

Key words: homophily, similarity, human image, hotel website, targeted marketing, experiment

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CHAPTER 1: INTRODUCTION

This chapter outlines the objectives of this research by first presenting the research background. The problem statement is then stated, based on which the research questions and objectives are formulated. After that, the significance and contributions of this study are presented. At the end, key terms used throughout this study are defined.

1.1 Research background

1.1.1 The importance of a hotel website

Developed in the 1990's, the Internet is one of the greatest inventions of all times. There are currently over 3.1 billion Internet users around the world, representing a tremendous growth since 2000 and it is still expanding (Internet Live Stats, 2018). The extensive coverage and penetration of the Internet worldwide has removed geographical barriers between companies and customers, making instant transactions of products and services possible. It has transformed customers' purchase behaviors and has fueled the development of online travel sales over the past decade. In the U.S., the number of Internet users who made travel reservations online increased by 60% from 2008 to 2016 (Statista, 2017). Apparently, customers become more dependent on the Internet for travel information search, planning, and online purchases due to the appeal of time-saving, wide variety of products, and easy price comparisons (Buhalis & Law, 2008; Statistic Brain, 2017). In their study about visitors' characteristics in Macau, Qi, Law, and Buhalis (2013) found that more than half of the visitors had booked hotel rooms online, and they commonly

used the hotels' websites (also known as "brand.com") to search for hotel information. To harvest the benefits of the Internet and keep up with changing customer consumption patterns, hotels have devoted considerable efforts in establishing effective websites to enhance their market presence and competitiveness (O'Connor, 2004).

A hotel website is important to a hotel in several ways. First, a hotel website is by far the most cost-effective distribution channel for a hotel to directly reach its customers, bypassing expensive intermediaries (Morosan & Jeong, 2008). The cost of each direct reservation via a hotel's website is estimated to range from US\$2 to US\$5, while it is US\$6 to US\$10 per booking made via call center, and US\$40 to US\$120 per reservation made through online travel agents (TravelClick, 2015). Second, a hotel website is a manifestation of corporate brand image, and serves as the very first point of contact between prospective customers and the hotel (Mohammed, Guillet, Schuckert, & Law, 2016). Hotel rooms and services are experiential in nature. Most of the time, they are purchased in advance and isolated from the actual place of consumption, representing uncertainty and risk. By browsing a hotel's official website, the customer enters a virtual lobby, which epitomizes important (tangible) cues through which customers develop their first impression toward a hotel (Bilgihan & Bujisic, 2015; Kim & Fesenmaier, 2008; Musante, Bojanic, & Zhang, 2009). The impact of this first impression should not be under-estimated in the process of hotel choice, for it is during this online experience where customers form an opinion and attitude toward the amenities and service quality of the hotel (Barreda, Bilgihan, Nusair, & Okumus, 2016), which may convert a prospective customer into an actual

customer (Kim & Fesenmaier, 2008; Wang, Law, Guillet, Hung, & Fong, 2015a).

1.1.2 Challenges faced by hotel websites

The recent emergence of online travel agencies (OTA), such as Expedia, TripAdvisor, etc. has brought significant impacts to the hospitality industry. As a third-party distribution channel, OTAs are warmly welcomed by customers for their additional services such as room rate comparisons, last-minute discounts, and extra information about destinations (Masiero & Law, 2015). Thus, the market share of hotel websites has been substantially shifted to the OTAs. Back in 2007, 85% of online bookings were made through hotel websites versus 15% through OTA websites. However, the ratio shifted to 64:36 hotel websites to OTAs in 2015 (Starkov & O'Brien, 2015). The situation for independent hotels is even worse, with OTAs occupying the largest share among all distribution sources (Starkov & DeGeorge, 2012; Starkov & O'Brien, 2015). Besides incurring higher overall distribution costs, over reliance on intermediaries will threaten hotels' power and control over their own operations and sales. Masiero and Law (2015) stated that hotel operators should not only focus on a single distribution channel. It is important for them to be active in different channels in order to cater the needs of various customer segments. Facing fierce competitions, most hotels are trying to reclaim control over their distribution systems via websites by offering various ways, such as lowest price guarantee, more customized services, and attractive web pages (Law & Hsu, 2006).

According to Google (2017), Zero Moment of Truth (ZMOT) refers to the particular moment at which customer make the decision online. Even though customers tend to browse information from various sources, they still rely on hotel websites at the ZMOT when they have to make the final purchase decision (Starkov & DeGeorge, 2012). As such, maintaining persuasive websites is very important for hotels not only to defend their positions against the fierce competitions from OTAs, but also to encourage more direct purchases from customers.

1.2 Problem statement

Given the significant role of website design in consumer decision making process, it has gained ample scholarly attention over the last two decades. Existing studies can be categorized into three main streams. The first stream revolves around website performance evaluation, which includes identifying the critical attributes of successful websites, and assessing website performance through various numerical scores (Au Yeung & Law, 2004, 2006; Bai, Law, & Wen, 2008; Chung & Law, 2003; Ip, Law, & Lee, 2012; Leung, Law, & Lee, 2016; Ting, Wang, Bau, & Chiang, 2013). The aim of these studies is to establish website design benchmarks for industry practitioners. They have also investigated the relative importance of various website design attributes on users' satisfaction.

The second stream of research centers on users' cognitive and behavioral responses as a result of website usage (Hao, Yu, Law, & Fong, 2015; Jeon & Jeong, 2017; Law & Bai, 2008; Li, Peng, Jiang, & Law, 2017; Loureiro,

2015; Park, Gretzel, & Sirakaya-Turk, 2007; Sreejesh & Ponnampalil, 2017; Tsang, Lai, & Law, 2010; Wang, Yoonjoung Heo, Schwartz, Legohérel, & Specklin, 2015b; Wen, 2009, 2012; Wong & Law, 2005). These studies connected customers' online interactions to offline behaviors, such as the effect of website quality on customers' purchase, revisit and recommendation intentions. The last stream of studies focuses on identifying differences among users in terms of their requirements and perceptions toward certain website features (Cho & Sung, 2012; Law & Hsu, 2006; Law, Qi, & Leung, 2008; Rong, Li, & Law, 2009; Wu & Law, 2019). Among the three research streams, the former two have attracted most scholarly efforts, while the last stream is relatively less salient. Overall, there is a strong focus on the functional and usable aspects of website design, while the potential impact of social and hedonic aspects signified by certain website design attributes, as well as the corresponding affective responses generated remains under-explored.

On the other hand, the evaluation and selection of hotels have often been studied and therefore, assumed as a rational process, involving the trade-off of certain attributes in return for others in the conscious mind of customers (Choi & Chu, 2001; Chu & Choi, 2000; Lockyer, 2005a, 2005b). From the perspective of rational decision making, a customer's hotel choice decision follows five sequential phases from problem recognition, information search, evaluation of alternatives, selection and purchase, and post-purchase reflection (Kotler & Armstrong, 2001). However, this represents a linear process which oversimplifies the complex decision making process, and is thus imprecise (Martin, Hyde, & Woodside, 2011; Martin, Sharma, & Woodside, 2012). The interference of some inputs from the surrounding environment and symbolic

stimuli may cause the decision maker to automatically skip certain steps in the process, and directly jump into final purchase decision (Martin et al., 2012). Baek and Ok (2017) supported this view by explicating the decision making process of hotels beyond rationality and consciousness to analyze the influence of physical design. Drawing on theories of signaling and social identity, the researchers found that the subconscious process happens before the conscious one. In particular, customers tend to develop quality expectations (cognitive appraisal) of the hotel based on their emotional arousal by the atmospheric cues (hedonic or affective appraisal), which informs their final decisions (Baek & Ok, 2017). This sheds light on the potential impact of affective states on consumer decision making process for hotels, and thus warrants more research attention.

As mentioned in the previous sub-section, a hotel website is the first contact point between a hotel and its customers. It represents the “e-servicescape” (Harris & Goode, 2010), or the online consumption environment from which perceived service quality and impression toward the hotel will be developed (Jeon & Jeong, 2017; Tsang et al., 2010). Currently, hotels widely adopt a one-size-fits-all solution when it comes to the strategic use of hotel websites. Despite potential differences exist among various customers, customers around the world evaluate a hotel using the same website regardless of their geographic and cultural orientation. Nevertheless, customers having dissimilar characteristics may have different requirements toward website design, and may thus respond differently (Cyr, 2013; Cyr, Head, Larlos, & Pan, 2009). For example, Rong and colleagues (2009) found that Asian users have greater expectations on information related to room reservation and hotel

facilities than western users.

Targeted marketing advocates the customization and personalization of marketing messages according to the preferences and interest of target segments (Schumann, von Wangenheim, & Groene, 2014). The current study postulates that human images used on hotel websites should also be personalized and customized. The effectiveness of adapting customized human images on a website to conduct targeted marketing anchors in the sociological notion of homophily (McPherson, Smith-Lovin, & Cook, 2001), or similarity-attraction paradigm (Byrne, 1971). The homophily theory suggests that individuals prefer to associate and connect with people whom they perceive to be similar to themselves (referred to as “similar-other” thereafter) (Byrne, 1971; Lazarsfeld & Merton, 1954; McPherson et al., 2001; Rogers & Bhowmik, 1970). The homophily theory has been widely explored in interpersonal relationships (Burger, Messian, Patel, del Prado, & Anderson, 2004; McPherson et al., 2001; Rogers & Bhowmik, 1970; Smith, Maas, & van Tubergen, 2014), and advertising effectiveness (Forehand & Deshpandé, 2001; Forehand, Deshpande, & Reed, 2002; Karande, 2005; Simpson, Snuggs, Christiansen, & Simples, 2000; Torres, 2007). Studies investigating the effect of homophily in the online environment have largely focused on its impact on customers’ adoption of recommendations from surrogates (Ayeh, Au, & Law, 2013; He & Bond, 2013; Naylor, Lamberton, & Norton, 2011; Pentina, Bailey, & Zhang, 2018; Shan, 2016) and sense of belongingness to online social communities (Shen, Huang, Chu, & Liao, 2010). Its potential impact on customers’ perception toward hotel represents a significant gap in the literature.

According to Lazarsfeld and Merton (1954), the perception of

homophily is based on two dimensions including status and value. Status homophily denotes the similarity between two persons based on demographic characteristics (age, gender, education etc.). Value homophily, on the other hand, refers to similarity on two persons' intrinsic values, beliefs and attitudes. A dyad of interacting individuals may be similar in either status or/and values. Recently, scholars began to examine the impact of homophily in social servicescape, which refers to the social facets of a consumption environment (Tombs & McColl-Kennedy, 2003). Interestingly, the sense of similarity created just by the presence of "similar others" in the consumption environment will influence a customer's overall evaluation of the consumption experience (Hanks, Line, & Yang, 2017). Specifically, just by observing the presence of "similar-others" in the social servicescape enhances customers' identification (Karaosmanoğlu, Balmer, Banu Elmadağ Baş, & Zhang, 2011; Line, Hanks, & Kim, 2018), perceived self-brand congruence and self-image congruence with the service provider, which influence customers' behavioral intentions (Hanks et al., 2017).

Although the effect of similarity has been widely explored in various contexts, the mechanism of how the effect takes place is less understood. Specifically, its role in eliciting positive emotions and thoughts has not been explored. Images that hotels use on their websites are cues that communicate and tangibilize social atmospheric features to prospective customers. Wang, Yang, Wang, and Ma (2014) showed that product pictures integrating human elements generate positive emotions. Additionally, human images with facial expressions give people a feeling of warmth that creates a service environment similar to face-to-face encounter (Cyr et al., 2009). However, no prior research

has investigated the potential impact of human images showing “similar-others” on hotel websites. In practical terms, current knowledge on website design is uncertain on whether embedding human images showing “similar-others” or “different-others” on hotel websites are more appealing to customers. Furthermore, despite the homophily theory suggests that customers prefer “similar-others”, it is unclear whether all customers respond in the same way, or whether there exist any paramount factors (mediators and moderators) intervening the well-established connections between similarity and response behaviors.

The purchase of consumer products can be explained by two customer characteristics including customers’ need for status (Veblen, 1899; Husic & Cicic, 2009; Scitovsky, 1992) and need for uniqueness (Snyder & Fromkin, 1977). Need for status refers to customers’ intention to elevate their social status by purchasing and owning luxury products (Eastman, Goldsmith, and Flynn, 1999). These customer characteristics have been mostly explored in conspicuous consumption behaviors of luxury goods and hospitality services (Han, Nunes, & Drèze, 2010; Kastanakis & Balabanis, 2012; Wiedmann, Hennigs, & Siebels, 2009; Yang & Mattila, 2017; Yang, Zhang, & Mattila, 2016). The literature suggests that customers crave social status through conducting social comparisons and competition with others in the society on material possessions, so that they try to dissociate themselves from people in lower classes through imitating the behaviors of those in higher classes, with the ultimate goal of climbing up the ladder of social status (Yang & Mattila, 2017).

Beside status, consumers also show need for uniqueness through

product consumption behaviors. Specifically, consumer need for uniqueness refers to the need to express their differentness and individuality through three various aspects, which include making socially accepted creative choices, selecting unpopular options that deviate from social norms, and avoiding products that are widely used by others (Ruvio, Shoham, & Brenčič, 2008). This study examines whether customers exhibiting different levels of need for status and need for uniqueness will respond to the effect of similar-other differently (Han et al., 2010). By testing the effect of homophily on the tourists' behavioral responses, hotels could be more confident in customizing their websites for targeted communications.

1.3 Research questions and objectives of the study

The overall goal of this study is to develop a conceptual framework to understand whether and how similarity affects consumer behaviors in the online service environment. To ease readability, the term “no-human website” is used to substitute “website without human image”, “human-present website” refers to “website with human images”, “similar human images” means “human images that show similar-others”. Provided with the aforementioned research problems, this study seeks to answer the following research questions:

- 1. How do customers respond to similar-other images on hotel websites?*
- 2. Which is the more effective way of designing similar-other images on hotel websites?*
- 3. Do customers respond to similar-other images differently?*

The main purpose of this study is to understand the effectiveness of adopting similar-other images on hotel websites and understand the underlying psychological mechanism. To answer the research questions, this study aims to achieve four research objectives:

- (1) to evaluate the influence of similar-other images on customer responses;
- (2) to analyze the mechanism through which similar-other images affect customer responses;
- (3) to determine the effective way of designing similar-other images to evoke positive customer responses; and
- (4) to identify the optimal psychological situation for evoking positive responses from consumers toward similar-other images.

1.4 Significance of the Study

1.4.1 Contribution to theory

Human images are often seen in practice, but no empirical investigation regarding the effect of similar-other images has been carried out thus far. Human images on hotel websites serve as important cues representing the social environment of a hotel. Understanding customer responses toward similar-other images will allow hotels design more persuasive and effective websites. Therefore, the key contribution of the current study is the analysis of similar-other images in hotel websites. Grounded on the homophily theory, this study presents a modified framework, which is a first research step towards understanding consumer responses to hotel websites with similar-other images. In particular, this study brings forward the following contributions:

This study provides evidence of consumer responses to a hotel website featuring similar-other images by validating the structural relationship among the research constructs, including status homophily (demographic similarity), value homophily (behavioral similarity), affective states to hotel website, cognition to hotel, website stickiness, and booking intention. Meanwhile, the study highlights the appropriateness of website stickiness and booking intention as the evaluative measures to examine the effect of similar-other images. While the positive effect of homophily on consumer behaviors has been demonstrated in previous research, the mechanisms explaining such effects are not well understood and most of these mechanisms only remain as assumptions (Forehand & Deshpandé, 2001; Forehand et al., 2002). This study expands and modifies the Mehrabian and Russell's (1974) S-O-R framework to understand the mechanism by adding cognition toward hotel and consumer website stickiness as two mediators on the relationship between similarity and booking intention. By exploring the transporting roles of these two constructs in the relationship between similarity and booking intention, this study supplements existing literature on homophily by finding out the underlying mechanism, and thereby suggests the consideration of these constructs in future works on website design and e-servicescape frameworks.

Moreover, the homophily theory suggests that individuals can be similar in terms of both status and values, which represent two levels of similarity. However, empirical studies integrating both levels of similarity into a single framework and investigate their interactive effects are scant (Launay & Dunbar, 2015; Phillips & Loyd, 2006). This research fills this gap by considering both status and value homophily simultaneously. More importantly,

this study represents the first attempt to conceptualize and operationalize value homophily as behavioral similarity in hospitality and tourism. The results will supplement current understanding on the complex relationship between the two levels of similarity, and their combined effects on customer response.

Finally, customers are not homogeneous in perceptions and behaviors. This study explores the roles of two individual-level traits, including need for status and need for uniqueness, on the proposed framework. These moderators are expected to set out new future research directions related to the impact of homophily in other disciplines such as psychology and marketing.

1.4.2 Contribution to practice

Besides theoretical contributions, this study offers practical contributions and implications on website design. Hotels seek to regularly advance their websites to keep up with technological development and meet the requirements of customers. Findings from this study will offer insightful knowledge to website designers and hotel marketers on the more effective and persuasive human images to be embedded in a hotel website.

Previous research suggests that personalized content on advertisements are twice as effective as non-personalized ones (Tucker, 2014). The online environment represents a large pool of personal information of customers, which can be readily translated into useful marketing campaigns. For example, just by entering a word “Osaka” in the search engine, a customer will encounter advertisements about hotels and tours in Osaka. Despite being highly personalized, this type of targeted advertising leads to uncomfortable

feelings in customers for they perceive that their privacy is vulnerable (Van Doorn, & Hoekstra, 2013). As such, similar to the personalization strategy based on psychological motivations instead of personal information as proposed by Liu and Mattila (2017), the findings of this study will offer practical suggestions to leverage the potential of targeted advertising by customizing human images for different customer segments. For example, assuming that similar-other images are found to enhance customers' affective, cognitive, and behavioral responses, then respective human images similar to the target segment of the hotel should be embedded in the hotel websites. The display algorithm may be a function of consumers' characteristics and travel behaviors.

1.5 Definitions of key terms

Table 1 Definitions of key terms used in the proposal

Term	Adopted definition
Affective state	A person's feelings toward a focal object (Zhao, Muehling, & Kareklas, 2014).
Cognition	Thoughts in the mind of a person toward a focal object during the elaboration of the information (López & Ruiz, 2011).
Human image	Representation of humans in website images (Cry et al., 2009).
Need for status	Customers' need to achieve their desired social status through the possession of material resources (Eastman et al., 1999).
Need for uniqueness	Customers' need to seek differentness from the others through the possession of material resources (Ruvio et al., 2008).
Status homophily	Similarity between a dyad of individuals in terms of demographic characteristics, such as gender, age, marital status, and education (Lazarsfeld & Merton, 1954).
Similar-others	An individual whom a focal customer perceives to be

	similar to him/herself in terms of either status, or values, or both (Yaniv, Choshen-Hillel, & Milyavsky, 2011).
Similar-other image	A human image on a website that shows similar-other customers
Social servicescape	The human element of the consumption environment consisting of people (service employees and other customers), crowding (quantity), and rapport (quality of interactions) (Tombs & McCool-Kennedy, 2003).
Value homophily	Similarity between a dyad of individuals in terms of acquired characteristics, such as values, attitudes, and beliefs (Lazarsfeld & Merton, 1954).
Website stickiness	The time a browser stays at a particular website and the amount of information that he or she browses (Zhang, Ye, Law, & Li, 2010).

1.6 Summary

This chapter presents the research background and research objectives of this study. Three major research questions were asked to fill the gap identified in the existing literature related to website design and homophily theory. This study provides significant contribution to theory by integrating the homophily theory to human images on websites, investigating the mediators and moderators of the relationship between homophily and customer behaviors, and considering both levels of homophily simultaneously.

CHAPTER 2: LITERATURE REVIEW

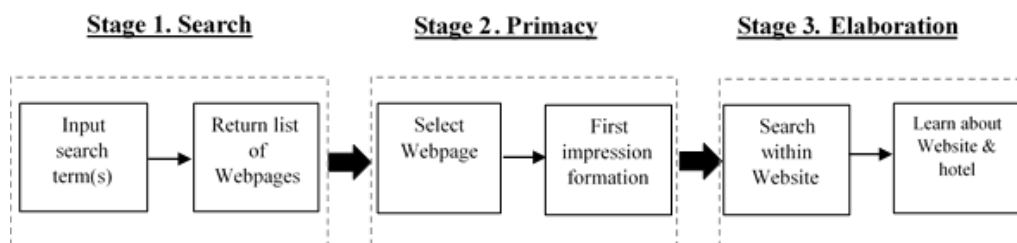
This chapter critically reviews the literature related to the key concepts used for this research. This chapter consists of three main sections including website design, visual communications, and homophily theory. Under website design, the role of website in consumer decision making is first analyzed, followed by a review of existing website evaluation techniques and measurements. Next, major conceptions and theories related to visual communication is reviewed, including tangibilize the intangible, picture superiority effect, and mental imagery. The theory underpinning the rationale of this study, i.e., homophily theory, is then comprehensively reviewed. An overview of homophily is first presented, followed by its conceptualization and measurement. The effects of homophily in different disciplines including interpersonal relationships, social servicescape, advertising, and online interactions are then discussed. The correlations among different dimensions of homophily and the prevalence of value homophily are also explored. Finally, the research gaps identified from the literature review is presented.

2.1 Website design

2.1.1 The role of website in decision making

A hotel purchase decision is a result of a multi-faceted process that involves the evaluation of various attributes and factors (Chu & Choi, 2000; Lockyer, 2005b). Consumers often rely on external information sources, such as marketing communications and recommendations from others to make purchase decision for hotels, especially when they have little information and

prior experiences on their own (Andereck, 2005). A hotel website is one of these external information sources. According to Kim and Fesenmaier (2008), consumer information search process follows three interconnected stages as shown in Figure 1. The consumer first input a search item based on the combined state of his or her own existing knowledge, experiences and images of the product. The search then returns a list of relevant websites. In the second stage, the consumer chooses a particular website among the search results, and the first impression towards the site is formed in the meantime. Finally, the consumer decides whether to continue browsing the site to learn about the hotel, or switch to other sites. This search process suggests that a hotel website should be well-designed in order to form a positive impression in the first contact with consumers, stimulate elaboration of information related to the hotel, and persuade click-through and purchase behaviors (Tang, Jang, & Morrison, 2012; Wen, 2009). A “well-designed” website is equivalent to website with high quality that is effective in serving its purpose. The following illustrates the role of website quality in forming consumer perceptions and behavioral responses.



*Figure 1 Information search process for travel planning
(Adapted from: Kim & Fesenmaier, 2008).*

Chang and Chen (2008) defined website quality as *“users’ evaluation of whether a website’s features meet users’ needs and reflect the overall excellence of the website”* (p. 821). However, the existing literature does not encompass a commonly-agreed operationalization of website quality (Law, 2019). Different research tends to adopt the respective measures according to the study context. Table 2 summarizes the various dimensions of website quality and respective outcome variables that have been previously studied. In brief, a good quality website should present correct information, maintain a secure and reliable system, and offer high quality services (Wang et al., 2015a; Wen, 2009, 2012). Subsequent studies added other features such as ease of use (Bai et al., 2008; Kim & Fesenmaier, 2008; Law & Bai, 2008; Park et al., 2007) and visual aesthetics (Loureiro, 2015; Park et al., 2007; Perdue, 2002) of the website to measure website quality. Nevertheless, these dimensions do not have equal weights in representing website quality, which is a multi-faceted construct. Studies showing this are, however, inconclusive. A stream of research supports the dominance of functionality (e.g., Wang et al., 2015a), whereas another group of studies presents the greater impact of usability (e.g., Hao et al., 2015).

High quality website will generate more positive consumer attitude toward, trust on, and satisfaction with the website, which will then encourage consumer to adopt the website for the purchase of travel-related products (Bai et al., 2008; Law & Bai, 2008; Tang et al., 2012). Furthermore, the positive responses generated from website quality can be transferred from the website to the depicted product. For instance, consumers’ perceived quality of a destination website will affect their attitude toward the website, which will

then affect their perceptions about the destination (Tang et al., 2012), as well as their intent to visit and recommend the destination (Loureiro, 2015).

Table 2 Antecedents and consequences of website quality

Citations	Antecedents	Consequences
Bai et al. (2008)	Functionality Usability	E-satisfaction Purchase intention
Hao et al. (2015)	Convenience Financial security Merchandising Site design	E-satisfaction
Kim and Fesenmaier (2008)	Credibility Informativeness Inspiration Involvement Reciprocity Usability	First impression toward site
Law and Bai (2008)	Functionality Usability	E-satisfaction Purchase intention
Loureiro, 2015	Design visual appeal Ease of use Information content Interactive features	Affective responses Attitude Visit intention WOM intention
Park et al. (2007)	Content/information Ease of use Fulfillment Privacy/security Responsiveness Visual appeal	Willingness to use
Perdue (2002)	Information content Site navigation Visual attractiveness	Perceived quality of resort
Tang et al. (2012)	Information quality Website design features	Attitude toward destination Attitude toward website Destination cognition Further information search Travel intention Website cognition
Wang et al. (2015a)	Functionality	e-trust

	Privacy Security Usability	Online purchase intentions
Wen (2009)	Information quality Service quality System quality	Customer trust Customer attitude E-satisfaction Purchase intention
Wen (2012)	Information quality Service quality System quality	Attitudes Customer satisfaction Purchase intention

With websites being the first contact point between a service provider and its customers, enhancing service quality provided through the website is vital. However, the evaluation of service-quality is fundamentally-grounded on “interpersonal interaction” with service personnel (Kivelä & Chu, 2001). Thus, maintaining service quality in the website which is impersonal by nature is paradoxical. Shostack (1985), however, offered a different perspective by defining “service encounter” as the time when a consumer interacts with any service dimensions provided by a firm. This notion of service encounters taking place with limited interpersonal interactions is well-supported by the concept of “e-servicescape”, which is grounded on the idea of “servicescape” proposed by Bitner (1992) describing the physical service environment (Harris & Goode, 2010). E-servicescape refers to the elements present in the online service environment, such as layout, functionality, aesthetic appeal, and security, which users frequently count on to determine the service quality of a service provider (Harris & Goode, 2010).

Table 3 summarizes the dimensions and consequences of e-service quality that have been studied. Similar to website quality, it is found that the dimensions forming e-service quality vary significantly, partly due to the

different focuses of the studies (Law, 2019). Some of the dimensions are the same with the measurement of website quality, including functionality, security, and information quality, while other dimensions such as personalization (Sreejesh & Ponnam, 2017), customer relationships (Ho & Lee, 2007; Tsang et al., 2010), and experiential aspects (Jeon & Jeong, 2016, 2017), seem to be the distinctive characteristics of e-service quality. Additionally, the “carry-over” effect from websites to the focal product is less prominent in e-service quality literature (Law, 2019). Most of the consequent variables analyzed are related to the evaluation, satisfaction, adoption, and loyalty to the website. The above discussion implies that website quality and e-service quality are highly correlated. The specific constructs driving their impacts vary, but a clear distinction between them is yet to appear.

Table 3 Antecedents and consequences of e-service quality

Citations	Antecedents	Consequences
Ho and Lee (2007)	Customer relationships Information quality Responsiveness Security Website functionality	e-satisfaction Loyalty intention
Jeon and Jeong (2016)	Experiential aspects Functionality	n/a
Jeon and Jeong (2017)	Experiential aspects Functionality Reputation of website	Customer loyalty to website e-satisfaction Intention to return to website
Sreejesh and Ponnam (2017)	Customization/personalization Ease of payment Entertainment value Interactivity Originality of design Perceived security Relevance of information	Cognition Affection E-loyalty Experiential evaluation Functional

	Usability Visual appeal	evaluation
Tsang et al. (2010)	Appearance and presentation Customer relationship Fulfilment and responsiveness Functionality Information content and quality Security and safety	Customer repurchase intention Customer satisfaction

2.1.2 Website performance evaluation

Besides influencing consumer perceptions and behaviors, a website is a manifestation of brand image for hotels (Barreda et al., 2016). It also serves as a direct distribution to customers at lower cost (Connolly, Olse, & Moore, 1998; Morosan & Jeong, 2008). Before practitioners devote efforts and resources into improving their websites, they need a diagnosis to understand what to improve. Hence, website evaluation has become a popular research domain in hospitality. The following paragraphs in this section first give a general overview of website evaluation, followed by the different techniques utilized. The two most popular dimensions for conducting website evaluation are also discussed.

The topic of website evaluation has developed dramatically over the last two decades. There are various website evaluation techniques, and they can be categorized based on the methodology used (qualitative or quantitative) (Law, 2007), the time an evaluation is performed (summative or formative evaluation) (Morrison, Taylor, & Douglas, 2004), and the method adopted (numerical, counting, computation, user judgement, automated, and combined methods) (Law, Qi, & Buhalis, 2010).

In earlier stage, most website evaluation studies are dedicated to determining the availability of features, and thus they are mainly performed using content analysis method (Cano & Prentice, 1998; Connolly et al., 1998; Ho, 1997; Murphy, Forest, Wotring, & Brymer, 1996). This involved generating a list of features shared among the analyzed websites, so that evaluation of websites was conducted by checking the existence of those features. As an initial attempt, the major objective of these studies was to determine the purpose of a hotel website, rather than to evaluate its performance. Other factors affecting users' experiences, such as design, layout, downloading speed, etc., were not reflected. Moreover, most of them overlooked the multi-dimensional nature of website quality and performance. Subsequently, Morrison, Taylor, Morrison, and Morrison (1999) proposed the balanced scorecard (BSC) approach, which evaluates a website according to four different aspects, including technical, customer, marketing, and internal aspects (refer to Figure 2). The specific criteria for each aspect are detailed in Table 4. Based on the proportion of fulfilled criteria, a score can then be obtained which denotes the performance of the evaluated website.

The BSC approach resolved the deficiency of unidimensional perspective of earlier methods. However, it assumes equal importance among all website attributes (Chung & Law, 2003), and thus did not provide a full picture of website performance. Nevertheless, it represents an important milestone and stimulated a plethora of research which helps in advancing the understanding and application of websites in the hospitality and tourism field.

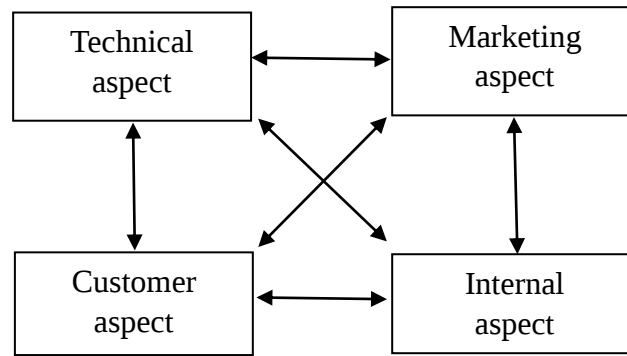


Figure 2 Modified BSC approach for website evaluation
(adopted from Morrison et al., 1999).

Table 4 Critical success factors for website performance
(adopted from Morrison et al., 1999)

Aspects	Critical success factors
Customer	• Attractiveness • Availability and reservations • Content and organization • Currency of information • Interactivity • Needs of special customer groups • Response verification and speed • Security of purchases • User friendliness
Internal	• Ease of site maintenance • Schedule for site maintenance and updating • Skills to maintain site
Marketing	• Positioning approach • Marketing evaluation • Market segmentation and target marketing • Marketing research and database marketing • Relationship marketing • Partnerships • Tangibilizing of hotel services
Technical	• Currency of links • Effective use of HTML • Reciprocal hyperlinking • Registration with search engines • Short download time • Traffic monitoring and analysis

Consequent studies adopted other techniques to perform website evaluation. For instance, Ting et al. (2013) analyzed 100 independent hotel websites based on their content breadth and technical depth using a three-stage rubric, namely promotion, provision, and processing. Their results showed that Asia and Europe outperformed Africa and America in terms of website development depth. Other studies (e.g., Murphy, Hofacker, & Bennett, 2001; Das & Turkoglu, 2009) utilized web log data to track user behaviors, which inform website effectiveness and improve website design.

Another approach that has been influential in website evaluation is the framework for effective web application development proposed by Lu and Yeung (1998). The framework evaluates a website based on the website's usability and functionality. Website functionality refers to the evaluation of contents and information presented on a website. Based on the views of hotel managers on the perceived importance of each website attribute, Chung and Law (2003) developed a performance indicator by quantifying the information richness on the website ranging from facilities to reservation, customer contact information, information on the surrounding area, and management of the site. Other studies later on incorporate the views of consumers (e.g., Liang & Law, 2003; Salem & Čavlek, 2016), and also IT experts (Panagopoulos, Kanellopoulos, Karachanidis, & Konstantinidis, 2011). It was found that different stakeholders focus on different features on a hotel website. For example, hotel managers attend to features representing service attributes, while users focus more on payment details. IT experts, on the other hand, pay more attention on the seamless navigation and operation. Thus it is important

to incorporate the views of various stakeholders in order to represent a comprehensive picture of website performance.

A more recent study of Leung et al. (2016), however, shows conflicting results. Combining the views of three stakeholders, including website designers, users, and hotel operators, the authors updated the functionality evaluation model by supplementing several latest functional attributes, such as “best rate guarantee” and “instant messaging”, as shown in Table 5. The results of their study showed that the three stakeholders hold similar perceptions on the attributes. Nevertheless, it is evident that consumers mostly seek for basic information related to the hotel and are interested in room reservation information, such as room availability and prices (Leung et al., 2016).

*Table5 Website functionality dimensions and attributes
(Adopted from Leung et al., 2016).*

Dimensions	Attributes
Hotel contact information	Email address Fax number Instant messaging Telephone number
Hotel facilities information	Dining facilities Guest room facilities Hotel description Hotel location Meeting facilities Other facilities Recreation facilities
Hotel reservation information	Availability checking and real-time prices Best rate guarantee Privacy policy Real-time modification and cancellation Real-time reservations Reservation policy

	Special promotion
Hotel surrounding area information	Dining facilities nearby
	Distance to main attractions
	Local weather report
	Recreation facilities nearby
Peripheral information	Brand description
	Internal search function
	Language selection
	Newsletter
	Press release
	Site map
	Term of use

How the information is structured or presented on a website is just as important as the information itself (Lee & Kozar, 2012). If users find a website hard to use, it is highly likely that they will not struggle and tolerate with the ineffective design, but defect to other more user-friendly competitors. In other words, website usability is of equal importance as website functionality. Although the term has been loosely defined, website usability refers to the extent to which consumers can use a website to achieve specific goals or perform specific task with effectiveness and efficiency (Au Yeung & Law, 2006; Lee and Kozar, 2012). It examines whether a website is efficient and enjoyable for users to fulfill their needs (Au Yeung & Law, 2004). Unlike functionality, of which a rather standard list of evaluative measure is available, researchers have not agreed on a standard measurement of website usability (Law, 2019).

Lu and Yeung (1998) operationalized website usability to include features that are subjectively pleasing, easy to browse and easy to read. Similarly, Nielsen (1999) suggested that a “usable” website should be easy to learn, efficient to use, easy to remember, containing few errors, and pleasant to

use. Later on, Au Yeung and Law (2004) redefined website usability, which encompasses usability on five aspects, including layout and graphics, language, user interface and navigation, information architecture, and general. Au Yeung and Law (2006) adopted the same measures to develop a Usability Hazards Index for hotel websites which represents the level of usability problems. Despite the practical implications offered, the approach focused on the “dissatisfiers” instead of “satisfiers”. Nevertheless, the developed scale has been widely applied by subsequent research related to website usability in hospitality and tourism (e.g., Law et al., 2008; Qi, Law, & Buhalis, 2008).

Based on the work of Lee and Kozar (2012), the researcher reviewed existing studies related to website usability in hospitality and tourism literature. A set of 11 dimensions measuring website usability is consolidated as shown in Table 6. Among them, accessibility, aesthetics, and navigability appear to be more frequently used to represent usability. However, the sense of presence, consistency, and supportability reflected in Lee and Kozar’s (2012) study have not been considered. Moreover, the correlations among these constructs are also not explored.

*Table 6 Website usability constructs
(adapted from Lee and Kozar, 2012)*

Construct	Definition	Representative studies
Accessibility	Users’ ability to easily locate the website in the Internet and the speed of loading the pages	Kaplanidou and Vogt (2006); Panagopoulos et al. (2011); Qi et al. (2008); Qi, Law, and Buhalis (2014)
Aesthetics	The overall visual appeal of the website	Lu and Yeung (1998); Zhong, Leung, Law, Wu, and Shao (2014)
Compatibility	Whether the website is compatible in different devices	Qi et al. (2008)

Content relevance	Extent to which the content is important and updated	Kaplanidou and Vogt (2006)
Credibility	The perceptions of privacy, security, and reliability when browsing the website	Panagopoulos et al. (2011)
Interactivity	The ability of a website to maintain lively interactions with users	Park and Gretzel, 2007; Qi et al. (2008)
Learnability	Extent to which the main functionality of the website is easy to learn and proficient to complete the tasks	Nielsen (1999)
Navigability	Extent to which movement through the website's pages is smooth	Au Yeung and Law (2004; 2006); Kaplanidou and Vogt (2006)
Readability	Extent to which the website is well-organized and easy to read	Qi et al. (2008); Wang et al. (2015a)
Responsiveness	The time a customer has to wait before receiving a reply to his or her enquiry	Abou-Shouk and Khalifa (2017)
Simplicity	Provision of minimum contents and functions within a website	Panagopoulos et al. (2011); Wang et al. (2015a)

2.1.3 Shift in research focus

The existing effort on website design research in hospitality and tourism has overemphasized the importance of website functionality and usability, overlooking other potentially important elements (Kim & Fesenmaier, 2008). For example, there have been hot debates on whether website design should focus on usability or aesthetics (O'Connor, 2004). Some supported the notion that “what is beautiful is usable” (Tractinsky, Katz, & Ikar, 2000), because the hedonic nature of tourism products make purely functional websites inadequate in driving favorable customer responses (Kim & Fesenmaier, 2008; O'Connor, 2004; Tang et al., 2012). Conversely, some scholars opposed this view and suggested that visual appeal is a necessary yet

insufficient factor to generate customer satisfaction (Park et al., 2007; Sun, Cárdenas, & Harrill, 2016; Tsang et al., 2010). Although some scholars operationalized the dimension of visual aesthetics under website usability (Lu & Yeung, 1998; Zhong et al., 2014), more research is needed to understand its effect on consumers' website usage experience.

In summary, website plays an important part in consumers' information search, consideration and evaluation of hotels (Sun, Fong, Law, & He, 2017). The sequential analysis of studies related to website quality shows a shift of research interest from basic website features, i.e., functionality and usability (e.g., Bai et al., 2008; Law & Bai, 2008; Wen, 2009, 2012) to the role of other experiential factors such as interactivity, and visual appearance (Jeon & Jeong, 2016, 2017; Sreejesh & Ponnamp, 2017). This change in focus transcends website design research from merely identifying website features and performing website evaluation to understanding the entire browsing experience. Furthermore, scholars have started to devote more efforts in investigating the feelings and emotions towards tourism products generated from using the websites (Tang et al., 2012; Wang et al., 2015a), instead of simply focusing on their satisfaction and purchase intention, because users become more sophisticated as they gain increasing experiences using websites (Law, 2019). Fundamental website features, such as functionality and usability, are important, yet inadequate to engender favorable consumer responses.

2.2 Visual communication

Communication materials appear as either verbal or non-verbal cues.

The former refers to alphabets and numbers that are written and can be spoken by the viewers, while the latter refers to visual and audio elements which can be seen and heard. For the purpose of this study, visual communication (e.g., images, photos, videos) refers to the pictorial presentation of a product or service (Kim & Lennon, 2008; Loureiro, 2015). The study of communication effectiveness in marketing and advertising literature has recently shifted from verbal cues to visual ones, due to the significant impact of visual cues on consumer perceptions and decision making (Yang, Hlee, Lee, & Koo, 2017). In tourism context, the use of visual elements is influential in projecting destination image (MacKay & Fesenmaier, 1997), and inducing interests to visit a destination (Tang et al., 2012). Also, consumers derive quality expectations on hotels based on visual elements, which determine their visit intention (Baek & Ok, 2017; Virginia Phelan, Christodoulidou, Countryman, & Kistner, 2011).

As the main objective of this research is to extend the homophily theory to human images on hotel websites, human image is the study context. In the following sub-sections, the term “image” will first be defined and reviewed. Some major concepts related to visual communications, including tangibilize the intangibles, picture superiority effect, and mental imagery, will be discussed thereafter. Research on human images will be discussed at the end.

2.2.1 The family of images

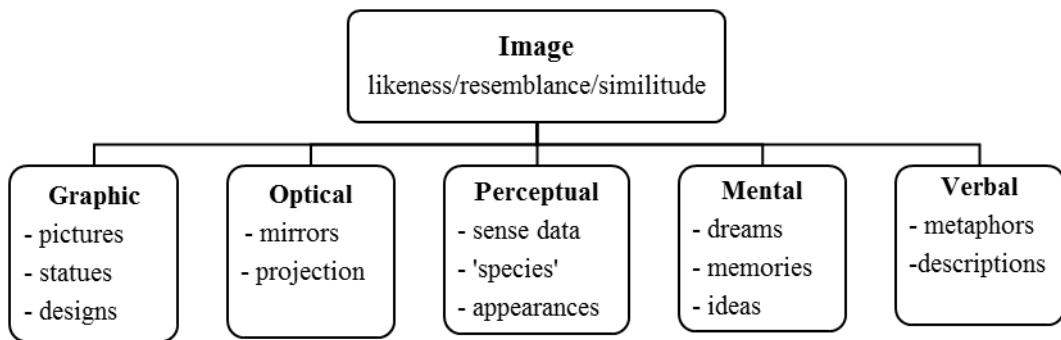
Mitchell (1986) has once stated that “images” is *“a far-flung family which has migrated in time and space and undergone profound mutations in*

the process” (p. 10). Therefore, defining the word “image” is not simple, as the word can mean a wide variety of things such as pictures, statues, photographs, maps, figures, patterns, memories, and ideas. The complexity can be seen from the different typologies proposed by two visual theorists Gibson and Mitchell (1986). First, Gibson (1980) distinguishes ten types of images as illustrated in Table 7.

*Table 7 Typologies of images
(adopted from Gibson, 1980)*

Images	Definition
Arrested images	The counter example is progressive screen images like Oriental shadow-play and cinematic images.
Memory images	Taken to be the trace of an arrested physiological image that has been transmitted to the brain
Mental images	Dream images, imagery fantasies, metaphorical imagery, mind’s eye images, schemes of thoughts
Mirror images	Virtual objects or scenes behind smooth reflective surfaces
Optical after-images	The after-sensation of over stimulating the photoreceptors, or of prolonged stimulation of them, with a fixated eye.
Photographic camera images	Camera images arrested by a shutter, latent image in emulsion, negative image on film and positive image on another surface.
Pictorial images	Pictures, paintings, drawings, engravings, photographic prints, projected slides or shadow-casters like low or high relief.
Retinal images	An optical image on the inner surface of the dark chamber of the vertebrate eye (false analogy with the camera obscure).
Solid images	Three-dimensional objects such as sculptural pieces, statues, models or toys.

Mitchell (1986), on the other hand, proposed a family of images, which consists of a broader conception than that of Gibson (1980). As shown in Figure 3, his version contains five branches of images, including graphic, optical, perceptual, mental, and verbal. Each of which represents a type of imagery that is central to the discourse of some intellectual discipline. Graphic



imagery belongs to art historian; optical imagery to physics; perceptual images spread across physiologists, neurologists, psychologists, art historians; mental imagery belongs to psychology and epistemology; and verbal imagery to the literary critic.

*Figure 3 Family of images
(adopted from Mitchell, 1986).*

This study is to examine the effect of similar-other images on eliciting affective and cognitive responses. “Image” here refers to the “*strategic composition of visual representations*” which impact meaning to the viewer (Salinas, 2002, p. 168). It is similar to the “pictorial images” and “graphic images” according to Gibson (1980) and Mitchell (1986). The following paragraphs present the various attributes of an image.

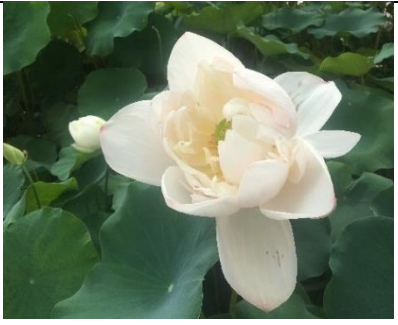
Image attribute refers to “*any kind of feature, component, or property of a stimulus that can be represented by information processing system*” (p. 485). A review of the existing literature studying the effect of images uncovers a number of attributes that have been used to describe images (refer to Table 8), including concreteness (Rossiter & Percy, 1983; Sparks & Wang, 2014; Yoo & Kim, 2014), complexity (Alario & Ferrand, 1999; MacKay & Fesenmaier, 1997; Sparks & Wang, 2014), and realism (Jeong & Choi, 2004; Miller & Stocia, 2003). According to Rossiter and Percy (1983), a picture can range from being concrete to abstract. A concrete picture contains subjects that are easily identifiable as a place, person or object, and is thus easy for viewers to verbally describe. Conversely, an abstract picture is one that contains objects that are not easily identifiable, which makes verbal description relatively hard. It leaves more space for the viewers to imagine and interpret the meaning of the message being transmitted.

Visual complexity is defined as the amount of detail, information, and intricacies in a photograph (Alario & Ferrand, 1999; Sparks & Wang, 2014). Depending on the purpose of communication, an image can project elements as simple as a flower, to more complex combination of elements, such as of the entire consumption environment. In general, moderate complexity are preferred which produces more elaboration and liking (MacKay & Fesenmaier, 1997; Sparks & Wang, 2014).

Last but not least, images can also be described by its realism, which appears to be less precisely defined. Realism refers to how realistic an image is. Miller and Stocia (2003) operationalized it using photograph and artistic picture. They found that a normal photograph is more capable of evoking

imaginations as it is more realistic. On the other hand, Jeong and Choi (2004) tested the effect of image realism by manipulating the presence and absence of people in the image. Their results showed that more realistic pictures (i.e., presence of people) increase service tangibility and improve customer experiences.

Table 8 Image attributes

Image attributes (and examples)		
Concreteness (Sparks & Wang, 2014; Yoo & Kim, 2014)	Concrete (<i>easily identifiable objects</i>)	Abstract (<i>not easily identifiable objects</i>)
		
Complexity (Sparks & Wang, 2014)	Simple (<i>with one single identifiable object e.g., a flower</i>)	Complex (<i>a few identifiable objects, e.g., customers, trees, swimming pool</i>)
		

Realism	Photograph	Artistic picture
(Miller & Stocia, 2003)		
(Jeong & Choi, 2004)	Dining environment with people 	Dining environment 

These three image attributes identified from existing literature are not mutually exclusive. In other words, it is rational to describe an image from these three aspects at the same time. An image can be concrete, simple, while realistic as one.

Besides the attributes of images, content of images has also been widely studied. In the tourism literature, most scholars used content analysis to study the content of images shown on websites or social media sites as a manifestation of destination images (Hsu & Song, 2013; Mak, 2017; Song & Kim, 2016; Stepchenkova & Zhan, 2013). These studies have developed different, yet similar, coding schemes to analyze and judge the “shown content” of the images. The coding schemes are what the researchers observe and classify, but may not necessarily represent the “reality” that is not depicted in

the image. The coding schemes from existing literature are presented in Table 9.

Table 9 Variables for content of images

Song and Kim (2016)	Stepchenkova and Zhan (2013)	Mak (2017)
1. Modern architecture	1. Architecture/buildings	1. Natural environment
2. Nature/Nature landscape	2. Nature and landscape	2. Infrastructure
3. Traditional object	3. People	3. Culture & art
4. Religious building/object	4. Archaeological sites	4. Specific activities
5. Festival/Ritual	5. Way of life	5. Food & beverage
6. Ordinary life	6. Traditional clothing	6. Flora & Fauna
7. Urban/Urban landscape	7. Outdoor/adventure	7. People
8. Traditional building	8. Wild life	8. Transportation
9. Restaurant/food	9. Tourism facilities	9. Information
10. Facility/leisure activity	10. Urban landscape	10. Accommodation
11. Transport/infrastructure	11. Domesticated animals	11. Tourist attraction
12. Art object/statue	12. Art object	
13. Others	13. Plants	
	14. Festivals and rituals	
	15. Leisure activities	
	16. Food	
	17. Country landscape	
	18. Transport/infrastructure	
	19. Tour	
	20. Others	

Scholars have also tried to understand customers' responses and preferences toward different contents shown in images. For example, Sparks and Wang (2014) found that images showing natural environment (e.g., rainforest or beach) are generally preferred over images with built attractions, because they elicit more imagination and positive attitudes. Moreover, customers prefer images featuring hotel facilities with service personnel or guests which lead to more favorable attitudes toward the hotel (Jeong & Choi,

2004). Cyr et al. (2009) first developed the construct “image appeal”, to illustrate “*the extent to which images on the website are perceived as appropriate and aligned to user expectations, satisfying, or interesting*” (p. 540). It goes beyond the evaluation of images based on aesthetic appeal to capture respective emotions generated by viewing the images.

Despite the various attributes and contents of images being studied, the impact of images is core of visual communication research. The following sub-sections review the major role of images on consumers’ decision making process.

2.2.2 Tangibilize the intangibles

Online purchases feature the inability of physically examining the products before purchase. Thus, consumers demand for, and actively seek for extended information about the product to aid the decision making process and reduce the risk of possible deviation from expectations. This makes product communications and promotions through images more prevalent. Visual images, being the pictorial presentation of products or services (Kim & Lennon, 2008), allow customers to visualize products and tangibilize services, such as tourist experiences, hotel services and tour packages, which are all intangible and experiential in nature (Berry & Clark, 1986). Consumers can readily imply hotel room service environment and quality just by observing the images shown on hotel websites (Baek & Ok, 2017; Bogicevic, Bujisic, Choi, Smith, & Li, 2017). Moreover, they prefer hotels that show a selection of pictures of the rooms and service environment because they can picture the

overall image and service of the hotel (Jeong & Choi, 2004).

2.2.3 Picture superiority effect

Research related to visual elements in the psychology and consumer behavior generally supports the “picture superiority effect” (Paivio, 1990), which means that pictorial information are more effective than textual information in gaining attention (Childers & Houston, 1984) and enhance memorability (Lohse, 1997; Paivio, 1990). This is attributed to the reason that images stimulate more elaborative thinking and so they require less frequency of exposure than text to achieve the same effect (Singh, 2007). Furthermore, the addition of pictures to textual information generates more favorable consumer attitudes (Mitchell & Olson, 1981). However, the picture superiority effect is not without boundaries. It does not necessarily hold when the visual elements show redundant information or inconsistent meaning with the verbal messages, which may result in lower memorability and recall (Childers & Houston, 1984; Edell & Staelin, 1983; Kim & Lennon, 2008). Houston, Childers, and Heckler (1987), however, showed that consumers encountering inconsistent verbal and visual information will perform more elaborative mental processing, which lead to better recall of the messages. The phenomenon of “picture superiority effect” is, thus, inconclusive. Adding pictorial presentation to verbal information may not always generate favorable responses, it depends on a number of other factors, such as consistency of messages and information processing styles of viewers (Hou, Yang, & Sun, 2017).

2.2.4 Mental imagery

As tourism products represent risk, consumers consider and evaluate more than one available option before making a purchase to ensure a favorable decision. Without the possibility of physical inspection, consumers rely on images of the tourism product to picture their future consumption experiences. As such, the role of visual elements goes beyond simply tangibilizing service offerings to persuading consumer decisions through evoking mental imagery. Mental imagery refers to the process of deriving mental images of the consumption experience through processing visual cues in the working memory (MacInnis & Price, 1987). According to the typologies of Gibson (1980) and Mitchell (1986), mental images are dream images, imagery fantasies, and the images in the mind's eyes. Miller denoted that mental imagery consists of four dimensions: (1) *vividness* is the clearness and sharpness of images imagined; (2) *quantity* refers to the number and variety of images that came to mind; (3) *valence* is whether the images are good or bad; and (4) *modality* refers to the sensory nature of the imagery. Mental imagery can be stimulated by single sensory dimension, such as visual (Miller & Stocia, 2003; Sparks & Wang, 2014), verbal, or auditory imagery (Miller & Marks, 1997), and also by multi-sensory dimension incorporating a mix of these three stimuli (Babin & Burns, 1997; Lee & Gretzel, 2012; Walters, Sparks, & Herington, 2007, 2012; Yoo & Kim, 2014).

Mental imagery was initially studied in print advertisements and was later on explored in the tourism context. Table 10 summarizes relevant experimental studies grounded on mental imagery. Researchers tried to identify the types of stimuli that prompt mental imagery, and its impacts on

consumers. For example, concrete images are more effective in stimulating vivid and elaborate mental images in consumers' mind (Babin & Burns, 1997; Yoo & Kim, 2014). For verbal advertising messages, instructions to imagine and concrete texts were found to effectively evoke mental imagery (Babin & Burns, 1997). Compared with verbal and auditory messages, visual elements (e.g., pictures and videos) are superior in evoking mental images (Kim, Kim, & Bolls, 2014; Lee & Gretzel, 2012). Nevertheless, pictorial and textual stimuli demonstrate interaction effects when being placed together. The combination of concrete-style pictures with textual contents consisting of instructions to imagine is the most effective way of stimulating mental images (Walters et al., 2007).

Mental images will lead to positive attitude toward the message (Babin & Burns, 1997; Kim et al., 2014) and positive emotions (Walters et al., 2012; Yoo & Kim, 2014), which will be transported to the brand or destination (Lee & Gretzel, 2012; Miller & Stocia, 2003), and lead to favorable behavioral responses, such as word-of-mouth and intention to visit (Kim et al., 2014; Walters et al., 2012). Despite the important influence it has on consumers, mental images might not always be relevant. It has prevalent influence in the evaluation of hedonic experiences and for consumers who follow an experience-based processing styles (Chang, 2012).

Table 10 Review on experimental studies of mental imagery research

Sources	Stimuli	Effect	Contexts
Babin and Burns (1997)	1. Instruction to imagine (present, absent)	Stimuli - mental imagery - attitude	Print ad.
	2. Pictures (concreteness)		

Bone and Ellen (1992)	1. Focal character and plausibility of radio ads	Stimuli - mental imagery - attitude, behavioral intentions	Radio ad.
Burns, Biswas, and Babin (1993)	1. Instructions to imagine (present, absent) 2. Text (concreteness, abstractness) 3. SOP (visualizer, verbalizer)	Stimuli - mental imagery - attitude, behavioral intentions	Print ad.
Kim et al. (2014)	1. Level of imagery (video-high, audio-low)	Stimuli - arousal, attention, attitudes to ad, behavioral intentions	Tourism ad.
Lee & Gretzel (2012)	1. Pictures (present, absent) 2. Text (narrative, expository) 3. Audio (present, absent)	Stimuli - mental imagery - communication effects, attitude resistance	Destination website
Miller and Marks (1997)	1. Audio (present, absent) 2. Verbal (vivid, pallid) 3. Instruction to imagine (present, absent)	Stimuli - mental imagery - attitude, feelings	Radio ad.
Miller and Stocia (2003)	1. Pictures (photograph, water color, and electronically altered)	Stimuli - mental imagery - attention, attitudes toward ad and resort, visit intention to website	Resort ad.
Sparks & Wang (2014)	1. Pictures (natural and built attractions)	Stimuli - preference, consumption vision, recall	Tourism promotion photographs
Walters et al. (2007)	1. Pictures (concreteness) 2. Text (concrete words, instructions to imagine, and both)	Stimuli - consumption vision	Tourism ad.
Walters et al. (2012)	1. Pictures (present, absent) 2. Text (instruction to imagine, concrete words)	Stimuli - consumption vision, emotions, product interest, purchase immediacy	Tourism ad.

Yoo & Kim (2014)	1. Pictures (background) 2. Text (concrete description and no concrete description of consumption background)	Stimuli - mental imagery - positive emotion, behavioral intentions	Online retailing
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To summarize, images not only tangibilize services and experiences, they also allow consumers to visualize their own consumption experiences in their mind, which then become important information source for decisions. It is evident that research on visual elements is gaining popularity due to both its superior and complementary effects to textual information. In the current study, human images are considered as a type of visual images that impact meanings to the viewers. Human images refer to the representation of humans in website images (Cyr et al., 2009). The next sub-section reviews studies related to human images.

2.2.5 Human images

Online communication is highly impersonal. Users have to rely on such cues as human images to determine the credibility and reliability of a firm. However, research on human images emerges only recently, and most existing studies seek to identify the effect of human-present websites on consumers (Chan, 2018). Riegelsberger, Sasse, & McCarthy (2003) stated that of the embedding human images in websites involves the (re-)introduction of social interactions to the online environment. Cyr et al., (2009) went a step further to examine three levels of human images, including no human image, human images without facial features, and human images with facial features, to

indicate no human, medium human, and high human conditions respectively. Research generally agrees that by adding human images to a website, the company can mitigate the negative effect of impersonal online interaction and increase trust by bringing online interactions closer to the face-to-face interaction (Cyr et al., 2009; Steinbrück, Schaumburg, Duda, Krüger, 2002). People are more attracted to human images, especially those with facial expressions (Riegelsberger et al., 2003), because these human images make people feel warm and a stronger sense of belongingness (Cyr et al., 2009). The presence of human image creates higher levels of social presence, and customers feel more positive and enjoyable while using the site (Hassanein & Head, 2007; Wang et al., 2014).

Existing research provides evidence that using human images on websites will affect consumers' emotional and behavioral responses to the website. However, the effect of human-present websites has not been widely studied, especially in hotel context. Jeong and Choi (2004) illustrated that the use of human images increases consumers' sense of presence at the service environment and therefore become more associated with the service provider. Cyr et al. (2009) suggested that human images affect peoples' decision on hedonic products such as hotels, and thus represent a promising research gap.

2.3 Homophily theory

2.3.1 Overview

"Birds of a feather flock together" is a common quote explaining the homophily theory (Lazarsfeld & Merton, 1954) or the similarity-attraction

theory (Byrne, 1971). Homophily theory states that people with similar characteristics will come together and move in similar ways, just as a flock of birds flying together. This concept roots from the observation of an ancient Greek philosopher, Aristotle, who noted that people “*love those who are like themselves*” (Aristotle, 1934, pp. 1371). The homophily theory is based on the conception that people having different characteristics such as genders, ages, races, and education etc., tend to manifest different qualities, and at the same time, we attribute such qualities according to a person’s membership. For example, women are sensitive, Germans are punctual, and Japanese are polite.

Homophily refers to “*the degree to which pairs of individuals who interact are similar with respect to certain attributes, such as beliefs, values, education, social status, etc.*” (Rogers & Bhowmik, 1970, p. 526). At the opposite end of the continuum, **heterophily** is “*the degree to which pairs of individuals who interact are different with respect to certain attributes*” (Rogers & Bhowmik, 1970, p. 526). We are living in a world in which communication and interactions are essential to maintain social relationships. These communication and interaction, according to the homophily theory, happen more frequently between a source and a receiver (referred to as a dyad) who are similar (or homophilous) with each other. This phenomenon was initially explored by researchers studying social relationships including friendships and marriage (Lazarsfeld & Merton, 1954; McPherson et al., 2001; Rogers & Bhowmik, 1970; Simons, Berkowitz, & Moyer, 1970), and was then extended to such disciplines as advertising and online communications.

2.3.2 Conceptualizing homophily

Existing studies reveal different conceptualizations of homophily. In terms of the basis of measurement, homophily can be (1) subjective (or perceptual), which is based on the source's or receiver's perception of whether the dyad is similar or dissimilar; and (2) objective, which is based on the observable similarity or dissimilarity in the dyad (Rogers & Bhowmik, 1970). Previous research on the distinctive impact of these two types of homophily, however, did not achieve conclusive results. Rogers and Bhowmik (1970) concluded that subjective and objective homophily are, to some extent, positively correlated, while some suggested that they are distinctive (Kacmar, Harris, Carlson, & Zivnuska, 2009). The researcher postulates a similar argument of Rogers and Bhowmik (1970). Specifically, the researcher believes that subjective homophily is implied from objective homophily and thus both are related. As such, this study focuses on studying the effect of objective homophily which is likely to affect consumers' perceived homophily.

According to Lazarsfeld and Merton (1954), homophily can also be conceptualized into two levels: (1) status homophily (or surface-level similarity), which refers to the similarity between two individuals in terms of demographic characteristics, such as gender, age, marital status, and education; and (2) value similarity (or deep-level similarity), which is based on values, attitudes and beliefs etc. Tables 11 and 12 review all salient dimensions related to these two levels of homophily. It is evident that status similarity is more frequently studied since demographic characteristics are easily observable and measurable. They are also easier to be manipulated in experimental studies. As the homophily theory evolves in different disciplines, the boundary between

status and value homophily as Lazarsfeld and Merton (1954) once suggested has become less explicit.

Table 11 Dimensions of status homophily

Dimension	Context	Measurement	Representative studies
Gender	Social servicescape	Objective	Zhang, Li, Burke, and Leykin (2014)
Age	Social servicescape	Objective	Zhang et al. (2014)
Ethnic	Advertising	Perceptual	Torres (2007)
		Objective	Forehand and Deshpandé (2001), Forehand et al. (2002)
	Interpersonal relationship	Objective	Smith et al. (2014)
	Social servicescape	Objective	Zhang et al. (2014)
Racial	Interpersonal relationship	Objective	Mollica, Gray, and Treviño (2003)
	Advertising	Perceptual	Simpson et al. (2000)
Origin	Online interactions	Objective	Forman, Ghose, and Wiesenfeld (2008)
Socio-economic status	Interpersonal relationship	Objective	Smith et al. (2014)
Incidental cues (e.g., finger prints, first name)	Interpersonal relationship	Perceptual	Burger et al. (2004), Wan and Wyer, 2018
Multiple attributes	Social servicescape	Objective	Gino, Shang, and Croson (2009)
	Online interactions	Objective	Shan (2016), Naylor et al. (2011)
		Perceptual	Pentina et al. (2018)
	Social servicescape	Objective	Churchill, Collins, and Strang (1975)
	Recommendations	Objective	Yaniv et al.(2011)

Table 12 Dimensions of value homophily

Dimension	Context	Measurement	Representative studies
Behaviors	Decision making	Objective	Yaniv et al. (2011)
Attitudinal	Interpersonal relationship	n/a	Simons et al. (1970)
Preferences	Social servicescape	Perceptual	Woodside and Davenport Jr. (1974)
	Recommendations	Objective	He and Bond (2013)
Language	Online interactions	Perceptual	Su, Mariadoss, and Reynolds (2015)
Interest	Online interactions	Perceptual	Ayeh et al. (2013), Su et al. (2015)
	Online interactions	Objective	Han, Wang, Crespi, Park, and Cuevas (2015)
Multiple dimensions	Online interactions	Perceptual	Hu, Huang, Zhong, Davison, and Zhao (2016), Shen et al. (2010)

In the following sub-section, a thorough review was conducted on studies grounded on or related to the homophily theory. They are organized based on the respective disciplines and context being studied. The main purpose is to offer an in-depth understanding related to the phenomenon and identify the research gaps.

2.3.3 Homophily in interpersonal relationships

Homophily roots in social networking and interpersonal relationships. Similarity between two individuals facilitates communication and foster interpersonal attachment (Byrne, 1971). People are more attracted by similar-others whom they perceive to be more likely to accept them (Ibarra, 1995).

Similar-others are also perceived to be holding similar beliefs, which will alleviate the potential conflicts and misunderstandings arising from the interactions, and result in more effective communications (Rogers & Bhowmik, 1970). Hence, homophilous friendship (i.e., friendship between two similar persons) is usually more enduring than heterphilous friendships (Mollica et al., 2003).

The effect of homophily in friendship building is, however, relative and context dependent. To illustrate, racial minorities were found to identify similar-others as friends more frequently than did members in the majority group. The attributes held by minorities are rare, and thus are more likely to be emphasized as a basis for reference during interactions (Burger et al., 2004; Mehra, Kilduff, & Brass, 1998; Mollica et al., 2003). Nevertheless, being extremely, or completely homophilous or heterphilous will not work in relationships, because the former is likely to cause information redundancy, while the latter leads to dissonance in the minds of the two individuals (Rogers & Bhowmik, 1970). However, the probability of finding a completely homophilous (or heterophilous) dyad, which means two identical persons, is almost impossible. Most communications will thus occur somewhere in between, and the homophily theory suggests that it is usually closer toward the homophilous end (McPherson et al., 2001). In other words, the dyad should be homophilous on as many relevant dimensions as possible (Rogers & Bhowmik, 1970). Though not being tested and verified, Smith et al. (2014) argued that ethnic homophily might be used by individuals to filter the potential pool of candidates, from which they choose friends based on other relevant homophilous characteristics.

2.3.4 Homophily in social servicescapes

Besides friendships, which represent close relationships, previous research shows that the similarity-attraction paradigm is also evident in social servicescapes, which refers to the social aspect of a service environment, including the active and passive interactions between employees and customers in that environment (Tombs & McColl-Kennedy, 2003).

The initial aim of studying the effect of homophily in service interactions was to understand whether salesperson similar to customers should be recruited (Churchill et al., 1975). A wider variety of similarity has been studied in the social servicescape literature, compared to advertising literature which mainly focused on ethnic similarity. A salesperson demographically similar to customers is more effective in building trust and relationship (Swan, Bowers, & Richardson, 1999), which influences customers' purchase intention (Zhang et al., 2014), and spending (Churchill et al., 1975). Likewise, customers are likely to purchase more when being served with a salesperson whom they perceive to be having similar preferences (Woodside & Davenport Jr., 1974). In a more recent study, Zhang et al. (2014) showed that salesperson intervention is more effective in increasing shoppers' tendency to touch the products when the salesperson is sharing gender similarity with the shoppers, while ethnic and age similarity will increase purchase likelihood. Similarity will also interact with other attributes of a salesperson (e.g., expertise) to influence customers' purchase decisions (Woodside & Davenport Jr., 1974).

Although research suggests that employee-customer similarity affects consumer behaviors during active interaction, it is evident that the mere

presence of self-similar consumers (involving passive interaction) in the social servicescape will also influence consumers' overall consumption experience (Hanks et al., 2017). For example, a consumer observing a negative service experience of another customer of similar age will form negative impressions toward the service provider involved (Wan, Chan, & Su, 2011). Moreover, the presence of similar-others in the service environment enhances consumers' identification (Karaosmanoğlu et al., 2011; Line et al., 2018), perceived image congruence and brand congruence with the service provider, which influence their behavioral responses (Hanks et al., 2017).

2.3.5 Homophily in advertising

As mentioned, most existing research in advertising related to homophily focused on the effect of ethnic homophily. In general, consumers respond more favorably to ads featuring ethnically similar models than to ads with dissimilar models (Torres, 2007), because consumers perceive advertisers using ethnically similar models in their advertisements to be more considerate and sympathetic (Karande, 2005). There exist different mechanisms explaining the effect of ethnically similar spokespersons or endorsers in advertising, and below provides a thorough review.

Forehand and Deshpandé (2001) explained the effect of homophily using “ethnic self-awareness” which is a short-term condition during which a person becomes more responsive to his or her own ethnicity. This process takes place when a person is encouraged to compare him- or herself with others along ethnic characteristics, whereby self-categorization is performed.

As such, when being exposed to an ad featuring a similar spokesperson, consumers are likely to classify themselves as “in-group” members, to whom they will respond more favorably (Forehand & Deshpandé, 2001). Self-awareness will increase the similarity (or dissimilarity) that a consumer perceived to have with the endorser so he or she will feel targeted (or not targeted) by the advertisement (Forehand & Deshpandé, 2001). The salience of a particular characteristic as the basis for self-categorization is often variable and dependent on such factors as environmental cues, social context, and personal differences (Forehand et al., 2002). For example, the level of identification that a consumer holds with his or her own ethnic group will affect the perceived similarity generated (Simpson et al., 2000). This suggests that the presence of other advertisements that could prime customers’ social identity is important to provoke “similarity-based processing”, whereby enhances the effectiveness of targeted advertisement.

Other researchers have suggested that the preference of similar spokesperson on advertisement can be explained by self-congruity (Cui & Yang, 2009; Simpson et al., 2000) and the degree of “consumer ethnocentrism”, which describes the tendency of people to reject ethnically dissimilar others, and at the same time favor similar others (Apaolaza, Hartmann, He, Barrutia, & Echebarria, 2014). Despite the different mechanisms explaining the effect of homophilous spokespersons on advertisement, perceived homophily of customers demonstrates a significant influence on consumer behavioral intentions, such as purchase intentions (Simpson et al., 2000).

2.3.6 Homophily in online interactions

Besides influencing customer perceptions during face-to-face interactions, similarity demonstrates its effect on customers in the online environment characterized by overwhelming information and recommendations, including both user- and firm-generated contents. In particular, similarity determines to what extent recommendations are taken into considerations. Customers rely on similar demographic characteristics as heuristics to determine the trustworthiness and credibility of reviewers (Pentina et al., 2018; Shan, 2016). They may even regard similarity as a threshold to decide whether to continue reading a review or not (Duffy, 2015). They find recommendations from reviewers sharing the same geographical locations more helpful, which increase their likelihood of purchases (Forman et al., 2008). Even if the reviewer is credited by the review site as a “top reviewer” with expert knowledge, their trustworthiness remains the same as other laymen if they are demographically dissimilar with the readers (Shan, 2016). In other words, reviews from similar reviewers are more persuasive than that of dissimilar reviewers in making online consumption decisions (Chan, Lam, Chow, Fong, & Law, 2017; Naylor et al., 2011).

While most previous research examining the effect of similarity in service interaction and advertising have been dominated by demonstrating the impact of demographic (or status) similarity, online interaction appears to comprise more studies related to the influence of value similarity. This is because online interactions is characterized by higher risks and uncertainty, and sometimes even with deceptive intentions (Shan, 2016). Thus, people tend to seek for additional cues to mitigate such risks (Babić Rosario, Sotgiu, De

Valck, & Bijmolt, 2016). Perceived similarity in preferences, interests, taste and values will influence users' loyalty toward virtual community because such interactions generate higher sense of belongingness to the community (Shen et al., 2010), which affect their consumption intention on such sites (Hu et al., 2016). Furthermore, preference similarity reflected from the content of reviews forms the basis for customers to forecast their own consumption enjoyment (He & Bond, 2013). When customers perceive similar interests with the reviewers, they may become more interested in the tourism products or information they discuss, and also more inclined to use such information to plan their trips (Ayeh et al., 2013). Moreover, opinions from behaviorally similar individuals are more appealing than general opinions, especially when customers are making decisions for hedonic products (Yaniv et al., 2011). This implies that homophily exemplifies the effect of online recommendations in reducing the risk of getting a negative experience, which aid consumer decision making process.

The effect of homophily is not only present among peers to peers in the online environment, it may also play a role in relationships between hotel brands and consumers. In a recent study of Su et al. (2015) on hotel customers' friendship with hotel brands, they found that perceived similarity in the communication style and interests will affect customers' perceived intimacy and self-congruity with the brand, which is then translated into brand commitment.

2.3.7 Correlations among dimensions

Prior studies suggest that people infer deep level similarity (e.g., tastes

and beliefs) from demographic similarity when they interact or read information online (Gino et al., 2009; Naylor et al., 2011; Smith, Menon, & Sivakumar, 2005). However, scant research has verified if this important assumption is true. Han et al.'s (2015) study showed that people sharing similar demographic characteristics, such as age, gender and geographic location, have a higher propensity to share similar interests in movies, music and TV shows. However, their study only restricted deep-level similarity to interests in three areas. Conversely, Yaniv et al. (2011) found that people expect a demographically similar person to be having similar musical tastes, but they do not expect him or her to have the same preferences.

Smith et al. (2014) focused on the interrelations among different dimensions of surface-level similarity. Specifically, they studied whether homophily on cultural and socioeconomic dimensions will affect ethnic homophily, which they termed as “by-product hypothesis”. However, the result showed that ethnic homophily do not significantly correlate with cultural and socioeconomic characteristics, and thus ethnic homophily is not explained by other types of homophily (Smith et al., 2014). Zhang et al. (2014) also showed that different surface-level similarity affect customers differently.

This suggests that the interrelations among different dimensions of one similarity, and between different levels of similarity are very complex. Although value homophily may be implied from status homophily, these two levels of homophily are still distinct as the former is related to group-based features while the latter denotes individual-based characteristics (Chan et al., 2017; He & Bond, 2013).

2.3.8 The prevalence of value homophily

A dyad can be similar in either status or value features, in both of them, or in neither of them. Based on the above discussions on the effect of the two distinctive, yet interrelated levels of similarity, some follow-up queries then emerge, including: “*which level of similarity is more important under different contexts?*” and “*what are the combined effects of both?*”. Simons et al. (1970) conducted a review on studies about group-level similarity and attitudinal similarity, and proposed that the two have differential effects on attraction, respect and trust. Yaniv et al. (2011) also have a similar speculation and suggested that behavioral similarity is more important and relevant than demographic similarity for usefulness of recommendation. This implies that surface-level and deep-level similarities differ in their strength and impact on customer perceptions and behaviors. Although status similarity is more readily observable, value similarity appears to be more important in facilitating communications and relationships, especially for long-term ones.

The interaction effects between the two levels of similarity are, however, less explored. Essentially, people perceive a higher level of similarity and thus are more attracted to people with whom they share both status and value similarities at the same time (Phillips & Loyd, 2006). Moreover, people prefer to associate with individuals with whom they are similar in greater number of qualities, such as nationality, interests, tastes, and behaviors (Launay & Dunbar, 2015). In other words, status and value similarities appear to display complementary effects in terms of their influence on interpersonal relationships. However, the interplay between these two levels of similarity demonstrates a different pattern in the online environment. Chan et al.’s (2017)

study showed that the effects of status and value similarities substitute each other in influencing the persuasiveness of online reviews in hotel booking context. In other words, consumers rely on alternative type of similarity when one is not available, but the presence of both is redundant. Their combined effects in other contexts such as consumers' responses toward hotel websites have not been previously explored.

In conclusion, status homophily, i.e., similarity in terms of demographic dimensions, have been more frequently studied than value homophily, i.e., similarity based on deep-level values. Most existing research adopts objective measurement, which involves manipulating the manifested characteristics, instead of measuring consumers' perceptions. In general, people enjoy interacting with self-similar individuals, no matter they are friends, service employees, other customers, spokespersons, or online reviewers. Such interaction validates and supports people's own values and behaviors. Moreover, the type of similarity has to be relevant to the specific situation so that it exhibits instrumental value for the interacting individuals (Rogers & Bhowmik, 1970).

2.4 Research gaps

Based on the extensive literature review in the previous section, the following research gaps are identified:

- Existing website design literature has largely focused on determining website quality and performance, and examining the effect of website quality on consumers' decisions. The role of other

social and symbolic elements, e.g., human images has largely been overlooked.

- Despite the large amount of studies related to the impact of similarity on interpersonal relationships, social servicescape, and persuasiveness of advertisements and online reviews, there is a lack of empirical studies exploring its plausible elicitation through hotel website, and understanding how this will affect customer decision making process of hotel.
- The mechanism of how the effect of similarity takes place is less understood. Specifically, its role in generating positive emotions and thoughts has not been explored.
- Based on the assertion that consumers find similar-others more appealing, it can be deduced that similarity elicited from human images on hotel website may positively affect customers' intention to stay in a hotel because of increased intimacy and familiarity. There is, however, sparse research on identifying plausible moderators (e.g., consumers' social needs) that will strengthen or weaken the relationship between similarity and responses.
- While existing studies showed that both status similarity and value similarity exert an influence on consumers, little attention has been paid to their interaction effects.

This study attempts to fill these gaps in the literature by conducting three experiments to test the effect of similar human images on hotel websites. Demographic similarity will be adopted to denote status homophily. Thus, “demographically similar human image” refers to a human image that shows a

person sharing similar demographic characteristics with the viewer. Behavioral similarity will be used to represent value homophily, and “behaviorally similar human image” refers to a human image that shows a person performing travel activities similar to the viewer.

2.5 Summary

This chapter presents an in-depth review on the literature relevant to the research topic. Three separate sections are devoted to website design, visual communications, and homophily, to enhance the understanding of the topic from different disciplines and perspectives. Different definitions and conceptualization of the key concepts underpinning the study are discussed. Significant research gaps are also identified and elucidated. The underlying assumption supporting this study is that human images on hotel website are likely to generate positive customer responses, and that similar human image will positively influence consumers’ hotel choice. Based on the existing knowledge reviewed, the next chapter presents the hypothesized relationships among key constructs in detail and proposes a conceptual framework for this study.

CHAPTER 3: DEVELOPMENT OF CONCEPTUAL MODEL

This research examines the effect of status and value similarities on hotel booking intention, and also the mechanism of how it happens. Building on the review of the existing literature, a conceptual framework and related hypotheses are proposed. The model is developed by integrating the S-O-R model (Mehrabian & Russell, 1974) and the homophily theory (Rogers & Bhowmik, 1970), drawing on findings of existing works, and then further extended. Hypotheses are proposed to test the relationships between similarity (status and value) and affective and cognitive states, which may affect consumers' behavioral intentions, including website stickiness and subsequent booking intention. Furthermore, the moderating roles of customers' social needs (need for uniqueness and need for status) are proposed. This chapter delineates the logics and rationales supporting the hypothesized relationships and illustrates a conceptual framework at the end.

3.1 Proposed model for similarity effect

3.1.1 *The S-O-R framework*

Mehrabian and Russell (1974) proposed the Mehrabian-Russell framework, also known as the Stimulus-Organism-Response (S-O-R) model in their study of environmental psychology. The S-O-R framework shown in Figure 4 constitutes the following major features:

- All responses to an environment can be considered as either approach or avoidance behaviors, such as desire to stay in (or get out of) the environment, desire to explore (or remain inactive in)

the environment, desire to communicate with (or ignore) others in the environment, and degree of enhancement (or hindrance) of performance and satisfaction (or dissatisfaction) with a task.

- The approach or avoidance behaviors are a result of the emotional states an individual experiences with the environment, which can be represented by three unique, yet interrelated dimensions of affect – arousal/non-arousal, pleasure/displeasure, and dominance/submissiveness (PAD).
- Any environment will produce an emotional state in an individual who gets into contact with that environment, which will lead to consumers' behavioral responses. However, there does not exist a taxonomy of environmental stimuli that lead to these emotions. They range from images, sounds, smells, tastes, colors, words, holistic design, or any other characteristics present in an environment, both online and offline (Loureiro, 2015).

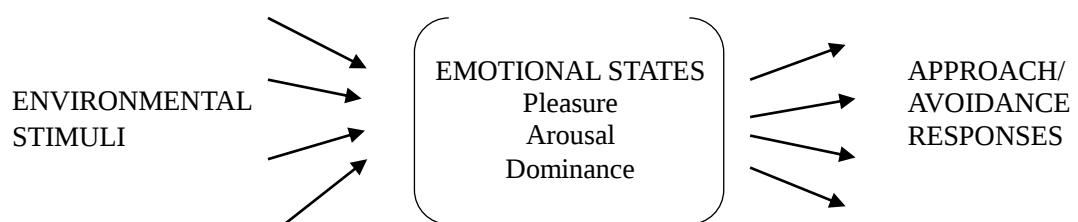


Figure 4 The Mehrabian-Russell Model

(Source: Donovan & Rossiter, 1982).

The S-O-R model has laid a strong background for subsequent

environmental psychology research. Numerous studies have modified and applied it to investigate the relationships between retail environment and consumer behaviors, including the time consumers stayed in the shop, the amount of money they spent, their willingness to interact with the service personnel, and even their return intention (Chebat & Michon, 2003; Donovan, Rossiter, Marcoolyn, & Nesdale, 1994; Mattila & Wirtz, 2001; Sherman, Mathur, & Smith, 1997; Spies, Hesse, & Loesch, 1997; Yoo, Park, & MacInnis, 1998). Some studies suggested the removal of the dominance dimension from the emotional states since its effect is not consistent (Donovan & Rossiter, 1982; Russell & Pratt, 1980). Despite some variations exist in the specific constructs being tested, the propositions of the S-O-R framework are well supported in general, i.e., environmental stimuli will generate certain emotional states in consumers, which lead to their approach or avoidance behaviors.

Beyond retail context, the framework has also been extensively applied to other service context with some modifications, such as restaurants (Heung & Gu, 2012; Jang & Namkung, 2009; Kim & Moon, 2009; Liu & Jang, 2009) and hotels (Bieak Kreidler & Joseph-Mathews, 2009; Countryman & Jang, 2006; Jani & Han, 2015). Since the Internet has gained popularity, much of the face-to-face interaction and transactions have been converted to the virtual world. The S-O-R framework has thus been extended to the website context (Clark, Ezell, Clark, & Sheffield, 2009; Eroglu, Machleit, & Davis, 2001; Koo & Ju, 2010; McKinney, 2004; Mummalaneni, 2005; Richard, 2005; Wang, Hernandez, & Minor, 2010; Wang, Minor, & Wei, 2011). Akin to the physical stimuli of retail stores, the design and layout of a website will also affect

customers' behavioral outcomes, such as the amount of time and money spent online, number of items purchased and loyalty, through various emotional states.

Drawing on the S-O-R framework, the current study seeks to investigate the mechanism of how homophily (stimuli) affects customers' browsing and booking intentions (response), through the mediation of affective and cognitive states (organism).

3.1.2 Effect of homophily on affective and cognitive appraisals

Unlike physical products, hospitality services are intangible in nature. The images on a hotel website communicate the hotels' design features and service environment to consumers, on which initial impression and service quality expectations toward to the hotel are formed (Baek & Ok, 2017; Huang, Kuo, Luu, Tucker, & Hsieh, 2015). By integrating human images to the website, the impersonality of the virtual environment is mitigated (Cyr et al. 2009), which may result in more positive emotions in customers (Wang et al., 2014). People tend to make inferences based on relevant information (Marewski, Gaissmaier, & Gigerenzer, 2010). When being exposed to a website with human images featuring similar demographic characteristics, consumers may classify those human images as his or her in-group members (Forehand & Deshpandé, 2001). Since consumers generally prefer "similar-other" in both advertisements and service environment, including both employees (Line et al., 2018; Streukens & Andreassen, 2013; Swan et al., 1999), and other customers even if they are not interacting with them (Hanks et al., 2017; Walls, Okumus, Wang, & Kwun, 2011), more positive affective

states may be formed as a result of seeing similar-other images (Eroglu, Machleit, & Davis, 2003; López & Ruiz, 2011; Mummalaeni, 2005).

On the other hand, cognitions are any thoughts that come to the mind when the consumer processes the information (López & Ruiz, 2011). The consumers may think that “people like me stay in this hotel”, and infer that “this is my kind of hotel” (Hanks et al., 2017). Moreover, consumers may form a better attitude toward a hotel if they can imagine a service environment surrounded by customers similar to them (Hanks et al., 2017; Karande, 2005). Demographic similarity thus forms into a socially symbolic cue that helps consumers enhance their emotional associations with the hotel, and improve their thoughts about the hotel.

Therefore, drawing on the homophily theory, we first posit that status homophily, conceptualized as the demographic similarity between viewer and human images in terms of race and age (Lazarsfeld & Merton, 1954), positively influences viewers’ affective states toward the website and cognitions toward the hotel. The following hypotheses are proposed:

H1a: Demographic similarity is positively related to browsers’ affective states toward the website.

H1b: Demographic similarity is positively related to browsers’ cognition toward the hotel.

Besides demographic similarity, the current study proposes that behavioral similarity will also affect consumers’ emotional states and cognition toward a hotel. For the purpose of this study, behavioral similarity refers to *the degree of intersection in two persons’ choice of activities during travel* (Smith

et al., 2014). This deep-level similarity is value-based and is developed in a person's life such as tastes, preferences, and personal experiences (Lazarsfeld & Merton, 1954). Although deep-level similarity may sometimes be inferred from surface-level similarity (Gino et al., 2009; Naylor et al., 2011; Smith et al., 2005), they are distinctive because the former refers to inherent group-based features, while the latter represents acquired individual-based characteristics (Chan et al., 2017; He & Bond, 2013). This implies that two persons with similar profiles may engage in similar or different activities when they travel. Yaniv et al. (2011) showed that the effect of behaviorally similar individuals in the online environment is more influential than general others. Moreover, consumers tend to exhibit favorable feelings toward the hotel when they perceive that the hotel shows self-matching brand personality (Chang, Park, & Choi, 2001). Similar to the propositions related to demographic similarity, when being exposed to human images showing behavioral similarity, consumers will become more emotionally attached and subconsciously associated with the hotel. This leads the researcher to further propose that behavioral similarity will generate more positive affective and cognitive states.

H2a: Behavioral similarity is positively related to browsers' affective states.

H2b: Behavioral similarity is positively related to browsers' cognition towards the hotel

People can share similarity in both demographic and behavioral characteristics. One of the objectives of this study is to understand the interactive effects of these two types of similarity on consumer responses.

Prior research suggests that surface-level and deep-level similarities have differing effects on consumer perceptions and behaviors (Yaniv et al., 2011). People are more attracted to others with whom they share both demographic and behavioral similarity at the same time (Phillips & Loyd, 2006). Thus it is likely that the combination of the two levels of similarity will result in additive effect to customers (Launay & Dunbar, 2015). In other words, behavioral similarity is predicted to reinforce the effect of demographically similar-other images on customer response. Based on the above, the following hypotheses are proposed:

H3: Behavioral similarity positively moderates the effect of demographic similarity on browsers' (a) affective states and (b) cognitions.

3.1.3 Relationship between affective states and cognitions

The original S-O-R framework proposed by Mehrabian and Russell (1974) includes only the affective components as the organism connecting stimuli and responses. Subsequent studies advocated the integration of customers' cognitive reactions such as attitude (Eroglu et al., 2003; Peng & Kim, 2014), perceived value (Liu & Jang, 2009), perceived flow of website (Ali & Ali, 2016), and expected service quality (Baek & Ok, 2017) elicited by the environment, to better understand consumer behaviors. However, most of the cognitive components have been studied independently from emotional responses in previous studies of service environment design, with very few exceptions. López and Ruiz (2011) incorporated both components to analyze consumers' purchase intention on website, and found that the more favorable

the emotions generated, the more positive the thoughts derived. Besides being correlated, a few studies showed that the feelings and emotional arousal experienced by the consumer activates, guides, and predict thoughts (Baek & Ok, 2017; Fiore, Jin, & Kim, 2005). In other words, emotional states precede cognitions. As such, it is anticipated that the affective states generated by the similar human images will automatically generate consistent thoughts and evaluation of the respective hotel (Pham, Cohen, Pracejus, & Hughes, 2001), which is also supported by the proposition of the Affect Transfer Hypothesis (ATH). The following hypothesis is then derived:

H4: Affective states is positively related to cognition towards the hotel.

3.1.4 Relationship between affective states, cognitive states, and approach behaviors

The two behavioral responses included in this study are website stickiness and booking intentions. Website stickiness refers to the ability of a website in keeping browsers in the website and browse more information (Zhang et al., 2010). Indicators of a browser's website stickiness include duration of stay, frequency of visit, and depth of information visited (Elliot, Li, & Choi, 2013). Affective states and cognitions are both important determinants of consumer behavioral responses. Existing studies in the retail context show that positive feelings generated from the service environment will increase consumers' approach behaviors, such as the time they stay in the store and their purchase intentions (Chebat & Michon, 2003; Donovan & Rossiter, 1982; Mattila & Wirtz, 2001; Yalch & Spangenberg, 2000). The same is true in the

online context, affective responses are found to be significant predictors of approach-avoidance behavior on websites (Wu, Cheng, & Yen, 2008). Mummalaneni (2005) showed that arousal influence the time people spent at the website, while pleasure increases the number of items purchased at the site. Bosnjak, Galesic, and Tuten (2007) found that affective involvement is the main driver of online purchase intention.

On the other hand, the cognitions or thoughts generated by the similar human images will also influence consumers' approach/avoidance behaviors. Based on the Elaboration Likelihood Model (ELM) (Petty, Cacioppo, & Schumann, 1983), favorable cognitions generated in consumers' mind will directly influence purchase intention (Karson & Fisher, 2005). Baek and Ok (2017) showed that consumers' emotional arousal and cognitive appraisal on a hotel's quality simultaneously influence their booking intention. Thus, it is expected that the affective states and cognitions generated through consumers' contact with the human images on the hotel website will directly influence consumers' approach behaviors. Moreover, previous research suggests that website stickiness is positively related to purchase intention (Elliot et al., 2013; Lin, 2007). Summarizing the above, the following hypotheses are proposed:

H5a: Affective state toward the hotel website is positively related to website stickiness.

H5b: Affective state toward the hotel website is positively related to booking intention.

H6a: Cognition toward the hotel is positively related to website stickiness.

H6b: Cognition toward the hotel is positively related to booking intention.

H7: Website stickiness is positively related to booking intention

3.1.5 Moderating effects of consumers' social needs

People do not respond to similar-other images in the same way, given their differences in psychological motivations for product consumption. According to Park, Jaworski, and MacInnis (1986), consumers select products or brands to fulfill functional, experiential, or social (or symbolic) needs. All these three aspects contribute to a consumer's purchase decisions or even evoke new demand of products (Kim, Forsythe, Gu, & Moon, 2002). For customers trying to fulfill their functional needs, they evaluate a product's functional attributes in order to solve or prevent a problem. Experiential needs relate to consumers' crave for various experiences, novelty and pleasure. Customers who want to fulfill their social needs will evaluate a product based on whether it can help them obtain social approval, affiliation and enhance self-image.

Among these three consumer needs, social needs appear to be more relevant for the current study of human images on hotel websites, which seeks to investigate the social elements of website design. Consumers' personal trait on social needs will influence their product preference and consumption behavior (Kastanakis & Balabanis, 2014; Kim et al., 2002). In particular, consumers with social needs may attribute higher value to a product or brand that offers status or exclusivity (Keller, 1993; Solomon, 1983). As such, this

study is interested in investigating the influence of consumers' social needs on the relationship between similar-other images on purchase intention, and social needs are represented by two constructs, i.e., consumer need for status (CNFS) and need for uniqueness (CNFU).

The need for status construct is theoretically grounded on Veblen's (1899) theory of The Leisure Class or notion of conspicuous consumption, which elucidates how people try to achieve the social status they desire through the possession of material resources. Consumers' need for status (CNFS) is defined as *"the motivational process by which individuals strive to improve their social standing through conspicuous consumption of consumer products that confer and symbolize status both for the individual and surrounding significant others"* (Eastman et al., 1999, p. 42). The products one uses or affiliates with are seen as the extension of the self (Belk, 1988). Therefore, consumers tend to purchase goods and services that help confer or symbolize their desired social status to their reference groups (Eastman et al., 1999; Husic & Cicic, 2009; Scitovsky, 1992; Veblen, 1899).

The extent to which consumers seek to purchase products that is seen to confer status varies (Han et al., 2010). Consumers exhibiting high need for status (i.e., status seekers) are more concerned with their projected image and status to the others. They display their social status through connecting their self-identity to their own preferred brands or products (Hanks et al., 2017). Thus, status seekers tend to pay more attention to symbolic cues on hotel websites that reflect their self-image, such as the similar human image. On the other hand, their counterparts with low need for status (i.e., non-status seekers) are less concerned with their projected social status, and are thus not aroused

when they see similar human images. They will not be motivated to select hotels symbolizing status (Veblen, 1899). The human images showing characteristics of other customers in the service environment represent an important tangible cue for hotel evaluation (Hanks et al., 2017). The human images demonstrating either demographic or behavioral similarity with the consumer will trigger consumers with high need for social status to classify the hotel as reflecting self-image. Therefore, we postulate that consumers with high need for status are more likely to respond emotionally to a hotel website with similar human image, and generate positive thoughts about that hotel depicted. This leads to the following hypotheses:

H8: CNFS moderates the effects of similarity on affective states and cognitions.

H8(a): People with high CNFS will show a positive relationship between demographic similarity and affective states, while those with low CNFS will not.

H8(b): People with high CNFS will show a positive relationship between demographic similarity and cognitions, while those with low CNFS will not.

H8(c): People with high CNFS will show a positive relationship between behavioral similarity and affective states, while those with low CNFS will not.

H8(d): People with high CNFS will show a positive relationship between behavioral similarity and cognitions, while those with low CNFS will not.

Besides need for status, another consumer social needs that explains the material objects that consumers purchase is their “need for uniqueness”

(CNFU) (Tian, Bearden, & Hunter, 2001), which is defined as *“the trait of pursuing differentness relative to others through the acquisition, utilization, and disposition of consumer goods for the purpose of developing and enhancing one’s self-image and social image”* (p. 50). The term “uniqueness” was first introduced by Snyder and Fromkin (1977) as a circumvention of the negative connotations inferred from the terms abnormality and deviance conveying similar meaning, which is to represent a positive endeavoring for differences from others. CNFU primarily rests on Snyder and Fromkin’s (1977) theory of uniqueness, which suggests that people do not always value high degree of similarity with others. Based on this theory, a person high in need for uniqueness (uniqueness seekers) is less responsive to conformity pressures, more willing to show their uniqueness through their behaviors, and risk social disapproval than a person low in need for uniqueness (non-uniqueness seekers). According to Tian et al. (2001), need for uniqueness consists of three dimensions, including need for (1) creative choice counterconformity, which denotes an individuals’ ability to select products that are regarded as unique and socially acceptable (Ruvio et al., 2008), (2) unpopular choice disconformity that refers to consumers’ use of products that deviate from social norms yet enhance self-image (Tian et al., 2001), and (3) avoidance of similarity, which is defined as consumers’ loss of interest in widely adopted products, thereby result in their effort in discontinued usage of these products (Tian et al., 2001).

Besides expressing one’s social status, product consumption can also be used to manifest a sense of uniqueness from the majority others (Snyder & Fromkin, 1977). It is well documented that consumers’ need for uniqueness

affect their behaviors, such as desire for customized products, preference to shop at non-traditional sites and dine at luxury restaurants (Burns & Warren, 1995; Hwang, Yoon, & Park, 2011; Hyun & Park, 2016; Lynn & Harris, 1997a, 1997b). Similar to consumers' need for status, everyone has a need to be different from others, but the strength of this need varies (Lynn & Harris, 1997a; Tian et al., 2001). The human images showing similarity is likely to threaten consumers' level of uniqueness and self-image. It is thus proposed that CNFU will affect their affective and cognitive responses to similarity stimuli in the opposite way as postulated for CNFS. Consumers with high need for uniqueness will exhibit less affective responses and less positive cognitions toward the hotel, which is shown to be consumed by demographically and behaviorally similar customers from the hotel website. Conversely, consumers with low need for uniqueness will not express affective responses and positive cognitions toward the hotel when being exposed to similar human images. Although the relationship is proposed to be in opposite directions, CNFS and CNFU are not considered as two constructs having opposite meanings. These two constructs explaining consumption decisions are not mutually exclusive (Kastanakis & Balabanis, 2014). A person may be high in both need for status and need for uniqueness. Thus, a product he/she purchases, despite of its worth, may be perceived as reflecting both his/her status and uniqueness to the others. Based on the preceding rationale, the following hypotheses are proposed:

H9: CNFU moderates the effects of similarity on affective states and cognitions.

H9(a): People with high CNFU will show a negative relationship between demographic similarity and affective states, while those with low CNFU will not.

H9(b): People with high CNFU will show a negative relationship between demographic similarity and cognitions, while those with low CNFU will not.

H9(c): People with high CNFU will show a negative relationship between behavioral similarity and affective states, while those with low CNFU will not.

H9(d): People with high CNFU will show a negative relationship between behavioral similarity and cognitions, while those with low CNFU will not.

3.2 Proposed conceptual framework

The current research is divided into three stages in order to test all the hypotheses set forth in the preceding section. Each stage represents one study and is shown on a separate diagram to ease readability (see Figures 5, 6, and 7). They differ in terms of the stimuli being tested, and the inclusion of moderators. Specifically, the first model investigates the effect of status homophily (operationalized as demographic similarity) on the organism, i.e., affective states and cognitions. The second model tests the effect of value homophily (operationalized as behavioral similarity) on the organism. The two potential moderators are also included in studies 1 and 2, with the dotted lines representing the respective moderating relationships. In particular, the effects of both demographic and behavioral similarity are expected to be moderated by CNFS and CNFU.

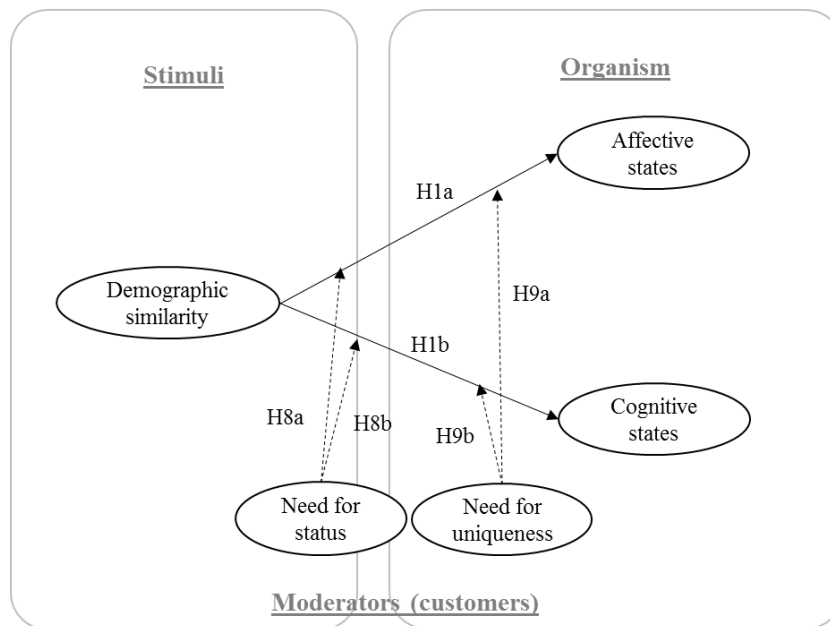


Figure 5 Conceptual framework for study 1 – effect of demographic similarity

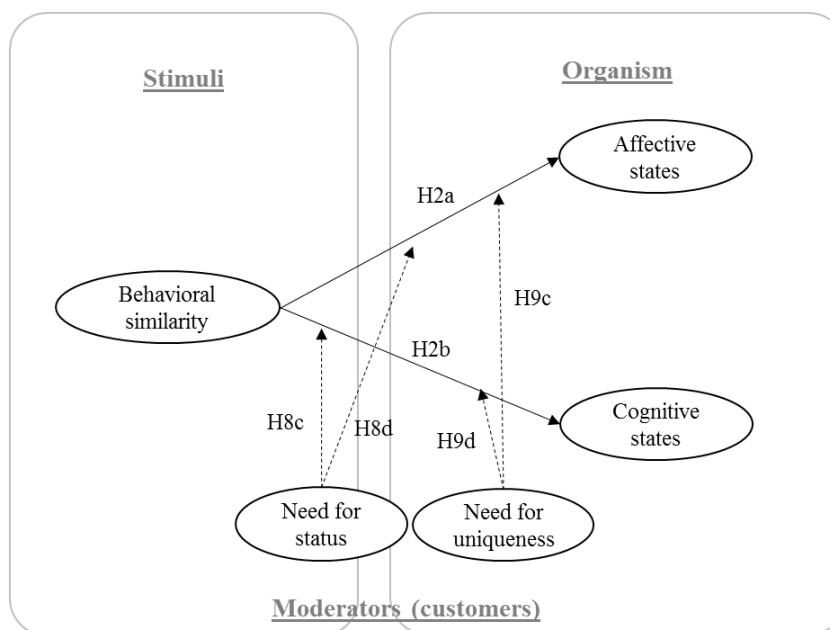


Figure 6 Conceptual framework for study 2 – effect of behavioral similarity

Finally, the third model captures the relationships among the main parts, including demographic and behavioral similarity (stimuli), affective states and

cognitive states (organism), and website stickiness and purchase behavior (responses). It seeks to examine the interactive effects between both types of similarity, as well as the mechanism driving the effect of similarity on consumers' responses. Affective states and cognitions are expected to mediate the relationship between similarity and the two behavioral variables, i.e., website stickiness and booking intention. Website stickiness, on the other hand, is proposed to mediate the relationship between affective states and cognitions to booking intention. Unidirectional arrows used in the diagram represent the types of casual paths between the constructs.

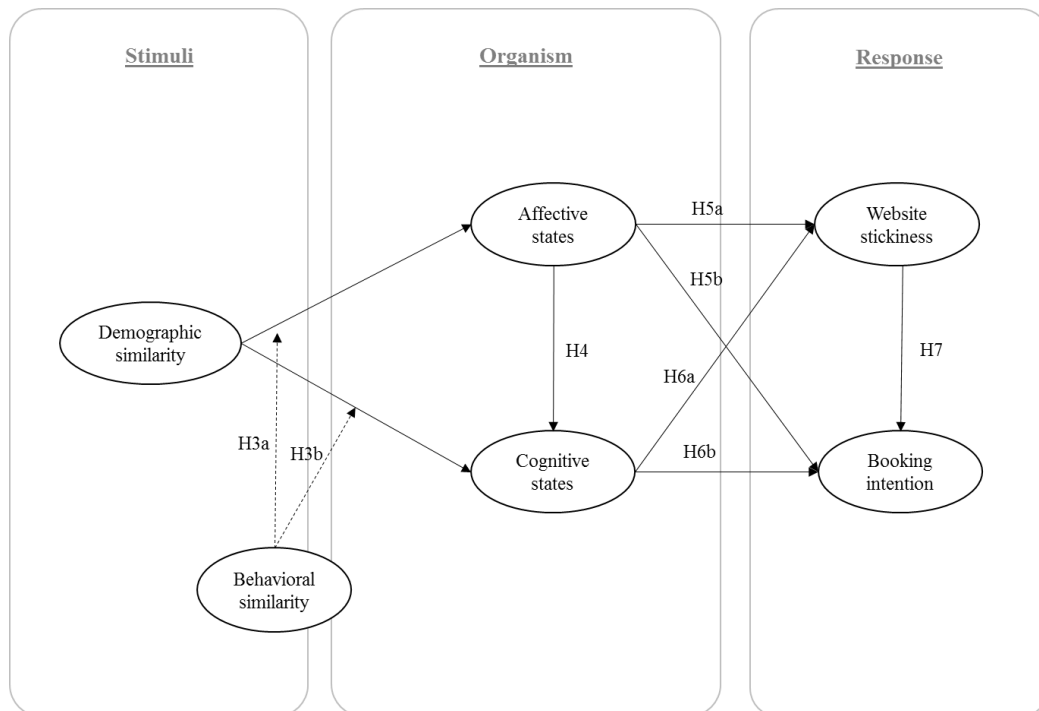


Figure 7 Conceptual framework for study 3 – interaction effect of demographic and behavioral similarity

3.3 Summary

This chapter presents the development of the conceptual framework of the current study, and hypothesizes the relationships among the theoretical constructs based on existing literature. The three models are primarily based

on the S-O-R framework of Mehrabian and Russell (1974). It seeks to explain the effect of similarity on consumers' booking intention for hotels. The model is further extended by investigating two mediators (cognitions and website stickiness) between affective states and behavioral responses, and also two moderators (consumer need for status and need for uniqueness) in order to advance existing knowledge related to the homophily theory. In total, nine main hypotheses including twenty sub-hypotheses were developed among the constructs based on existing literature and theories.

CHAPTER 4: GENERAL METHODOLOGY

Chapter 4 articulates the general research methodology used to investigate the impact of similarity on hotel purchase decision. First, the research paradigm underpinning the whole research is discussed, which is followed by the justification of the research method used. The components that are standardized across the three studies, including the sampling method, study location, experimental stimuli and procedures, are then presented; while the other components that vary in each study, including the development of stimuli, manipulation, and measurement scales, are presented in the corresponding chapters (Chapters 5, 6, and 7).

4.1 Research paradigm

This study adopts post-positivist paradigm, which was developed based on the criticisms of positivism. Positivists believe that the researcher and subjects are independent of each other. In other words, the researcher is an unbiased observer (Riley & Love, 2000). Unlike positivists, a post-positivist researcher believes that theories, his or her own backgrounds, values, and knowledge may influence the observations (Alexander, 1995), and so objectivism is still desired, but can only be approximated (Riley & Love, 2000). This can be reflected by the conceptual model being presented in the previous section. The hypotheses are indeed developed based on the researchers' own understanding of the literature. Like positivists do, the researcher believes that a reality exists, but post-positivists believe that the reality can only be partially and imperfectly known (Riley & Love, 2000).

Based on this, the process is directed towards hypotheses testing, in hope of generalizing the results across different settings. Thus, a quantitative method was adopted to collect numerical data.

4.2 Experimental research design

This research examines the cause-and-effect relationship between similarity and consumption behaviors. It is explanatory in nature as it seeks to reveal the mechanism behind. Thus, it is important to eliminate the effect of other extraneous variables that may confound the measured dependent variable(s) and invalidate the results of the study. Furthermore, the researcher attempts to create a situation that resembles real-life situation, meanwhile controlling all factors other than the variables under examination constant. Accordingly, experimental design was found to be the most appropriate to fit the research objective.

Experiment is *“a study in which an intervention is deliberately introduced to observe its effects”* (Shadish, Cook, & Campbell, 2002, p. 12). Experimental research is commonly used to examine social science phenomena, especially in psychology and marketing studies (Oh, Kim, & Shin, 2004). Many scholars have advocated the use of more experiments in hospitality and tourism field to help advance theories and knowledge as experimental studies are strong in identifying causality effects (Dolnicar & Ring, 2014; Fong, Law, Tang, & Yap, 2016). In experimental studies, one or more independent variables are manipulated by researcher as treatments. Participants are then assigned to either the control group or one of the

treatment groups, and the consequences of the treatments on outcome variables are then observed and compared. Experimental design is able to link cause and effect through treatment manipulation, and meanwhile control for the effects of other extraneous variable. Thus, experimental design is considered as one of the most rigorous research designs (Bhattacharjee, 2012). Internal validity refers to *“the degree to which a design successfully demonstrates that changes in a dependent variable are caused by changes in an independent variable”* (Clark-Carter, 1997, p. 41). Compared to non-experimental research, such as observations and survey questionnaires, an experiment demonstrates high internal validity (or causality). Since the objective of this research is to understand the effect of similar-other images on customers’ emotions and purchase intentions in the online environment, online experiment was adopted as the research design.

To test the hypotheses set forth in the conceptual model, three between-subjects experiments have been conducted. Between-subjects design involves assigning each subject to only one experimental or control condition. The three experiments were progressively conducted so that necessary improvements of the experimental stimuli and measurement instruments can be done. The following sub-sections present the participants, sampling method, and study destination in detail.

4.3 Participants

Generation Y (or millennials), who were born during 1980 and 2000, represents an important generation cohort with increasing spending power

(Solomon, 2015), especially on travel-related products because they are prioritizing personal experiences over material things (Saiidi, 2016). They will become the largest segment for hotels in the next few years (Mettler, 2015). They are sociable and technology-savvy (Nusair, Bilgihan, Okumus, & Cobanoglu, 2013). They are active users who tend to search information online for travel planning such as flight tickets and hotels purchase (Bilgihan, 2016). Due to their heavy usage of online resources, it is considered appropriate to focus on this group of adults in examining the effect of similarity on their online purchase behaviors. Since the objective of this research is to investigate the effect of similarity, a highly homogeneous group of participants is preferable. While generation Y comprises of adults ranging from 18 to 38 years old (Solomon, 2015), the younger cohort from 18 to 25 years old is chosen as the focal participants of the current study to ensure the successful manipulation of demographic (age) similarity.

The researcher approached this group of people through an online survey company, i.e., wjx.com which contains a pool of 2.16 billion people in mainland China (<https://www.wjx.cn/html/joinus.htm>). The company sent out invitations to pool members who meet the pre-set criteria (age, device, and first-time response). The pool members that are interested in the study will then respond and participate in the experiments. Thus all the participants in the study were from Mainland China.

Following Lynn and Lynn's (2003) recommendation on the sample size adequate to seek statistical power, at least 30 subjects were assigned to each experimental group and control group. Similar experimental studies adopted the same threshold of sample size (Chan et al., 2017; Cyr et al., 2009). A

number of criteria were given to the online survey company to recruit qualified participants for each experiment. First, participants should be at the age of 18 to 25 years old so as to ensure that young adults were being recruited and that the manipulation would be successful. Second, participants had to indicate whether they had previously taken part in this study. Only first-time responses are considered valid. Lastly, only participants using desktop were eligible to perform the study in order to ensure the visibility of all elements on the hotel website. Unqualified participants were thanked for their time and interest.

4.4 Sampling method

Sampling is an important process of selecting participants that could represent the properties and characteristics of the population (Sekaran, 2000). The two main types of sampling methods are probability and non-probability sampling. In probability sampling, a target population has to be specified from which sampling will then be conducted (Shadish et al., 2002). Each person in the population has an equal chance of being selected for the study. However, defining the population for the present study is hardly possible in the first place because it consists of all users of hotel websites. Moreover, experimental stimuli were prepared before the experiments. If the whole population (in this case, all tourists) are included as the sampling frame, an infinitive list of possible treatments has to be prepared, or else the effect of various confounding variables cannot be controlled, due to the variability in participants' characteristics. In other words, probability or random sampling was desirable yet practically infeasible for the present study using experimental design (Shadish et al., 2002). Thus, this research adopted convenience sampling to

recruit participants. Between-group variations were kept to the minimum by random assignment of participants to the treatment conditions (Shadish et al., 2002).

4.5 Study destination

With reference to the study of Rodríguez-Molina, Frías-Jamilena, and Castañeda-García (2015), a fictional tourist destination known as “Buyuada Island” was used as the study destination across all three studies (i.e., the destination that the participants were told to imagine traveling to). The reason for using a fictional destination is to control the confounding effect of previous knowledge and familiarity of the destination within participants. Experienced travelers may become less susceptible to advertising stimuli and marketing efforts due to their internal information acquired from previous experiences (Bargeman & van der Poel, 2006). Thus, a fictional destination was adopted to ensure that participants have no prior experience, and possess the same level of information, so that they have to rely on external information sources, i.e., the hotel website, to make their decision.

4.6 Experimental stimuli

Asian and Chinese young adults are mostly budget-conscious travelers, and they prefer staying at budget hotels when traveling (Lee & King, 2016; Xu, Morgan, & Song, 2009). Thus, a set of fictional hotel homepages resembling a three- or four-star hotel with an unfamiliar brand name was developed for each study using templates available at www.wix.com. An unfamiliar hotel name

(Pegasus Hotel) is used as brand familiarity can influence consumers' perception (O'Neill & Mattila, 2010; So, King, Sparks, & Wang, 2013). The websites of the three-star and four-star hotels in Macau were taken as references to inform the design of the fictional hotel website.

One set of simulated websites was developed for each study, and a separate website was developed for each condition. The websites all contain the same features, including a logo and the name of the hotel, a navigation bar on top, one human image (i.e., the manipulation itself), and a few pictures showing the facilities of the hotel. Apart from the manipulated variables, i.e., demographic or/and behavioral similarity on the human images appearing on the hotel website, all other elements of the websites were kept identical across all conditions.

4.7 Procedures

Figure 8 illustrates the entire process to conduct the experiment, from pre-experiment, to treatment, to post-experiment steps for each participant. The procedures are basically the same among the three studies. In order to be qualified for this study, a screening question was asked before the start of the experiment. Specifically, participants had to indicate whether they had previously taken part in the study. Only first-time participants were qualified to proceed with the experiment. Unqualified participants (i.e., international students) were thanked for their time and interests.

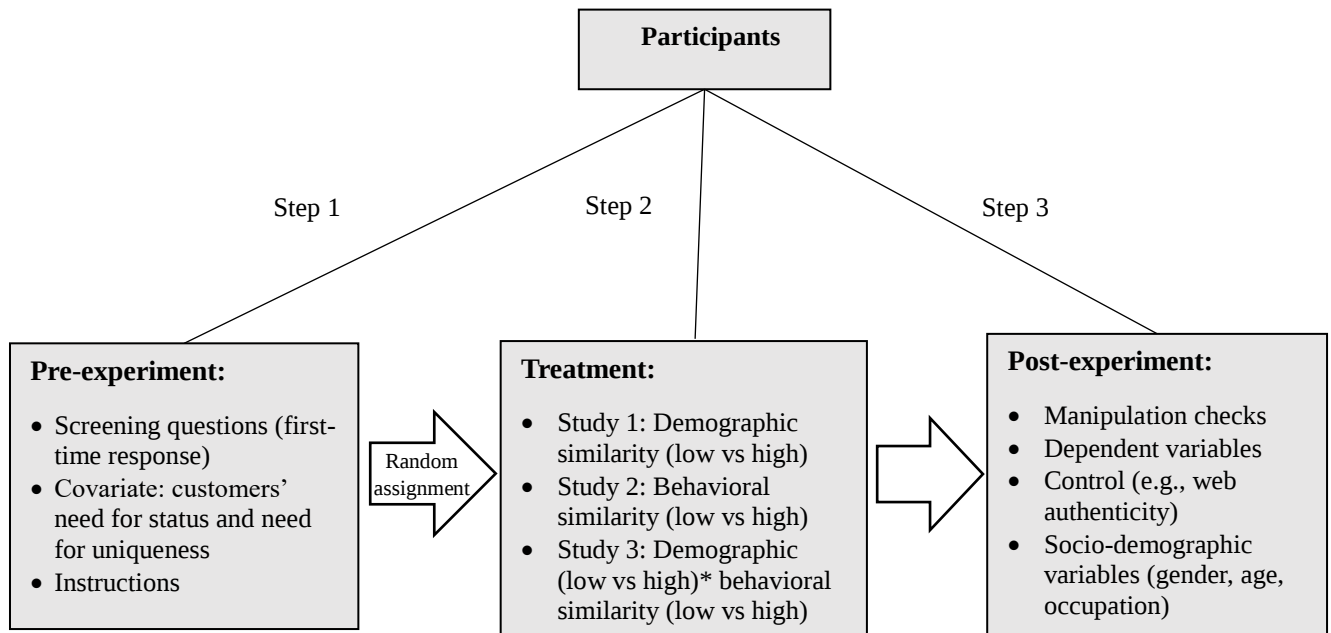


Figure 8 Experimental procedures

(adapted from Rodríguez-Molina et al., 2015).

After confirming their eligibility for the study, participants then responded to a series of questions related to their personal characteristics, which include their need for status and need for uniqueness during product consumption. Afterwards, the participants read the instructions as shown in Figure 9. The instruction was developed based on previous studies (Chan et al., 2017; Rodríguez-Molina et al., 2015).

As soon as the participants clicked on the “next” button on the online survey, they were randomly assigned to one of the control or experimental conditions. They were asked to browse the hotel website for at least 10 seconds. After browsing the hotel website, the participants were presented with a list of questions, namely the manipulation check questions, their affective and cognitive states, their website stickiness intention and booking intention (in study 3). Then, the participants answered questions related to the control variables and their socio-demographic characteristics. All responses were

Please imagine the following scenario:

You are currently planning a vacation to Buyuada Island, which will happen in three months' time. You do not know much about the destination. But after some information search, you found that a hotel at the destination "Pegasus Hotel". You found the website of the hotel, and so you would like to take a look at it first before making a decision.

On the next page, you will see the website of "Pegasus Hotel". Please read the content on the website carefully, as you will be asked to respond to questions related to the website.

recorded as anonymous.

Figure 9 Instructions for the participants in the experiment

4.8 Measurement instrument

This research used a self-administered questionnaire to collect participants' responses before and after the experiments. The participants were first presented with a cover letter, introducing the topic and purpose of the current research. They were informed about their significance to the study, and that the results would be solely for research purposes. They were also assured that confidentiality for all responses and information would be guaranteed. The questionnaire was structured into six major sections. Section 1 includes getting the consent of the participants to take part in the study and a screening question to determine eligibility of participants. Section 2 includes questions related to participants' personal characteristics, mainly their need for status and need for uniqueness. Customers' social needs are measured in pre-experiment stage so as to ensure that the traits are accurately measured without the

potential biased effect caused by other variables in the questionnaire (Hanks et al., 2017). Section 3 provides instructions to the participants to imagine the hypothetical situation and browse the given hotel website. Section 4 continues with questions related to manipulation check, participants' affective, cognitive, behavioral responses, and control variables. Lastly, Section 5 ends the survey by recording participants' travel and hotel experiences, as well as collecting participants' socio-demographic information. Refer to Appendices C-H for the questionnaires used in both Chinese and English.

The questionnaire consists of a mix of affirmative and negation (reverse-coded) items as commonly recommended, in order to alert inattentive participants and reduce potential biases caused by acquiescent participants (Churchill Jr, 1979; Paulhus, 1991). To ensure the validity of participants' responses, i.e., they really read the questionnaire items and browsed through the simulated hotel websites carefully, attention check questions such as *"this is an attention check question, please choose 'strongly disagree' for this item"* and *"which of the following did not appear in the hotel homepage that you have just visited?"* were included in the questionnaire. Responses with incorrect answers to one of these screening questions were discarded from the data analysis.

Four professors specializing in digital marketing and two PhD students in the field of hospitality were invited to review the contents of each experiment, including the simulated homepages, instructions, and questionnaire, as well as the experimental procedure. Changes to the materials were made based on their comments.

4.9 Functional equivalence

This research adopted existing scales to measure the independent and dependent variables with participants from Mainland China. In order to ensure clarity and enhance comprehensibility, all measurement items were translated into simplified Chinese. Back-translation method was used to ensure that the psychometric property of the original scales was maintained after translation (McGorry, 2000; Pornpitakpan, 2003). Thus, the measurement items on the questionnaire were first translated into the target languages (i.e., simplified Chinese) and then translated back into the original language (i.e., English) by a different person. Necessary adjustments to the Chinese version of the questionnaire were made based on the back-translation. See Appendices C-H for the questionnaires in both Chinese and English.

4.10 Summary

This chapter presents the research paradigm, research methods, participants, sampling method, experimental instruments and procedures that were used to conduct the three experiments. Chinese young adults were recruited via an online survey company by convenience sampling. Participants were randomly assigned to the treatment or control groups. Questionnaires in simplified Chinese were developed to collect data on the dependent (website stickiness and booking intention), mediating (affective states and cognitions), covariate (need for status and need for uniqueness), and control variables (website authenticity and consumers' socio-economic status).

Since the three experimental studies were carried out in a sequential manner, they differ slightly in terms of the manipulation of independent

variables, measurement scales, and analytical procedures, which will be discussed in the following three chapters.

CHAPTER 5: STUDY 1

This chapter reports the experimental design and results of the first study. The method used is first presented, under which the development of the experimental manipulation and the measurement scales used are stated in detail. Next, the pilot test procedures and results are provided. The main study is then delineated, which contains six sub-sections. First, the data preparation procedures are described. Second, the participants' characteristics are presented. Third, results of the manipulation check are provided, followed by the fourth section assessing the reliability and validity of the measurement scales. The fifth and sixth sections present the descriptive statistics and the results of hypothesis testing with supporting tables and figures. A discussion of the results is provided at the end, which also summarizes this chapter.

5.1 Method

The purpose of study 1 is to test the effects of demographically similar human image on customers' affective states toward the website and their cognition towards the hotel. The study involves two experimental groups (similar vs. dissimilar) and one control group (no-human).

5.1.1 Experimental manipulation

The validity of experimental research depends on how well the treatment represents the manipulation. Thus, rigorous steps were taken to develop the

manipulation materials. Most of the previous research investigating the effect of status similarity employed univariate comparisons on demographic characteristics such as gender (Zhang et al., 2014) and ethnicity (Forehand & Deshpandé, 2001; Forehand et al., 2002; Mehra et al., 1998; Smith et al., 2014). Zhang et al. (2014), for example, compared the frequency that a shopper touches the clothes in the store when the gender of the salesperson matches that of the shopper. Similar comparisons were made for other demographic dimensions such as age and ethnicity. The differences in responses to the level of similarity in the dyad have thus been investigated using one single factor at a time, without much consideration of the possible impact of other factors. Some of the existing studies used an aggregate measure of overall similarity (e.g., Chan et al., 2017; Churchill et al., 1975). Instead of testing the effect of one single dimension of similarity (e.g., gender or age), this study seeks to understand demographic similarity as a broader perception. As such, it is logical and preferable to frame the manipulation of status homophily using more than one dimension. Gino et al. (2009) used gender, geographical region, education, political affiliation, and age as the manipulation of status homophily in their study of advice-taking decisions. Shan (2016), on the other hand, used photo, screen name, age, occupation, place of origin, and a short bio, to manipulate status similarity in their study of online review credibility.

As the context of this study is human images on hotel website, presenting the participants with a bio describing the profile of the similar-other on the images was deemed unrealistic. Therefore, based on feasibility and practicality concerns,

two dimensions including age and ethnicity, were used to operationalize level of demographic similarity (low vs. high) on human images.

Most existing research studying status similarity has been conducted in the western context, particularly in America, and thus Asian-Caucasian disparity was frequently used to manipulate ethnic (dis)similarity (Forehand & Deshpandé, 2001; Forehand et al., 2002; Torres, 2007). Moreover, they have a strong focus on generating the feeling of being a minority in the society, and thus cannot serve as a legitimate reference for the current study.

To determine the specific ethnicity on that can induce the feeling of similarity or dissimilarity among Chinese young adults, a pre-test was conducted. First, consents from a few young adults (aged 18 to 25) of different ethnic groups (i.e., East-Asian, Southeast-Asian, and European) were obtained for the use of their pictures posted on social media sites. The first picture portraying the person alone was then selected and downloaded from their personal Facebook pages. A few considerations were taken into account such as whether the face of the individual was being shown clearly, and whether the background of the picture was too colorful. A group of 44 Chinese students were recruited at a university in Hong Kong and Macau respectively for the pre-test in December 2017. After answering a screening question to ensure that they have not previously participated in the study, each participant was shown with one of the six portraits in Table 13. Subsequently, the participants responded to a statement: *“I think that the person appearing on the image is similar to me in terms of nationality”* (1-strongly disagree to 7-strongly agree). Please refer to Appendix A for the

questionnaire used for pre-test.

Table 13 Human images used for pre-test of demographic similarity

Nationality	Female	Male
East-Asian		
Southeast-Asian		
Westerner		

The mean scores obtained from the pre-test represent the level of perceived similarity between the browsers and the human images in terms of nationality (refer to Table 14). Consequently, the ethnicity on the human image having the

highest score (i.e., East-Asian) was selected to epitomize high similarity condition, and the human image with lowest perceived similarity score (i.e., Europeans) were used to manipulate low similarity condition.

Table 14 Results of pre-test – mean values for perceived demographic similarity

Nationality	Perceived similarity
East-Asian (Female)	6
East-Asian (Male)	5.3
Southeast-Asian (Female)	2.4
Southeast-Asian (Male)	3.9
European (Female)	1.2
European (Male)	1.2

Based on the results of the pre-test, the manipulation for demographic similarity is illustrated in Table 15. Human image of high demographic similarity with the browser showed a young adult aged 18 to 25, with East-Asian ethnicity. Conversely, human image of low demographic similarity with the browser shows an elderly aged 50 or above, having a European appearance. Besides the two experimental conditions, a control group was added to verify the presumption that human-present hotel websites are superior to no-human ones.

Table 15 Manipulation of demographic similarity

Groups	Cases	Dimensions	
		Ethnicity	Age
<i>Experimental</i>	Low similarity	European	50 or above
	High similarity	East-Asian	18-25
<i>Control</i>	No human image	n/a	n/a

To develop the experimental stimuli, open-access images provided by the

www.wix.com and Google.com were downloaded for use. Photo-editing software, i.e., Adobe Photoshop, was used to edit the photos, which mainly involves putting the similar- or dissimilar-human into the hotel image. Appendix I shows the three websites used for study 1.

5.1.2 Measurement scales

In this study, validated measurement items in existing literature were used for most of the constructs. As some of the original measurement items adopted from previous studies presented double-barreled questions (e.g., the scale of consumers' need for uniqueness by Ruvio et al. (2008)). Thus, necessarily adjustments were made to the specific items to resolve the issues. In addition, some measures were modified and adapted to fit the hotel booking context. Refer to Appendices C and D for the Chinese and English questionnaires used for study 1.

- ***Measures for covariates***

Consumer need for status (CNFS) was measured by adopting the measurement items of Eastman et al. (1999), and Eastman and Eastman (2011). Five-point Likert scale anchored with strongly disagree (1) to strongly agree (5) was used. The items adopted include:

1. I am interested in a product with status.
2. I would buy a product because it has status.
3. I would pay more for a product if it had status.
4. The status of a product is irrelevant to me (reverse-coded).

5. A product is more value to me if it has some snob appeal.

Consumer need for uniqueness (CNFU) was measured using the adapted measurement items developed by Ruvio et al. (2008). As mentioned, CNFU consists of three dimensions, including creative choice, unpopular choice, and avoidance of similarity. The participants were asked to what extent they agree with the following twelve statements in their consumption behaviors (1 being strongly disagree and 5 being strongly agree):

Creative choice:

1. I often combine possessions in such a way that I create a personal image that cannot be duplicated.
2. I like original products.
3. I actively seek to develop my personal uniqueness by buying special products.
4. Having an eye for products that are unusual assists me in establishing a distinctive image.

Unpopular choice:

5. When it comes to the products I buy, I have broken customs.
6. I have often violated the understood rules of my social group regarding what to buy.
7. I have often gone against the understood rules of my social group regarding how certain products are properly used.
8. I enjoy challenging the prevailing taste of people I know by buying something they would not seem to accept.

Avoidance of similarity:

9. When a product I own becomes popular among the general public, I begin to use it less.
10. I often try to avoid products that I know are bought by the general public.
11. As a rule, I dislike products that are customarily bought by everyone.
12. The more commonplace a product is among the general public, the less interested I am in buying it.

- ***Measures for dependent variables***

Consumers' affective states toward the website and their cognitions toward the hotel are the two dependent variables in study 1. ***Affective states toward the hotel website*** was measured by the measurement items adapted from Zhao et al.'s (2014) study. Specifically, participants were asked to what extent they agree with the following statements (1 being strongly disagree and 7 being strongly agree):

1. I like the hotel website.
2. I have a favorable response to the hotel website.
3. I feel positive toward the hotel website.
4. The hotel website is good.

Cognitions toward the hotel, on the other hand, was operationalized as consumers' expected quality of the hotel after browsing the hotel website. The following items adopted from Baek and Ok's (2017) study were used (1 being strongly disagree and 7 being strongly agree):

1. This hotel appears to be of good quality.
2. This hotel appears to be durable.

3. This hotel appears to be reliable.

- ***Measures for manipulation check***

Manipulation check is an important element in experimental design, to ensure that the treatment is effective. “*Failure in manipulation is somewhat like an invalid scale to measure a construct*” (Fong et al., 2016, p. 251). If the subjects are not aware of the particular treatment imposed on them, then we can conclude that their responses had nothing to do with the particular treatment, and they are just due to chance. Thus, it is of paramount importance to check the effectiveness of the manipulation.

To confirm the successful manipulation of the independent variable in study 1, i.e., demographic similarity, measures were adapted from previous studies of Hanks et al. (2017), Karaosmanoğlu et al. (2011), and Line et al. (2018). Slight adjustments were made to the items to fit the purpose of the current study. Specifically, participants were asked to respond to what extent they agree to each of the following statements: “*The person appearing on the images of the Pegasus Hotel homepage is similar to me in terms of: (1) age, and (2) nationality*” (1 – strongly disagree and 7 – strongly agree).

- ***Measures for control variables***

Since the hotel website was developed by the researcher, ***perceived authenticity*** of the hotel website was measured using three items adapted from Sparks and Browning (2011) to control the possible confounding effect.

Specifically, participants were asked to what extent they agree to the follow statements (1 being strongly disagree and 7 being strongly agree):

1. I think the hotel website was realistic.
2. I felt I could imagine myself using this hotel website.
3. For the purpose of this study, I was able to imagine using this website to evaluate this hotel.

Although the participants are rather homogeneous in their demographic background as they are young Chinese adults, potential differences exist in their *socio-economic status (SES)*, which may influence their consumption behaviors (Kamakura & Mazzon, 2013; Rindfleisch, Burroughs, & Denton, 1997; Yoon & Kim, 2017). Therefore, participants' SES will be measured so that its confounding effect can be controlled. Perceived SES will be measured using established scales (Griskevicius, Delton, Robertson, & Tybur, 2011; Mittal & Griskevicius, 2014). Participants will be asked to indicate to what extent they agree to the following statements (1 being strongly disagree and 7 being strongly agree):

1. I have enough money to buy things I want.
2. I don't need to worry too much about paying my bills.
3. I feel relatively wealthy these days.

Previous research shows that consumers' demographic characteristics will influence their hotel selection and online purchase behaviors (Chan & Wong, 2006; Punj, 2011). Thus, participants' demographic characteristics, including *gender*,

age, and occupation, will be measured and controlled in the data analysis. Furthermore, consumers having different levels of travel experiences and hotel experiences tend to consult information from different sources in decision making. For example, experienced travelers may perform internal information search and rely on their existing knowledge, rather than external information, when choosing which hotel to stay (Chen & Gursoy, 2000). Thus, participants' *travel experiences* and *hotel experiences* were also included as control variables in this research.

5.2 Pilot tests

Two pilot-tests were conducted on young Chinese adults at a university in Macau. The first pilot test collected 25 responses, and 11 of them were discarded as they did not pass the attention check questions. Among the 14 valid responses, 4 were assigned to the control condition, and 5 were assigned to each treatment condition (i.e., demographically similar vs. dissimilar conditions).

The results of the first pilot test showed that the manipulation of human image was unsuccessful. The participants in the control group, who were given the no-human website, rated their perceived demographic similarity instead of selecting “not applicable” provided in the options. Moreover, the mean values of the perceived demographic similarity on age and nationality do not differ significantly between the two treatment conditions, especially for age manipulation.

A number of changes have been made to improve the instruments. First,

the picture depicting similar human image has been replaced. The face of a younger teenage girl was used. It was shown to five young adults to confirm the perceived age group that the girl belongs to. All of them mentioned that the girl is below 25 years old. Second, instead of providing the participants with the full website, only the homepage was displayed. Thus, the hyperlinks leading to the other pages of the website were disabled. Lastly, the flow of the questionnaire was revised. A question on whether the participants have seen a human image on the hotel homepage was added, before they proceed to the manipulation questions about perceived similarity. Three choices were given to the participants, including “yes”, “no”, and “I do not remember”. If “no” was selected, the participants proceeded with the dependent variables on the survey. If “yes” was chosen, the participants were further asked about their perceived similarity with the human image. If “I do not remember” was selected, then the response was considered invalid and was later on discarded in the data cleaning process.

After revising the experimental instruments, a second pilot test with 27 valid responses was conducted. A Mann-Whitney U Test was performed on the two manipulation check items, where the dependent variables were perceived age similarity and perceived nationality similarity respectively. For the item on age similarity, the effect of similar human image was significant (*Test statistic*=15.87, $p<.001$). Perceived age similarity in the high similarity condition ($M=6.9$) was larger than perceived age similarity in the low similarity condition ($M=1$). While for the item on nationality similarity, the effect of similar human image was also significant (*Test statistic*=15.81, $p<.001$). Perceived nationality similarity in the

high similarity condition ($M=6.7$) was larger than that in the low similarity condition ($M=1$). Therefore, the manipulation was considered successful and the main study was conducted.

5.3 Main study

The main study was conducted in June 2018 with the help of an online survey company, wjx.com, in mainland China. A total of 262 responses were obtained from mainland Chinese participants.

5.3.1 Data preparation

Among the 262 responses collected, 71 cases did not pass one of the attention check questions and were thus removed from the dataset. Outliers in the time taken by the participants (seconds) to complete the experiment were checked. Five cases with exceptionally long duration of 2189 seconds (36 minutes) or above, as well as five cases which took 215 seconds (3.58 minutes) or less, were also removed from the data set. Moreover, the variances among the responses to the Likert scale items were analyzed. Twelve cases with a variance value of 0 were removed. Missing data were not a concern, since there was no individual case containing over 10% of missing values (Hair, Anderson, Tatham, & Black, 2006).

The above steps yielded a data set of 169 observations for subsequent analysis. Among them, 52 (30.7%) were assigned to the control condition, 63 (37.3%) were in the high demographic similarity condition, and the remaining 54

(32%) were in the low demographic similarity condition. After the data screening and cleaning processes, transformation of data and computation of construct means were performed. The independent variable (human image) was created as a categorical variable by coding the three conditions. In specific, 0 refers to the no-human condition, 1 refers to dissimilar condition, and 2 means similar condition. The independence of observations was assumed as random assignment was adopted in the experiment (Mertler & Vannatta, 2010).

5.3.2 Participants' characteristics

Table 16 presents the characteristics of the 169 participants in study 1. There are slightly more female (52.1%) than male participants (47.9%). Most participants (94.1%) are young adults aged between 18 to 25 years old. Approximately half of the participants (50.3%) are currently students at tertiary level, and 47.9% are working adults. The travel experiences of participants in the past 12 months range from 0 times to 50 times. Around half of them (52.1%) traveled three times or less in the past 12 months, while 32.5% traveled four to ten times, and the rest 15.4% traveled more than ten times. Majority of them have experience living at a hotel in the past 12 months (95.8%).

Table 16 Participants' characteristics in study 1

Participants' characteristics	Frequency	Percentage
<u>Gender</u>		
Male	81	47.9%
Female	88	52.1%

<u>Age</u>		
18 to 25 years old	159	94.1%
26 or above	10	5.9%
<u>Occupations</u>		
Students (Bachelor's/Master's or above)	85	50.3%
Working adults	81	47.9%
Neither of the above	3	1.8%
<u>Travel experience (past 12 months)</u>		
3 times or less	88	52.1%
4-10 times	55	32.5%
More than 10 times	26	15.4%
<u>Hotel experience (past 12 months)</u>		
Yes	162	95.8%
No	7	4.2%

5.3.3 Manipulation check

Manipulation check was performed to the two treatment conditions. The independent t-test used to assess the manipulations of demographic similarity showed the violation of the assumption of homogeneity of variance based on the Levene's tests ($p < .001$). On the other hand, the sample sizes of the two treatment conditions in this case were unequal. The unequal group sizes and violated homogeneity of variance may cause the t-statistic to be biased and result in inaccurate estimation of the significance level, thereby falsely rejecting the null hypotheses. Therefore, non-parametric equivalent of the analysis, i.e., Mann-Whitney U Test was performed.

Manipulation check was performed on the two items measuring demographic similarity, "*The person appearing on the Pegasus Hotel website is*

similar to me in terms of: (1) age and (2) nationality". In the Mann-Whitney U Test where the dependent variable was perceived age similarity, the effect of similar human image was significant ($test\ statistic=90.07, p<.001$). Perceived similarity in the high similarity condition ($M=5.86$) was larger than that in the low similarity condition ($M=1.31$). While in the test where the dependent variable was perceived nationality similarity, the effect of similar human image was also significant ($test\ statistic=80.01, p<.001$). Perceived similarity in the high similarity condition ($M=5.70$) was larger than that in the low similarity condition ($M=1.43$). The results showed that the manipulation of demographic similarity was successful.

5.3.4 Reliability and validity of the multi-item measures

Cronbach's alpha was used to check the internal consistency of all variables measured in the study. Nunnally (1978) and Nunnally and Bernstein (1994) suggested a Cronbach's alpha value of .7 or above as a benchmark to determine the reliability of measurement scales. Previous research has suggested that alpha values for scales with few items (six or less) can be much smaller (0.6) and are still considered acceptable (Petrick & Backman, 2002). In the current study, all constructs were measured with less than five items, and thus the value of 0.6 was deemed acceptable. According to Table 17, all alpha values were greater than the recommended threshold of 0.6. Thus, the measures of all constructs used in study 1, including Need for Status, Need for Uniqueness, Affective States, Cognitive States, Website Authenticity, and Socio-economic Status, are considered

reliable.

Table 17 Reliability of constructs in study 1

Constructs	Cronbach's α
Need for status	.840
Need for uniqueness - creative choice	.757
Need for uniqueness – unpopular choice	.740
Need for uniqueness – avoidance of similarity	.815
Affective states	.897
Cognitive states	.870
Website authenticity	.683
Socio-economic status	.857

Table 18 Validity of constructs in study 1

Constructs	Range of within-construct correlations	# of cross-construct correlations > within-construct correlations
Need for status	.419 to .610**	0 out of 150 comparisons
Need for uniqueness – creative choice	.338 to .516**	0 out of 120 comparisons
Need for uniqueness – unpopular choice	.232 to .628**	0 out of 120 comparisons
Need for uniqueness – avoidance of similarity	.363 to .684**	1 out of 120 comparisons
Affective states	.547 to .821**	0 out of 120 comparisons
Cognitive states	.645 to .730**	0 out of 90 comparisons
Website authenticity	.316 to .561**	14 out of 90 comparisons
Socio-economic status	.644 to .705**	0 out of 90 comparisons

Note. **significant at .05 level (2-tailed).

On the other hand, the validity of the constructs used in the study was assessed by correlation analyses. Convergent validity exists if the within-construct correlations are statistically significant, while discriminant validity is evident if a

small number of cross-construct correlations exceed within-construct correlations (Campbell & Fiske, 1959; Kirsch, Smabamurthy, Ko, & Purvis, 2002; Straub, 1989). The results of the analyses are shown in Table 18. All within-construct correlations were statistically significant, and only a small number of cross-construct correlations exceeded the within-construct correlations. Thus, the measurement for all constructs showed acceptable convergent and discriminant validity.

5.3.5 Descriptive statistics

Based on the descriptive statistics shown in Figure 10, participants like the hotel homepage without human image the most, followed by the one with similar human image. However, participants perceive the hotel shown on the homepage having similar human image better than the other two hotels in terms of quality, durability, and reliability.

A one-sample t-test was performed on the control variable website authenticity, to see whether participants find the hotel homepage realistic. Since the mean value is significantly larger than the mid-point 4 ($M_d = 1.385$, $p < .001$), the participants generally find the hotel homepage realistic.

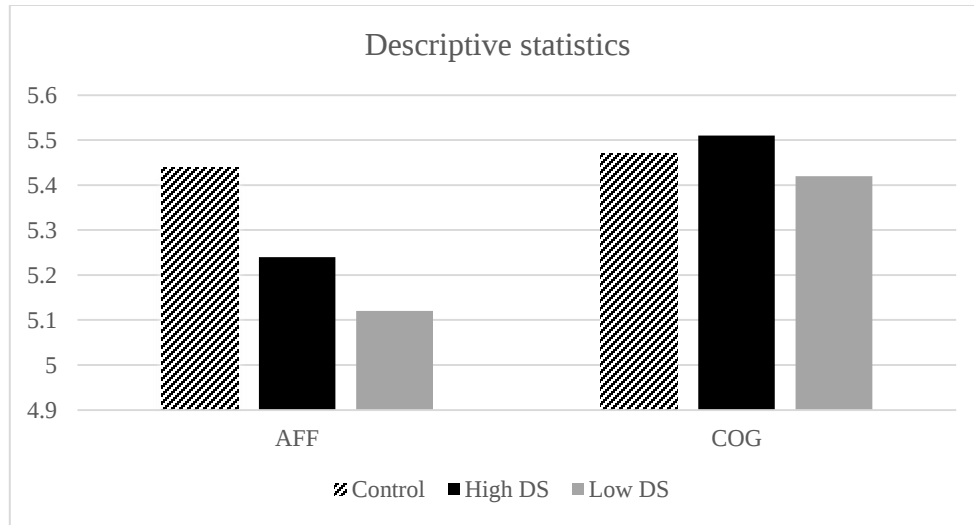


Figure 10 Descriptive statistics for study 1

Note: AFF=affective states; COG=cognition; DS=demographic similarity

5.3.6 Testing of hypotheses

Effects of independent and moderating variables on affective states:

SPSS PROCESS macro was used to test the hypotheses. There are two dependent variables in study 1, i.e., affective states toward the hotel website and cognitions toward the hotel. Since PROCESS only allows the analysis of one dependent variable at one time, the researcher ran two separate models with two moderators using 10,000 bootstrapped samples (Hayes, 2013; Model 2). The first one considered affective states toward the website as the dependent variable, while the second one took cognition toward the hotel as the dependent variable.

Table 19 reports the regression coefficients, standard errors, and corresponding p-value generated from the analyses. They show the effect of human image (X_1) and the manipulation of demographic similarity (X_2) on affective states and cognitions, after controlling the confounding variables

including gender, age, occupation, travel experience, hotel experience, perceived website authenticity, and socio-economic status of the participants.

Table 19 Results of PROCESS analyses - study 1

	Dependent variables					
	<i>AFF</i>			<i>COG</i>		
	Coeff.	SE	p	Coeff.	SE	p
<u><i>Antecedent</i></u>						
X_1	.378	.727	.603	.348	.853	.684
X_2	-.865	.898	.337	-.840	1.06	.427
CNFS	.089	.083	.281	-.065	.097	.507
X_1 *CNFS	.344	.167	.041	.259	.196	.189
X_2 *CNFS	-.135	.189	.478	.202	.222	.363
CNFU	-.094	.110	.396	.187	.130	.151
X_1 *CNFU	-.505	.217	.021	-.346	.255	.176
X_2 *CNFU	.421	.276	.128	.081	.324	.804
Constant	3.54	.993	.001	2.42	1.17	.040
<u><i>Covariates</i></u>						
Gender	-.322	.137	.020	-.317	.161	.051
Age	-.583	.257	.025	-.064	.302	.832
Occupation	-.026	.138	.852	-.297	.162	.069
Travel Exp.	-.010	.009	.265	-.008	.011	.456
Hotel Exp.	-.099	.346	.774	-.234	.406	.565
Web authenticity	.643	.073	.000	.669	.086	.000
Socio-economic status	.063	.047	.184	.083	.055	.137
$R^2 = .449$			$R^2 = .367$			
F(15, 151) = 8.21, p < .001			F(15, 151) = 5.83, p < .001			

Note: X_1 = no-human vs. human-present; X_2 = similar vs. dissimilar human images; AFF = affective states; COG = cognition CNFS = consumer need for status; CNFU = consumer need for uniqueness

X_1 represents the comparison between the no-human group (i.e., the control group) with the human-present group (i.e., the two treatment groups). Comparing the two groups, the main effect of the independent variable is not statistically significant ($\beta = .378$, $p > .05$). This suggests that participants' affective

states do not differ between the no-human group and the human-present group. The main effects of CNFS ($\beta = .089, p > .05$) and CNFU ($\beta = -.094, p > .05$) are also not significant. Although not hypothesized, significant interaction effects were found between human image and CNFS ($\beta = .344, p < .05$), as well as between human image and CNFU ($\beta = -.505, p < .05$) on the dependent variable, i.e., affective states toward the website.

According to Aiken and West (1991), the relationships were examined by conducting the simple slope test. As shown in Figure 11, the slope at low CNFS – one standard deviation below mean value ($SD = .911, M = 3.24$) – is not significant ($\beta = 1.18, p = .076$), while the slope at high CNFS – one standard deviation above mean – is significant ($\beta = 1.81, p = .019$). Thus the positive relationship between human image and affective states is significant only at high level of CNFS, but not at low CNFS.

Figure 12 shows the interaction effects between human image and CNFU on affective states toward the website. The slope at low CNFU ($SD = .655, M = 3.13$) is not significant ($\beta = -.872, p = .101$), while the slope at high CNFS is significant ($\beta = -1.533, p = .014$). Thus, the negative relationship between human image and affective states is significant only at high level of NFU, but not at low NFU.

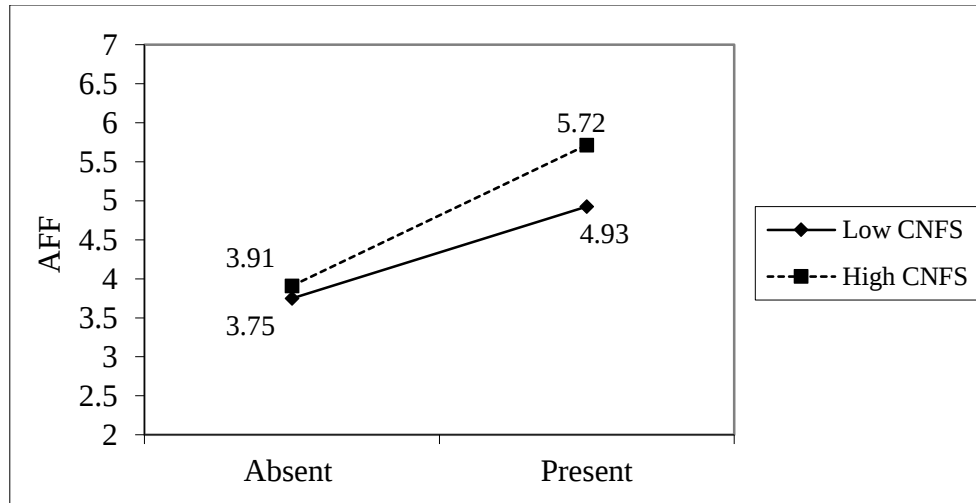


Figure 11 Interaction effects between human image and NFS on affective states toward the website

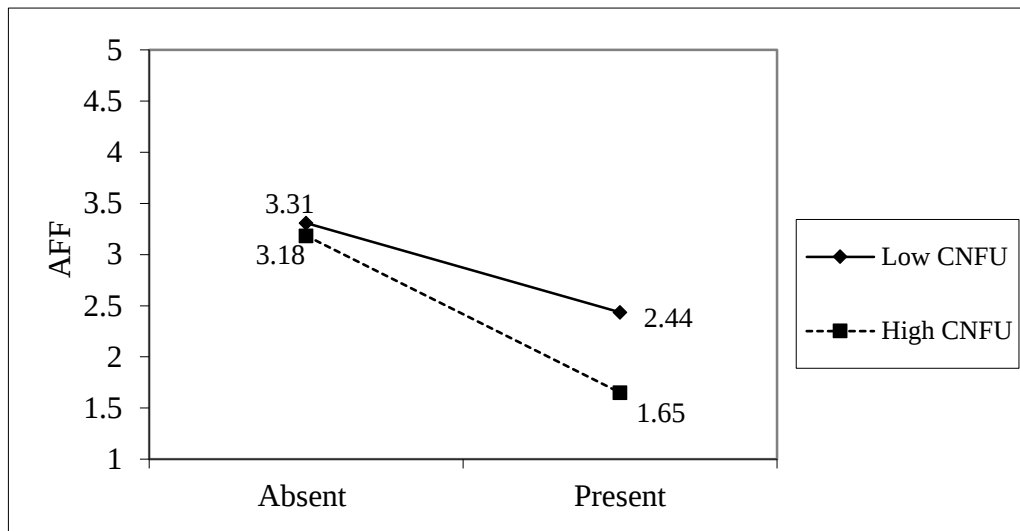


Figure 12 Interaction effects between human image and NFU on affective states toward website

Referring to Table 19, between the two treatment conditions, i.e., low versus high demographic similarity, the main effects of the independent variable (X_2) is not statistically significant ($\beta = -.865$, $p > .05$), suggesting that participants' affective states do not differ between the two treatment groups. Thus, H1a, which

proposes that demographic similarity is positively related to browsers' affective states toward the website, is not supported. The moderation effects of CNFS ($\beta = -.135, p > .05$) and CNFU ($\beta = .421, p > .05$) on the effect of demographically similar human image on affective states are not significant. Thus, H8a and H9a are not supported.

Effects of independent and moderating variables on cognitions:

Comparing the no-human group with the human-present group, the main effect of the independent variable (X_1) is not statistically significant ($\beta = .348, p > .05$). This suggests that participants' cognition toward the hotel do not differ between the no-human group and the human-present group. The main effects of CNFS ($\beta = -.065, p > .05$) and CNFU ($\beta = .187, p > .05$) are not significant. The analysis also shows that the moderation effects of CNFS ($\beta = .259, p > .05$) and CNFU ($\beta = -.336, p > .05$) on the relationship between human image and cognition are not significant.

Between the two treatment groups, the main effect of the independent variable (X_2) is not statistically significant ($\beta = -.840, p > .05$). This suggests that participants' cognition toward the hotel do not differ between the two levels of similarity. Therefore, H1b, which proposes that demographic similarity will positively affect browsers' cognition toward the hotel, is not supported. Furthermore, the moderation effects of NFS ($\beta = .202, p > .05$) and NFU ($\beta = .081, p > .05$) on the relationship between similar human image and cognition are not significant. Thus, H8b and H9b are both not supported.

5.4 Discussion of study 1

Study 1 seeks to investigate the effect of demographic similarity on consumers' affective response to the website and their cognitive response to the hotel. An online experiment was conducted to examine if the presence of human image in general, and a demographically similar human image in specific, will generate more favorable feelings toward the website and more positive evaluations on the hotel. The experiment also seeks to test whether consumers' social needs (i.e., need for status and need for uniqueness) moderate the effect of demographic similarity on consumer responses.

The results show that the presence of human image, regardless of its similarity with the participants, neither generate more positive feelings toward the hotel website, nor induce more positive evaluation toward the hotel depicted. Furthermore, the current study shows that demographic similarity does not affect browsers' affection to the website and cognition toward the hotel. However, it is observed that the presence of human image will affect browsers' feelings toward the hotel website when they are status seekers and uniqueness seekers. Specifically, status seekers like the human-present hotel website more than the no-human one, while uniqueness seekers show the opposite tendency, that is, they like the no-human hotel website more than the human-present website.

CHAPTER 6: STUDY 2

This chapter reports the experimental design and results of study 2. Similar to the preceding chapter, the method used for study 2 is first presented, under which the development of the experimental manipulation and the measurement scales used are provided. Next, the pilot test procedures and results are described. The main study is then presented, outlining the data preparation procedures, participants' characteristics, results of the manipulation check, the assessment of the reliability and validity of the multi-item measures, the descriptive statistics, and the results of hypothesis testing. A discussion of the results is provided at the end, which also summarizes this chapter.

6.1 Method

Study 2 seeks to test the effects of behaviorally similar human image on customers' affective states toward the website and their cognition toward the hotel. Same as study 1, study 2 involves two treatment groups (similar vs. dissimilar) and one control group (no-human).

6.1.1 *Experimental manipulation*

For study 2, another independent variable – behavioral similarity (low and high) is being manipulated on the human images. As mentioned earlier, behavioral similarity refers to the degree of intersection in two persons' travel activities (Smith et al., 2014). As such, the manipulation of behavioral similarity will be

manifested through the type of activities that the “human” is performing in the image.

A pre-test was conducted to understand the tourist activities that Chinese young adults preferred when they travel. A list of 35 items adapted from Pizam et al.’s (2004) study on tourist behavior of young adults serves as the basis for this pre-test (refer to Table 20).

Table 20 List of tourist activities for young adults

No.	Tourist activities	No.	Tourist activities
1	Shopping	19	Visiting family
2	Going to bars	20	Visiting friends
3	Eating local foods	21	Visiting natural attractions
4	Hiking	22	Visiting historical sites
5	Going to concerts	23	Visiting a museum
6	Camping	24	Watching sporting events
7	Open water swimming	25	Going to the theater
8	Going on a cruise	26	Attending an arts fair
9	Mount biking	27	Visiting religious sites
10	Wilderness hiking	28	Attending a cultural festival
11	Mountaineering	29	Visiting a farmers’ market
12	Sailing	30	Road biking
13	Deep-sea fishing	31	Visiting government centers
14	Jungle safari	32	Going to ballet
15	River rafting	33	Lake fishing
16	Hunting	34	Religious pilgrimage
17	Sunbathing at the beach	35	Going to the opera
18	Swimming in a pool		

A total of 45 Chinese students in Macau and Hong Kong were recruited. The participants were given the list of tourist activities, and asked to rate their

perceived importance of engaging in each of these activities for a satisfying trip (1-not important at all to 7-very important) (Pizam et al., 2004; Swanson & Horridge, 2004). Refer to Appendix B for the survey of the pre-test.

Based on the results of the pre-test, the two tourist activities with the highest ratings, i.e., eating local foods ($M=6.59$) and visiting natural attractions ($M=6.11$) were selected to represent high level of behavioral similarity, whereas the two activities with the lowest ratings, i.e., mount biking ($M=2.98$) and hunting ($M=2.70$), were used to represent low level of behavioral similarity. Except for the human images, the texts for the respective tourist activity (e.g., experience local food, experience mount biking) were also added on the images with hover design to ensure that participants understand the meaning communicated. Table 21 shows the manipulations for study 2.

Table 21 Manipulation of behavioral similarity

Groups	Cases	Manipulations	
		Human image 1	Human image 2
<i>Experimental</i>	Low similarity	Mount biking	Hunting
	High similarity	Eating local food	Visiting natural attractions
<i>Control</i>	No human image	n/a	n/a

6.1.2 Measurement scales

All the constructs and their corresponding measurement scales used in study 2 were the same as in study 1, except for the manipulation check items. The manipulation of behavioral similarity for study 2 were confirmed with the

following statements, *“I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do”* (1 – strongly disagree and 7 – strongly agree).

6.2 Pilot tests

Three pilot-tests were conducted on young Chinese adults with the help of wjx.com in China. The first pilot test contains 23 valid responses. The manipulation of similar human image was not successful, as 12 out of 18 participants in the two treatment groups failed to notice the human in the images (i.e., they answered “no” to the question *“Do you recall seeing any human being in the images on the hotel website?”*). The design of the website was thus revised. In particular, the slider design originally used for the presentation of pictures was removed to ensure that the participants saw all three pictures on the homepage.

In the second pilot test which contains 21 responses, participants noticed the human in the images. However, the manipulation was still considered unsuccessful, given that the mean values for both high and low similarity conditions were above the mid-point of 4 out of the 7-point Likert scale. This suggests that participants in both conditions tend to perceive the human images to be similar rather than dissimilar. Since the results of the two pilot tests were not satisfactory, further adjustments to the simulated websites were necessary.

Before conducting the third pilot test, a number of changes have been made to the instruments. First, instead of two pictures in one condition, only one

picture was used to manipulate behavioral similarity to control any possible confounding effects. Second, the flow of the questionnaire was also revised. The participants were first asked to select from a list of four activities the one that they like (or dislike) to do the most when traveling. Then, the website showing the corresponding human image was displayed according to their choices. Third, the human image for “experience local food” in the high similarity condition was replaced to better reflect the meaning of the image.

In the third pilot test, Mann-Whitney U Test was performed on the manipulation check item “*I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do*”. In the Mann-Whitney U Test where the dependent variable was perceived behavioral similarity, the effect of similar human image was significant ($Test\ statistic=5, p<.05$). Perceived behavioral similarity in the high similarity condition ($M=6.40$) was larger than perceived behavioral similarity in the low similarity condition ($M=1$). Therefore, the manipulation was considered successful. Refer to Appendix J for the simulated websites, and Appendices E and F for the Chinese and English questionnaires used for study 2.

6.3 Main study

The main study was conducted in July 2018 with the help of wx.com in mainland China. A total of 464 responses were obtained from mainland Chinese participants.

6.3.1 Data preparation

Among the 464 responses collected, 259 cases did not pass one of the attention check questions, and were thus removed from the dataset. Outliers in the time used by each participants to complete the experiment (seconds) were checked. One case with exceptionally long duration of 3652 seconds, which is equivalent to over an hour, as well as five cases which took 195 seconds (3.25 minutes) or less, were removed from the data set. Moreover, the variance among the responses to the Likert scale items was analyzed. 11 cases with a variance value of 0 in the second part of the survey were also removed. Missing data were not a concern, since there was no individual case containing 10% or more missing values (Hair et al., 2006). The above steps yielded a data set of 189 observations for subsequent analysis. Among them, 54 (28.6%) were assigned to the control condition, 77 (40.7%) were in the high similarity condition, and 58 (30.7%) were in the low similarity condition.

After the data screening and cleaning processes, transformation of data and computation of construct means were performed. Similar to study 1, the independent variable (human image) was created as a categorical variable by coding the three conditions. In specific, 0 refers to no-human condition, 1 refers to dissimilar condition, and 2 means similar condition.

6.3.2 Participants' characteristics

Table 22 presents the characteristics of the 189 participants in study 2. There are more female (58.2%) than male participants (41.8%). More than half of

the participants (56.1%) are young adults aged between 18 to 25 years old. Majority of the participants are currently students (80.4%), while the rest (19.6%) are working adults. The travel experiences of participants in the past 12 months range from 0 times to 12 times. Around half of them (48.7%) traveled two times or less in the past 12 months, while 35.4% traveled three to five times, and the rest 15.9% traveled more than five times. Majority of them have experience living at a hotel in the past 12 months (91.5%).

Table 22 Participants' characteristics in study 2

Participants' characteristics	Frequency	Percentage
<u>Gender</u>		
Male	79	41.8%
Female	110	58.2%
<u>Age</u>		
Less than 18	3	1.6%
18 to 25 years old	106	56.1%
26 to 32 years old	72	38.1%
33 or above	8	4.2%
<u>Occupations</u>		
Students (Bachelor's/Master's or above)	152	80.4%
Working adults	37	19.6%
<u>Travel experience (past 12 months)</u>		
2 times or less	92	48.7%
3-5times	67	35.4%
More than 5 times	30	15.9%
<u>Hotel experience (past 12 months)</u>		
Yes	173	91.5 %
No	16	8.5%

6.3.3 Manipulation check

Manipulation check was performed to the two treatment conditions. Similar to study 1, the assumption of homogeneity of variance is violated since the Levene's tests in the independent t-test were not passed ($p < .001$). On the other hand, the two treatment conditions contain different sample sizes, thus non-parametric equivalent of the analysis, i.e., Mann-Whitney U Test was thus performed.

Manipulation check was performed on the item measuring behavioral similarity, "*I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do.*" In the Mann-Whitney U Test, the effect of similar human image on perceived behavioral similarity was significant (*test statistic*=58.75, $p < .001$). Perceived similarity in high similarity group ($M=5.88$) was significantly greater than perceived similarity in low similarity group ($M=2.86$). Thus, the manipulation of behavioral similarity was successful.

6.3.4 Reliability and validity of the multi-item measures

According to Table 23, all alpha values representing reliability were greater than the suggested threshold of 0.6 (Petrick & Backman, 2002), thus the measures of all constructs used in study 2, including Need for Status, Need for Uniqueness, Affective States, Cognitive States, Website Authenticity, and Socio-economic Status, are considered reliable.

Table 23 Reliability of constructs in study 2

Constructs	Cronbach's α
Need for status	.847
Need for uniqueness – creative choice	.762
Need for uniqueness – unpopular choice	.644
Need for uniqueness – avoidance of similarity	.874
Affective states	.895
Cognitive states	.874
Website realism	.610
Socio-economic status	.841

The results of the analysis of construct validity are shown in Table 24. All the within-construct correlations were statistically significant, and only a small number of cross-construct correlations exceeded the within-construct correlations. Thus, the measurement for all constructs show acceptable convergent and discriminant validity.

Table 24 Validity of constructs in study 2

Constructs	Range of within-construct correlations	# of cross-construct correlations > within-construct correlations
Need for status	.461 to .694**	0 out of 150 comparisons
Need for uniqueness – creative choice	.380 to .479**	1 out of 120 comparisons
Need for uniqueness – unpopular choice	.197 to .673**	10 out of 120 comparisons
Need for uniqueness – avoidance of similarity	.493 to .740**	0 out of 120 comparisons
Affective state	.611 to .767**	1 out of 120 comparisons
Cognitive state	.633 to .674**	1 out of 90 comparisons
Website authenticity	.262 to .506**	18 out of 90 comparisons
Socio-economic status	.579 to .668**	0 out of 90 comparisons

Note. **significant at .05 level (2-tailed).

6.3.5 Descriptive statistics

Based on the descriptive statistics shown in Figure 13, participants like the website without human image the most, followed by the one with similar human image. However, participants perceive the hotel shown on the website having similar human image better than the other two hotels in terms of quality, durability, and reliability. This is consistent with the findings in study 1.

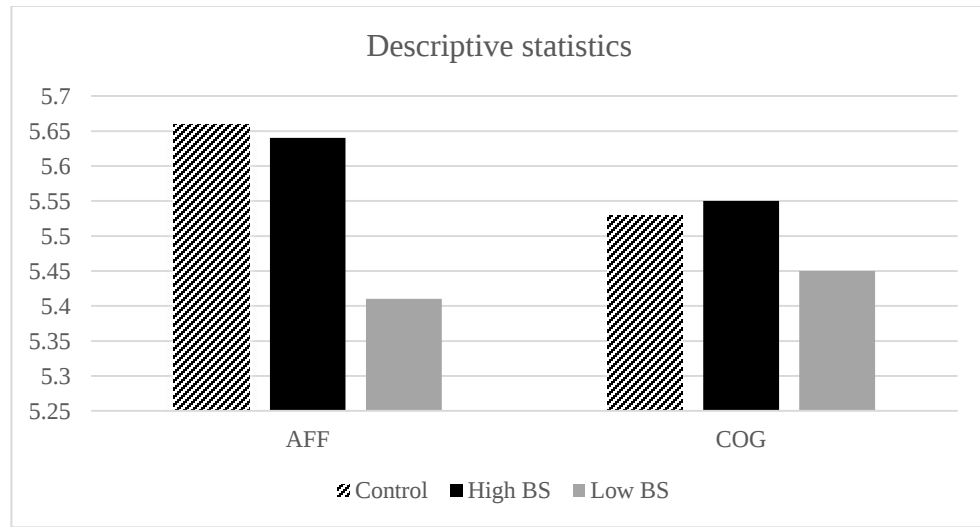


Figure 13 Descriptive statistics for study 2

Note: AFF= affective states; COG= cognition; BS= behavioral similarity

A one-sample t-test was performed on the control variable website authenticity, to see whether participants find the hotel homepage realistic in general. Since the mean value is significantly larger than the mid-point of 4 ($M_d = 1.547$, $p < .001$), the participants find the homepage realistic.

6.3.6 Testing of hypotheses

Effects of independent and moderating variables on affective states:

Same as study 1, two separate models with 10,000 bootstrapped samples was run using SPSS PROCESS macro (Hayes, 2013, Model 2). Table 25 reports the regression coefficients, standard errors, and corresponding p-value generated from the analyses. They show the effects of human image (X_1) and the manipulation of behavioral similarity (X_2) on affective states and cognition, after controlling the confounding variables, namely gender, age, occupation, travel experience, hotel experience, perceived website authenticity, and socio-economic status of the participants.

X_1 represents the comparison between the no-human group (i.e., the control group) with the human-present group (i.e., the two treatment groups). Comparing these two groups, the main effect of the independent variable is not statistically significant ($\beta=.775, p>.05$). This suggests that participants' affective states do not differ between the no-human group and the human-present group. The main effects of CNFS ($\beta=.030, p>.05$) and CNFU ($\beta=.151, p>.05$) are also not significant. Furthermore, the moderation effects of CNFS ($\beta=.012, p>.05$) and CNFU ($\beta=-.287, p>.05$) on the relationship between human image and affective states are not significant. This finding is not consistent with the results in study 1, which shows significant moderation effects of CNFS and CNFU on the relationship between human image and affective states.

Table 25 Results of PROCESS analysis – study 2

	Dependent variables					
	AFF			COG		
	Coeff.	SE	p	Coeff.	SE	p
<u>Antecedent</u>						
X ₁	.775	.828	.351	.252	.840	.765
X ₂	-1.21	.851	.158	-1.60	.864	.065
CNFS	.030	.085	.730	-.035	.087	.690
X ₁ *CNFS	.012	.180	.946	-.417	.183	.024
X ₂ *CNFS	.059	.182	.749	-.251	.185	.176
CNFU	.151	.115	.191	.013	.117	.910
X ₁ *CNFU	-.287	.245	.243	.348	.249	.164
X ₂ *CNFU	.367	.260	.159	.815	.263	.002
Constant	1.25	.711	.081	2.66	.722	.000
<u>Covariates</u>						
Gender	-.042	.139	.762	-.079	.141	.578
Age	-.091	.131	.486	-.138	.133	.302
Education	.098	.194	.614	-.030	.197	.879
Travel Exp.	.016	.040	.685	-.031	.040	.443
Hotel Exp.	-.128	.266	.631	-.151	.270	.578
Web authenticity	.739	.078	.000	.628	.079	.000
Socio-economic status	.009	.051	.861	.087	.052	.096
$R^2 = .404$			$R^2 = .352$			
$F(15, 168) = 7.58, p < .001$			$F(15, 168) = 6.09, p < .001$			

Note: X₁=no-human vs. human-present; X₂ = similar vs. dissimilar human images; AFF= affective states; COG=cognition; CNFS=need for status; CNFU=need for uniqueness

Between the two treatment conditions, i.e., low versus high behavioral similarity, the main effects of the independent variable (X₂) is not statistically significant ($\beta=-1.21, p>.05$). This suggests that participants' affective states do not differ between the two treatment groups. Thus, H2a, which proposes that behaviorally similar human image is positively related to browsers' affective states

toward the website, is not supported. The moderation effects of CNFS ($\beta=.059$, $p>.05$) and CNFU ($\beta=.367$, $p>.05$) on the relationship between behavioral similarity and affective states are not significant. H8c and H9c are therefore not supported.

Effects of independent and moderating variables on cognitions:

Comparing the no-human condition with the human-present conditions, the main effect of the independent variable (X_1) is not statistically significant ($\beta=.252$, $p>.05$). This suggests that participants' cognition toward the hotel do not differ between the no-human group and the human-present group. The main effects of CNFS ($\beta=-.035$, $p>.05$) and CNFU ($\beta=.013$, $p>.05$) are also not significant. On the other hand, significant interaction effects were found between human image and CNFS ($\beta=-.417$, $p<.05$), but not between human image and CNFU ($\beta=.348$, $p>.05$) on the dependent variable, cognition toward the hotel.

According to Aiken and West (1991), the interactive effects between human image and CNFS were examined by testing the simple slopes. However, the slopes at both low ($\beta=-1.74$, $p=.337$) and high CNFS ($\beta=-1.74$, $p=.088$), which is one standard deviation below and above mean value ($SD=.893$, $M=3.27$) are not significant. The significant interaction effect is only due to the difference in the two slopes. Thus, the relationship between human image and consumers' cognition toward the hotel is *not* significant regardless of the level of CNFS.

Between the two treatment groups, the main effects of the independent variable (X_2) is marginally significant ($\beta=-2.56$, $p<.1$). This suggests that

participants' cognitions toward the hotel differ between the two treatment groups. As participants are shown with a website of behaviorally similar human image, their cognitions toward the hotel decrease. Since a negative relationship is found, H2b, which proposes a positive relationship between behavioral similarity and cognition toward hotel, is not supported. The moderation effect of CNFS on the effect of similar human image on cognition is not significant ($\beta = -.251, p > .05$). However, the moderation effect of NFU on the effect of similar human image on cognition is significant ($\beta = .815, p < .01$).

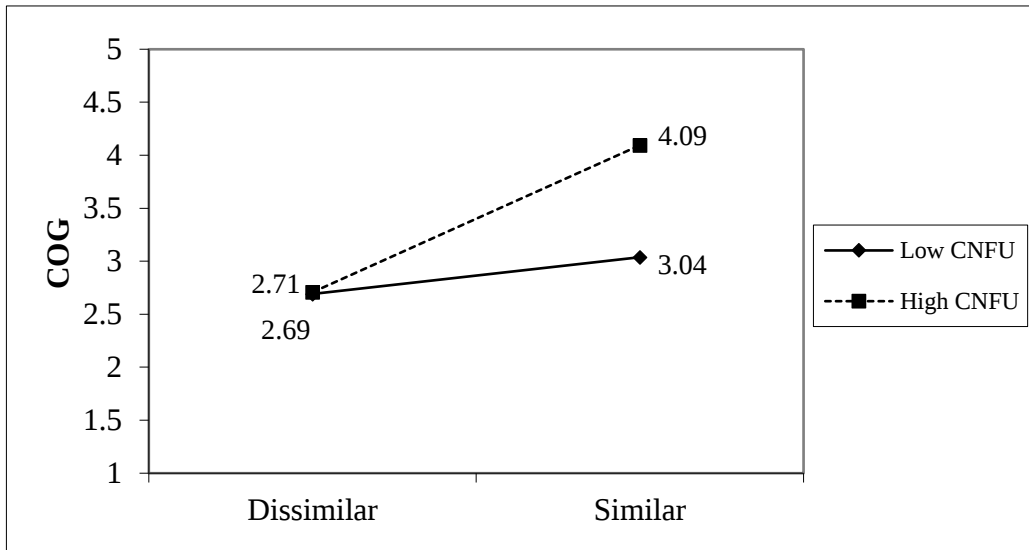


Figure 14 Interaction effects between behaviorally similar human image and NFU on cognitions toward hotel

As depicted in Figure 14, the slope at low CNFU ($SD = .638, M = 3.03$) is not significant ($\beta = .347, p = .562$) while the slope at high CNFU is significant ($\beta = 1.386, p = .045$). Thus, the relationship between behavioral similarity and cognition is significant only at high level of CNFU, but not at low CNFU. Since the identified relationship under high CNFU is positive rather than negative as

what H9d proposes, both H8d and H9d are not supported.

6.4 Discussion of results

Study 2 seeks to investigate the effect of behavioral similarity on consumers' affective response to the website and their cognitive response to the hotel. An online experiment was conducted to examine if the presence of human image in general, and a behaviorally similar human image in specific, will generate more favorable feelings toward the website and more positive evaluations on the hotel. Moreover, the experiment seeks to test whether customers' social needs (i.e., need for status and need for uniqueness) moderate these effects.

The results reinforce the findings of study 1, in that the presence of human image, regardless of its similarity with the participants, do not generate more positive feelings toward the hotel website and do not induce more positive evaluations on the hotel shown. While study 1 shows that demographic similarity does not affect browsers' feelings toward the website and thoughts about the hotel, study 2 shows that behavioral similarity negatively influences browsers' thoughts about the hotel. Being exposed to a hotel website with a person performing similar travel activities will generate less positive thoughts about the hotel in the browsers.

Study 1 shows that consumers' social needs moderate the effect of human image on consumers' feelings toward the hotel website. Study 2, which focuses on a different type of similarity, does not replicate these findings. However, it is evident that customers' need for uniqueness moderates the negative effect of

behavioral similarity. In particular, uniqueness seekers tend to perceive a hotel shown on a website with similar human image to be of better quality than one shown on a website with dissimilar human image.

CHAPTER 7: STUDY 3

This chapter reports the experimental design and results of the third study. The method used is first presented, under which the development of the experimental manipulation and the measurement scales used are provided. Next, the pilot test procedures and results are described. The main study is then presented, outlining the data preparation procedures, participants' characteristics, results of the manipulation check, the assessment of the reliability and validity of the multi-item measures, the descriptive statistics, and the results of hypothesis testing. A discussion of the results is provided at the end, to summarize this chapter.

7.1 Method

Study 3 aims to further investigate the effects of demographic similarity and behavioral similarity. In particular, it does not only seek to replicate the findings in the previous two studies, but also examine the interaction effects between the two levels of similarity. Another objective of study 3 is to explore the mechanism driving the effect of similarity. Therefore, study 3 involves a 2 (demographic similarity: low or high) x 2 (behavioral similarity: low or high) between-subject factorial design.

Some adjustments were made to the design of study 3. First, no moderating variables were included in order to keep the simple two by two design and analysis, since the moderation effects of consumers' need for status and need

for uniqueness have already been tested in the previous two studies. Consumers' need for status was removed in the questionnaire since study 1 and 2 showed that it does not affect the relationship between similarity and consumers' responses. However, consumers' need for uniqueness was measured and included as a control variable in study 3, since study 2 showed that consumers' need for uniqueness moderates the effect of behavioral similarity on consumers' cognition toward the hotel.

Second, three additional variables, namely consumers' need for cognition (CNFC), attractiveness of the human image, and preference of tourist activity, are measured and controlled in study 3. CNFC refers to "*an individual's tendency to engage in and enjoy effortful cognitive endeavors*" (Cacioppo, Petty, & Kao, 1984, p. 306). Individuals that are low in CNFC tend to avoid activities that demand effortful thinking, while those high in CNFC are motivated to think deeply (Martin, Sherrard, & Wentzel, 2005). Previous research shows that individual differences in CNFC affect the effectiveness of pictures (Jaeger & MacFie, 2001) and the persuasiveness of advertising messages (Steward, Schneider, Pizarro, & Salovey, 2003; Zhang, 1996). Martin et al. (2005) showed that people with high CNFC evaluated websites with high verbal and low visual complexity more favorably than people with low NFC. Thus, this variable was included to control for its confounding effect.

Study 3 also seeks to analyze the mechanism underpinning the effect of similarity, which is the model developed based on the S-O-R framework, the behavioral response variables, i.e., website stickiness and booking intention were

included in the instrument.

7.1.1 Experimental manipulation

As shown in Table 26, there are four conditions developed to represent the two levels each independent variable. Since the manipulations of demographic similarity and behavioral similarity have been previously tested in studies 1 and 2, they were combined to form the experimental manipulations for study 3. “Hunting”, which was used to represent one of the conditions of low behavioral similarity in study 2 was replaced by “fishing” ($M=3.18$) due to the unavailability of human images in open-access sources (e.g., Google).

Table 26 Manipulation of demographic and behavioral similarity

Conditions		Behavioral similarity	
		Low	High
Demographic similarity	Low	• European • 50 or above • Fishing • Mountbiking	• European • 50 or above • Eating local food • Visiting natural attractions
	High	• Chinese • 18-22 • Fishing • Mountbiking	• Chinese • 18-22 • Eating local food • Visiting natural attractions

The two sets of websites used in the first and second study differ in the layout (refer to Appendices I and J). In particular, the websites used in study 1 contain a main picture, while those in study 2 contain three main pictures, with the

focal image located in the middle. The website layout used in study 2 is adopted in study 3, considering that behavioral similarity is also being manipulated and the design appears more realistic. The texts for the respective tourist activities were also added to the human image with hover design to ensure that participants understand the tourist activity shown on the human images. Refer to Appendix K for the simulated websites used in study 3.

7.1.2 Measurement scales

The measurement scales for most of the constructs including the manipulation check variables (i.e., perceived demographic similarity, perceived behavioral similarity), affective states, cognitive states, need for uniqueness, website authenticity, and socio-economic status were adopted from studies 1 and 2. Some additional measures for the dependent variables (website stickiness and booking intention) and control variables (need for cognition) are adapted from existing literature. Refer to Appendices G and H for the Chinese and English questionnaires used for study 3.

- ***Measures for dependent variables***

Website stickiness was measured by four items adapted from Elliot et al. (2013). Specifically, participants were asked to what extent they agree with the following statements (1 being strongly disagree and 7 being strongly agree):

1. I am willing to spend more time in browsing this hotel website.

2. I am willing to read more information on this hotel website.
3. I am willing to continue browsing this hotel website.
4. I am willing to visit this hotel website again.

Another dependent variable, ***booking intention*** of the participants was measured by the three-item scale adapted from Ajzen and Fishbein (2005). Participants were asked to what extent they agree with the following statements (1 being strongly disagree and 7 being strongly agree):

1. It is likely that I will stay at this hotel.
2. If I were to book a hotel in the near future, it is likely that I would book a room at his hotel.
3. I would never consider booking this hotel (reverse-coded).

- ***Measures for covariate variables***

As mentioned, **consumers' need for cognition (CNFC)** was added to study 3, which was measured by adopting the scales from Cacioppo et al. (1984). Specifically, participants were asked to what extent they agree with the following statements (1 being strongly disagree and 5 being strongly agree):

1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun (reverse-coded).
4. I would rather do something that requires little thought than something

that is sure to challenge my thinking abilities (reverse-coded).

5. I try to avoid situations where there is likely chance I will have to think in depth about something (reverse-coded).

6. I find satisfaction in deliberating hard.

7. I only think as hard as I have to (reverse-coded).

8. I prefer to think about daily projects to long-term ones (reverse-coded).

9. I like tasks that require little thought once I've learned them (reverse-coded).

10. The idea of relying on thought to make my way to the top appeals to me.

11. I really enjoy a task that involves coming up with new solutions to problems.

12. Learning new ways to think doesn't excite me very much (reverse-coded).

13. I prefer my life to be filled with puzzles that I must solve.

14. The notion of thinking abstractly is appealing to me.

15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort (reverse-coded).

17. It's enough for me that something gets the job done; I don't care how or why it works (reverse-coded).

18. I usually end up deliberating about issues even when they do not affect

me personally.

Perceived attractiveness of the human image is measured and controlled by adapting one item, “*I think that the person on the human image looks attractive*” (1 being strongly disagree and 7 being strongly agree) from Kamins and Gupta (1994). On the other hand, participants’ ***preferences on tourist activity*** is measured by one item, “*I like to try local food/visit natural attractions/do mount biking/do fishing when I travel.*”

7.2 Pilot test

Before the main study was conducted, a pilot test was conducted on young Chinese adults through the online survey company in mainland China, wjx.com. The pilot test contains 51 valid responses. All participants were able to notice the human in the images (i.e., they answered “yes” to the question “*Do you recall seeing any human being in the images on the hotel website?*”). On the other hand, MANOVA test was performed on the manipulation check items. The analysis revealed significant main effect of demographic similarity in age ($M_{high}=6$ vs. $M_{low}=3.3$, $p<.001$) and in nationality ($M_{high}=6.5$ vs. $M_{low}=3.1$, $p<.001$), as well as behavioral similarity ($M_{high}=5.1$ vs. $M_{low}=1.9$, $p<.001$) on their manipulation items, respectively. This suggests that the manipulations of both variables (demographic similarity and behavioral similarity) were successful.

Regarding the authenticity of the website, the mean score ($M=5.59$,

$SD=.95$) was significantly greater than of the value of 4 ($t=14.70$, $p<.001$), which suggests that participants generally found the hotel website realistic. Based on the results of the pilot test, the main study was subsequently conducted.

7.3 Main study

The main study was conducted in August and September 2018 with the help of wjx.com in mainland China. A total of 405 complete responses were collected from Chinese participants.

7.3.1 Data preparation

Among the 405 responses collected, 182 cases did not pass one of the attention check questions, and were thus removed from the dataset. Outliers in the time taken by the participants to complete the experiment (seconds) were checked. Five cases with exceptionally long duration of 3792 seconds (63.2 minutes) or above, as well as six cases which took less than 300 seconds (5 minutes) to complete, were also removed from the data set. Moreover, the variance among the responses to the Likert scale items was analyzed. Five cases with a variance value of 0 in the second part of the survey were removed. Some missing data was observed, but it was not a concern, since the amount of missing values is less than 10% of all questions (Hair et al., 2006). At the end, a data set of 207 observations was resulted. Table 27 shows the sample sizes for each of the four treatment groups.

Table 27 Samples sizes of treatment groups

		Demographic similarity (DS)		Total
		Low	High	
Behavioral similarity	Low	43	55	98
	High	61	48	109
	Total	104	103	207

Following the procedures in studies 1 and 2, transformation of data and computation of construct means were performed after the data screening and cleaning process. The independent variables, namely demographic similarity and behavioral similarity, were created as dichotomous variables. In specific, 0 refers to dissimilar condition, and 1 denotes similar condition. Using random assignment to conduct the experiment, the assumption of independence of observations was not a concern (Mertler & Vannatta, 2010).

7.3.2 Participants' characteristics

Table 28 shows the characteristics of the 207 participants in study 3. There are more female (58.9%) than male participants (41.1%). Most participants are between 18 and 25 years old (92.8%). More than half of them are working adults (59.4%), while 35.3% of them are students. Around half of the participants (49.3%) traveled three times or less in the past 12 months, while 42% traveled four times to ten times, and the rest 8.7% traveled more than ten times. Majority of them had experienced living at a hotel in the past 12 months (89.4%).

Table 28 Participants' characteristics in study 3

Participants' characteristics	Frequency	Percentage
<u>Gender</u>		
Male	85	41.1%
Female	122	58.9%
<u>Age</u>		
Less than 18	8	3.9%
18 to 25 years old	192	92.8%
26 or above	7	3.4%
<u>Occupations</u>		
Student (Bachelor's/Master's or above)	73	35.3%
Working adults	123	59.4%
Neither of the above	11	5.3%
<u>Travel experience (past 12 months)</u>		
3 times or less	102	49.3%
4-10 times	87	42.0%
More than 10 times	18	8.7%
<u>Hotel experience (past 12 months)</u>		
Yes	185	89.4%
No	22	4.2%

7.3.3 Manipulation check

MANOVA was used to perform the manipulation check on the three items, including “*The person appearing on the Pegasus Hotel website is similar to me in terms of: (1) age and (2) nationality*”, and (3) “*I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do.*” The analysis revealed significant main effect of demographic similarity in age ($M_{high}=4.64$ vs. $M_{low}=1.89$, $p<.001$) and in nationality ($M_{high}=4.94$ vs. $M_{low}=1.56$, $p<.001$), as well as behavioral similarity ($M_{high}=5.93$ vs. $M_{low}=3.09$,

$p<.001$) on their manipulation items, respectively. Perceived similarity in the high similarity condition was higher than that in the low similarity condition. This suggests that the manipulations of both demographic and behavioral similarity are successful.

Regarding the authenticity of the website, the mean score ($M=5.53$, $SD=1.02$) was significantly greater than the neutral value of 4 ($t=21.63$, $p<.001$), which suggests that participants generally found the hotel website realistic.

7.3.4 Reliability and validity of the multi-item measures

According to Table 29, all alpha values were higher than the suggested threshold of 0.6 (Petrick & Backman, 2002), thus the measures of all constructs used in study 3, including Need for Cognition, Need for Uniqueness, Affective States, Cognitive States, Website Stickiness, Booking Intention, Website Realism, and Socio-economic Status, are considered reliable.

Table 29 Reliability of constructs in study 3

Constructs	Cronbach's α
Need for cognition	.876*
Need for uniqueness – creative choice	.724
Need for uniqueness – unpopular choice	.744
Need for uniqueness – avoidance of similarity	.860
Affective state	.913
Cognitive state	.884
Website stickiness	.920
Booking intention	.815
Website authenticity	.726
Socio-economic status	.825

**Note: Items 7, 8, 10, 12, and 16 for the scale “need for cognition” has been removed due to low construct validity.*

The analysis of construct validity was performed on the constructs used. For the construct “need for cognition”, more than half of the cross-construct correlations is larger than the within-construct correlations, representing a threat to the validity of the construct. Thus, an exploratory factor analysis was run on the 18 items. Five items (i.e., items 7, 8, 10, 12, and 16) with a factor loading less than 0.4 were removed. The analyses on construct validity were performed again on the revised scales. From Table 30, all the within-construct correlations were significant, and only a small number of cross-construct correlations exceeded the within-construct correlations. Thus, the measurement for all constructs show acceptable convergent and discriminant validity.

Table 30 Assessment of construct validity by correlation

Constructs	Range of within-construct correlations	# of cross-construct correlations > within-construct correlations
Need for cognition	.169 to .642 **	138 out of 416 comparisons
Need for uniqueness – creative choice	.182 to .549**	10 out of 164 comparisons
Need for uniqueness – unpopular choice	.354 to .582**	0 out of 164 comparisons
Need for uniqueness – avoidance of similarity	.439 to .766**	0 out of 164 comparisons
Affective state	.671 to .785**	3 out of 164 comparisons
Cognitive state	.667 to .758**	0 out of 126 comparisons
Website stickiness	.624 to .833**	0 out of 126 comparisons
Booking intention	.431 to .775**	8 out of 126 comparisons
Website authenticity	.386 to .491**	30 out of 126 comparisons
Socio-economic status	.652 to .748**	0 out of 126 comparisons

Note. ** significant at .05 level (2-tailed).

7.3.5 Descriptive statistics

Based on the descriptive statistics shown in Figure 15, participants like the website with human image similar to them on both demographic characteristics and behaviors the most. They also perceive the hotel shown on that website better than the other three hotels to be better. Furthermore, participants are more willing to stay at this hotel website and have the highest intentions to book. Interestingly, the hotel website with human image similar in terms of demographic features, but dissimilar in terms of behaviors is the least preferable, as participants give the lowest score on all four response variables.

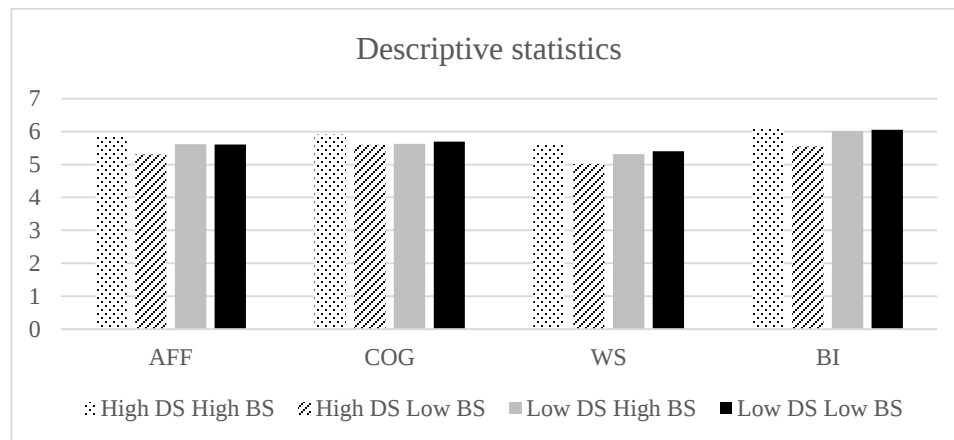


Figure 15 Descriptive statistics for study 3

Note: DS=demographic similarity; BS=behavioral similarity; AFF=affective states; COG=cognitions; WS: website stickiness; BI: booking intention

7.3.6 Testing of hypotheses

Effects of independent variables on mediating and dependent variables: The main and interaction effects of the independent variables (i.e., demographic similarity and behavioral similarity) on the four dependent variables (affective states, cognition, website stickiness, and booking intention) are first

analyzed using ANCOVA and the results are presented in Table 31.

As shown in Table 31, demographic similarity is not significantly related with affective states ($F=1.77, p>.05$), cognitive states ($F=.000, p>.05$), and website stickiness ($F=.994, p>.05$). Similar to the findings in study 1, H1a and H1b, which propose that demographic similarity is positively related to browsers' affective states and cognitions, are not supported. However, demographic similarity is significantly related to booking intention ($F=8.10, p<.01$). The relationship is negative, as the independent t-test shows that participants have higher booking intentions under low demographic similarity condition ($M_{DS(L)}=6.04, SD=.852$) than in high similarity condition ($M_{DS(H)}=5.79, SD=1.16$) condition ($M_d=.255, t=1.81, p<.1$). Thus, demographically similar human image will reduce customers' booking intentions of the hotel.

On the other hand, behavioral similarity is significantly related with affective states ($F=5.55, p<.05$), but is not related with cognitive states ($F=2.49, p>.05$), website stickiness ($F=2.28, p>.05$), and booking intention ($F=2.19, p>.05$). The relationship between behavioral similarity and affective states is also negative, as the independent t-test shows that participants' affective states were significantly higher in low demographic similarity ($M_{DS(L)}=5.74, SD=1.06$) than in high similarity ($M_{DS(H)}=5.43, SD=1.18$) condition ($M_d=.32, t=-2.02, p<.05$). Thus, human image performing similar behaviors will reduce customers' positive feelings toward the website. H2a and H2b, which posit that behavioral similarity is positively related to browsers' affective states and cognitions, are not supported.

Table 31 Results of ANCOVA analysis – study 3

	Dependent variables							
	AFF		COG		WS		BI	
	F	p	F	p	F	p	F	p
<i>Antecedent</i>								
DS	1.77	.185	.000	.995	.994	.320	8.10	.005
BS	5.55	.020	2.49	.116	2.28	.133	2.19	.141
DS*BS	4.68	.032	2.15	.144	7.50	.007	5.92	.016
Intercept	3.31	.070	.622	.431	15.31	.000	.393	.531
<i>Covariates</i>								
Gender	2.99	.085	1.41	.237	11.14	.001	.038	.845
Age	2.54	.113	.040	.842	.457	.500	.899	.344
Education	3.88	.050	.010	.922	2.46	.118	1.43	.234
Socio-economic status	3.05	.082	.489	.485	1.47	.228	2.45	.119
Travel Exp.	.014	.907	1.91	.169	.267	.606	.388	.534
Hotel Exp.	.015	.901	.517	.473	.706	.402	.328	.568
Web Realism	58.47	.000	84.52	.000	93.85	.000	67.07	.000
CNFC	11.57	.001	5.44	.056	29.63	.000	10.83	.005
CNFU	4.72	.031	4.72	.031	3.59	.060	.949	.331
Attractiveness	4.46	.036	.002	.969	.196	.659	1.05	.307
Activity preference	9.44	.002	3.24	.073	4.17	.043	4.42	.037

Note: DS=demographic similarity; BS=behavioral similarity; AFF=affective states; COG=cognition; WS=website stickiness; BI=booking intention; CNFC=need for cognition; CNFU=need for uniqueness

Interacting effects between the independent variables on mediating and dependent variables: As shown in Table 31, significant interaction effects are found between demographic similarity and behavioral similarity on affective states ($F=4.68, p<.05$), website stickiness ($F=7.50, p<.01$), and booking intention ($F=5.92, p<.05$). According to Aiken and West (1991), the interaction effects are plotted and simple slope tests are conducted as shown in Figure 16.

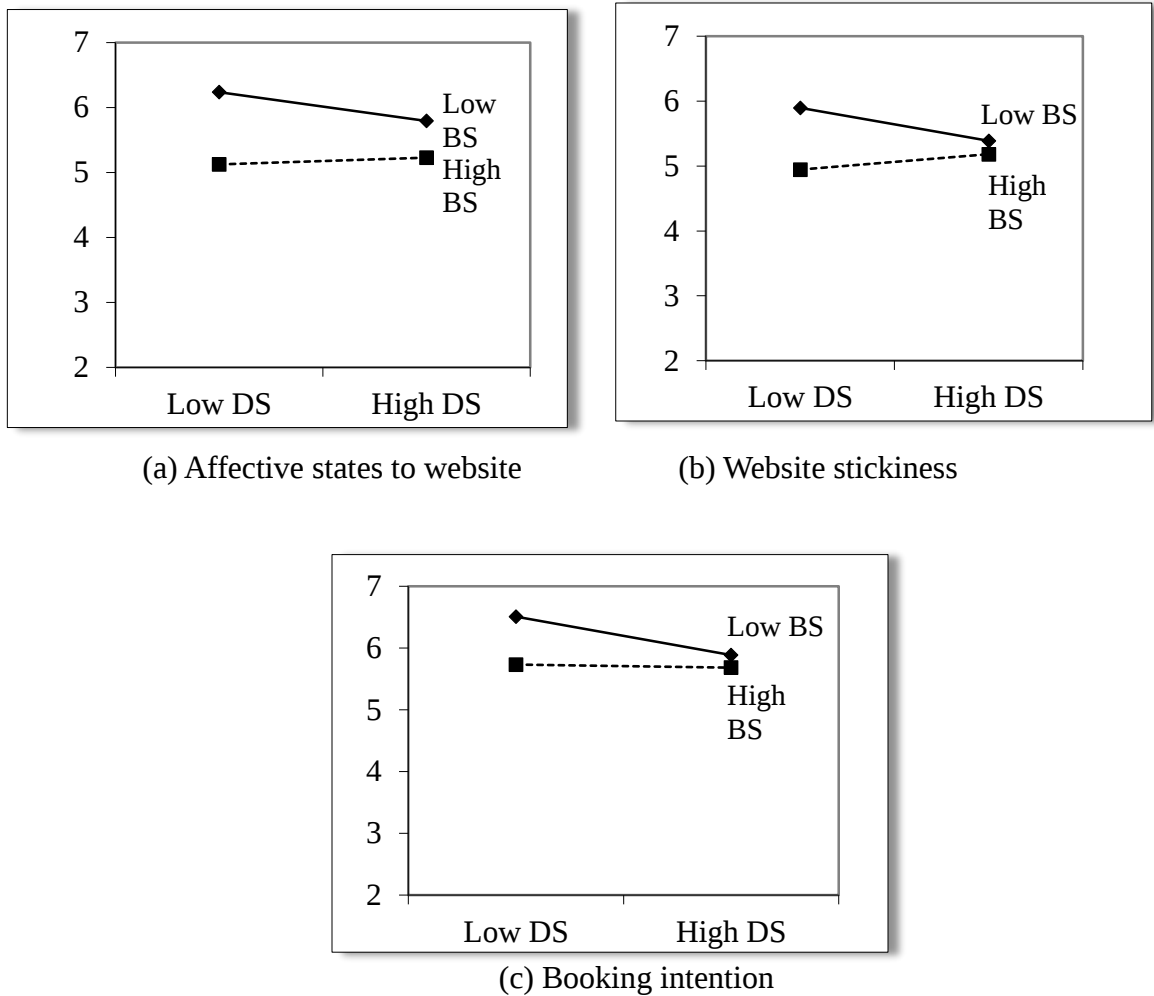


Figure 16 Interaction effects between demographic similarity and behavioral similarity on affective states, website stickiness, and booking intention

The simple slope tests show that the negative effect of demographic similarity is statistically significant only at low level of behavioral similarity ($p < .05$), but not at high behavioral similarity ($p > .05$). This result is consistent for all three dependent variables, including affective states, website stickiness, and booking intention. Thus, H3, which proposes that behavioral similarity positively moderates the relationship between demographic similarity and (a) affective states and (b) cognition, is not supported.

Structural model: Table 32 reports the analysis of the structural relationships among the constructs in PROCESS macro. PROCESS macro provides 92 structural models for analysis (Hayes, 2013). However, none of the models matches the proposed conceptual model, and thus syntax was used to construct the hypothetical model. Since PROCESS allows only one independent variable and one dependent variable in the model at a time, demographic similarity is treated as the independent variable, while behavioral similarity is the moderating variable. Booking intention is considered as a dependent variable, with affective states, cognition, and website stickiness being the mediating variables.

The interaction effects between demographic and behavioral similarity are consistent with the regression analysis previously discussed. In the model of cognition, it is evident that affective states positively influence cognitions towards the hotel ($\beta = .509$, $p < .001$), and thus H4 is supported. For the model of website stickiness, both affective states ($\beta = .617$, $p < .001$) and cognition towards the hotel ($\beta = .202$, $p < .05$) show a positive effect. Thus, both H5a and H6a are supported.

Table 32 Results of PROCESS analysis – study 3

	Dependent variables											
	AFF (M_1)			COG (M_2)			WS (M_3)			BI (Y)		
	Coeff.	SE	p	Coeff.	SE	p	Coeff.	SE	p	Coeff.	SE	p
<u>Antecedent</u>												
DS (X)	-.444	.180	.015	.047	.149	.755	-	-	-	-	-	-
BS (W)	-1.11	.385	.004	-1.52	.321	.637	-	-	-	-	-	-
DS*BS	.548	.254	.032	.078	.210	.711	-	-	-	-	-	-
Constant	-.762	.746	.308	1.33	.611	.031	.721	.382	.060	1.86	.284	.000
AFF (M_1)	-	-	-	.509	.060	.000	.617	.082	.000	.420	.068	.000
COG (M_2)	-	-	-	-	-	-	.202	.087	.022	.156	.065	.018
WS (M_3)	-	-	-	-	-	-	-	-	-	.154	.052	.004
<u>Covariates</u>												
Gender	.221	.128	.085	.033	.105	.754	-	-	-	-	-	-
Age	.350	.220	.113	-.136	.181	.452	-	-	-	-	-	-
Education	.128	.065	.050	-.059	.054	.272	-	-	-	-	-	-
Socio-economic status	-.077	.044	.082	.010	.036	.792	-	-	-	-	-	-
Travel Exp.	-.001	.010	.907	.014	.008	.091	-	-	-	-	-	-
Hotel Exp.	.028	.223	.901	-.168	.182	.357	-	-	-	-	-	-
Web Realism	.496	.065	.000	.320	.061	.000	-	-	-	-	-	-
CNFC	.373	.110	.001	.056	.092	.547	-	-	-	-	-	-
CNFU	.208	.096	.031	.094	.079	.237	-	-	-	-	-	-
Attractiveness	.080	.038	.036	-.040	.032	.210	-	-	-	-	-	-
Activity preference	.220	.072	.002	.012	.060	.843	-	-	-	-	-	-
	$R^2 = .438$			$R^2 = .576$			$R^2 = .453$			$R^2 = .537$		
	F(14, 188) = 10.47, p			F(15, 187) = 16.92, p			F(2, 200) = 82.00, p			F(3, 199) = 76.99, p		
	< .001			< .001			< .001			< .001		

Note: DS=demographic similarity; BS=behavioral similarity; AFF=affective states; COG=cognition; WS=website stickiness; BI=booking intention; NFC=need for cognition

Lastly, for the model of booking intention, all the proposed antecedents including affective states ($\beta=.420$, $p<.001$), cognitive states ($\beta=.156$, $p<.05$), and website stickiness ($\beta=.154$, $p<.01$) demonstrate significant positive effects. Thus, H5b, H6b, and H7 are all supported.

Analysis of conditional indirect effects: As the bootstrap confidence intervals show, the conditional indirect effect of demographic similarity on booking intention through affective states is negative and significant only at low behavioral similarity condition ($\beta= -.186$, $SE=.094$; 95% CI $=[-.400, -.037]$), but not at high behavioral similarity condition ($\beta= .044$, $SE=.077$; 95% CI $=[-.103, .204]$). Thus, for participants that are exposed to behaviorally dissimilar human image, demographically similar human image will significantly reduce their affective states toward the website, which in turn lower their booking intention.

Furthermore, the conditional indirect effect of demographic similarity on booking intention through affective states and website stickiness is negative and significant at low behavioral similarity condition ($\beta= -.042$, $SE=.0257$; 95% CI $=[-.102, -.004]$), but not at high behavioral similarity condition ($\beta= .010$, $SE=.019$; 95% CI $=[-.025, .053]$). Thus, for participants that are exposed to behaviorally dissimilar human image, demographically similar human image will significantly reduce their affective states toward the website, which lower their willingness to stay at the website, and in turn reduce their booking intention. Figure 17 summarizes the conditional indirect effects observed in study 3.

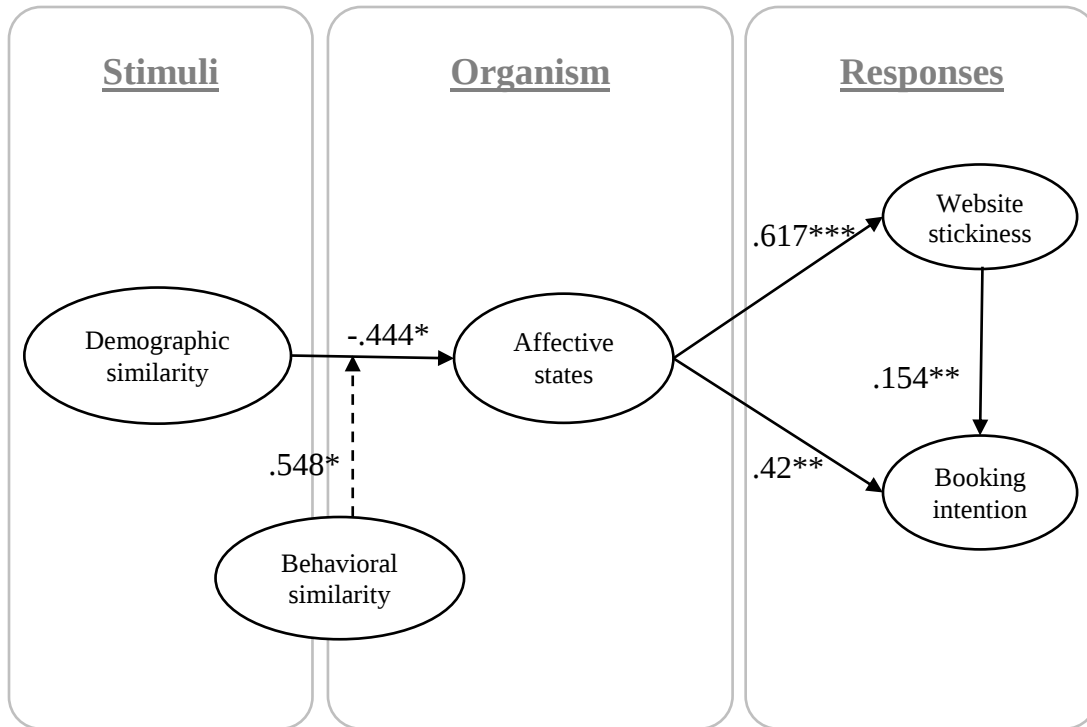


Figure 17 Conditional indirect effects for study 3 (mechanism)

7.4 Discussion of study 3

Study 3 seeks to explore the main effects of and interaction effects between the two levels of similarity, namely demographic similarity and behavioral similarity, on consumers' responses toward the hotel website and the hotel, as well as the mechanism driving the effects. An online experiment was conducted to examine if the presence of a demographically and/or a behaviorally similar human image will generate more positive approach behaviors toward the website and the hotel, and whether favorable feelings and thoughts mediate these relationships.

As opposed to the hypotheses, websites with demographic similarity tend to lower consumers' booking intention, while behavioral similarity reduces

consumers' favorable feelings toward the hotel website. However, it is further observed from the interaction effects between the two levels of similarity that demographic similarity shows negative effect on consumers' responses only when behavioral similarity is low. Furthermore, a mediated moderation model shows that affective state mediates the effect of demographic similarity on website stickiness and booking intention when behavioral similarity is low.

CHAPTER 8: GENERAL DISCUSSIONS

In this research, three experiments were conducted. The first two experiments seek to investigate the effect of presenting a similar human image on consumers' affective response to the website and their cognitive response to the hotel. The moderating roles of consumers' social needs (i.e., need for status and need for uniqueness) were also tested. The third experiment was conducted to investigate the interaction effects between the two levels of similarity as well as the mechanism driving the effects.

Comprising of five sections, this chapter discusses the findings of the three experimental studies. First, the findings about the effect of human image on consumers' responses will be discussed. The second section discusses the main and interactive effects of the two levels of similarity: demographic similarity and behavioral similarity. Discussions in the third section focus on the role of consumers' social needs on the effect of human image and similarity. The fourth section discusses the mechanism driving the effect of similarity. The final section summarizes the current chapter.

8.1 The effect of embedding human images

Images used on a hotel website are the visual presentation of services (Kim & Lennon, 2008). Without the possibility of physical inspection, consumers rely on hotels images to tangibilize services and picture their future consumption experiences at a hotel. Consumers can readily imply hotel room environment,

service quality, and form impression toward the hotel just by observing the images shown on hotel websites (Baek & Ok, 2017; Bogicevic et al., 2017; Virginia Phelan et al., 2011). Research on online interactions and website design indicates that the presence of human image (re-)introduces the human elements to the virtual environment, and thus generates more positive feelings among users (Hassanein & Head, 2007; Jeong & Choi, 2004; Riegelsberger et al., 2003; Wang et al., 2014). Also, consumers prefer images featuring hotel facilities with service personnel or guests which lead to more favorable attitudes toward the hotel (Jeong & Choi, 2004).

Although it was not the main objective of the present research to investigate the role of embedding human images on hotel website, interesting findings are observed. It is reasonable to postulate that the no-human website is a literal presentation of the hotel, while the human-present websites represents higher levels of media richness, and thus are expected to be more evocative and generate more positive responses (Cyr et al., 2009). However, this research consistently demonstrated that embedding a human image on the hotel website neither evokes more positive feelings toward the website itself, nor produces more positive thoughts related to the hotel shown.

Jeong and Choi's (2004) study showed that consumers hold more positive attitude toward a hotel website in which human images were used. However, the explanatory power of their findings is very low, and the presence of human image does not affect consumers' intention to use the website. Specifically, Jeong and Choi showed that the effect of human image is dependent on the presentation

format of the images. If the website provided customers with 3D pictures of people, it would be effective in enhancing customers' attitudes toward the website and also in forming stronger behavioral intentions. The present study is different as the human image is the only focal subject of investigation. In addition, only one picture was used in the hotel websites, which may not be sufficient to stimulate consumers to perform more elaborative processing, as customers generally prefer to see a variety of pictures when making hotel purchase decisions (Jeong & Choi, 2004).

The mere presence of human image might therefore be considered distracting and irrelevant, which do not add value to consumers in the evaluation process of the hotel website and the hotel itself. Cyr et al. (2009) found that Germans are less affected by the human images on the website compared to their Japanese and Canadian counterparts. German participants are more interested to know about the facts of the product that they purchase. Likewise, Chinese participants in the current study may be more concerned about the functional aspects of the hotel and thus the presence of human images did not make any significant differences in their feelings toward the website nor thoughts about the hotel. Nevertheless, adding human images to hotel websites may sometimes generate favorable responses, depending on the social needs of consumers. This will be separately discussed in Section 8.3 under "*The role of consumers' social needs.*" Furthermore, the human depicted in the human image, which communicates different message, is essential to generate positive effects on consumers. This will be discussed in the next sub-section.

8.2 The effects of similarity

To recap, similarity between two interacting individuals can be represented in two levels by status and values (Lazarsfeld & Merton, 1954). Status homophily refers to the similarity between two persons based on their surface-level features, such as age, gender, and nationality; whereas value homophily is the similarity in deep-level characteristics, such as behaviors, attitudes, beliefs, personality, etc. This study conceptualizes status and value homophilies as the demographic and behavioral similarities respectively between a consumer and a human image. Research on homophily in various disciplines generally supports the positive effect of similarity in facilitating friendship (McPherson et al., 2001; Mollica et al., 2003; Smith et al., 2014), employee-customer interactions and transactions (Churchill et al., 1975; Swan et al., 1999; Zhang et al., 2014), effectiveness of advertisement (Cui & Yang, 2009; Forehand & Deshpandé, 2001; Forehand et al., 2002; Karande, 2005; Simpson et al., 2000; Torres, 2007), and online interactions among users (Ayeh et al., 2013; Chan et al., 2017; Duffy, 2015; Naylor et al., 2011; Pentina et al., 2018; Shan, 2016).

This research, however, shows mixed results which contradict the existing literature on homophily and similarity-attraction paradigm. Similarity between the browsers and the human image of hotel website has negative effects on the browsers' affective, cognitive, and behavioral responses. In particular, study 1 shows that demographic similarity does not affect browsers' affective and cognitive responses; while study 2 shows that behavioral similarity negatively

affect browsers' cognition towards the hotel. However, study 3 fails to replicate these findings, possibly due to the intervention of the interaction effects between the two levels of similarity. Specifically, study 3 shows that demographic similarity is negatively related to consumers' booking intention, while behavioral similarity is negatively related to consumers' affective responses to the website.

Regardless of the measured consumer responses, the negative effect of similarity has been prominent and consistently demonstrated. When consumers are exposed to a hotel website with similar human image, they feel less positive toward the hotel website, and they are less likely to book the hotel. The significant effects, yet opposite pattern, identified in the current research barely support the well-established homophily phenomenon, but shed lights on the less familiar *heterophily effect* or *complementarity principle*, which refers to the individuals' preference of dissimilar-others over similar-others (Rogers, 1999; Streukens & Andreassen, 2013).

The contradictory findings may be due to the nature of relationship being investigated in the present study. Most existing research supporting the homophily effects focused on a dyad of individuals with a certain level of direct and indirect interactions, such as those between service employees and customers (Streukens & Andreassen, 2013; Zhang et al., 2014) and among friends (Mollica et al., 2003). Despite the observable cues on the human image showing (dis)similarity, the one-time instantaneous interaction between the customer and the human image via the hotel website may not be sufficient to generate any identifiable positive responses.

The preceding argument, however, only explains the non-significant homophily effect, but not the heterophily effect.

Reversing the interpretation of the results obtained, it is reasonable to claim that when consumers are exposed to a hotel website with human image dissimilar to them, they feel more positive toward the website, and are more likely to book the hotel. The heterophilous effects observed may be explained by the concept of xenophilia, which is rooted in the studies of intercultural exchange. Scholars conceptualized xenophilia as “*a favorable attitude toward exploratory contact with individuals from other groups that are perceived as culturally different and unfamiliar on the basis of their language, ethnicity, habits, or customs*” (Stürmer et al., 2013, p. 833). Individuals with xenophile tendencies are attracted by foreign people, cultures, and customs which they are unfamiliar with. They manifest curiosity in and hospitality toward out-group members, as well as favor compassionate inter-cultural exchange (Stürmer & Benbow, 2017).

The positive effect of dissimilarity observed in the current study suggests that participants may have demonstrated xenophilia toward these human images, and thus expressed more favorable responses to objects associated with these images. There is also evidence in the advertising literature showing that Chinese consumers demonstrate more positive attitudes toward advertisements with Western appeals (Tai & Pae, 2002; Zhou, Poon, & Wang, 2015). When browsing the hotel website, consumers tend to imagine their experiences staying at the hotel (Walters et al. 2012; Miller & Stocia, 2003). Dissimilar human images in terms of demographic characteristics and behaviors may have a “*xeno*” appeal representing

“complementary individuals” who are likely to contribute novel elements to consumers’ travel experiences and may thus generate more favorable responses than “supplementary individuals” that are similar to the browsers (Dijkstra & Barelds, 2008).

The interaction effects between the two levels of similarity, i.e., demographic and behavioral similarity, on consumer responses shed further lights on the xenophile tendency toward dissimilar human images. It is observed that when browsers are exposed to a website featuring human images performing dissimilar behaviors, demographic dissimilarity generates even more positive feelings toward the hotel website, leading to the higher intention to stay on the website, as well as booking intention than demographic similarity. This supports the complementary effects of status and value homophilies (Launay & Dunbar, 2015; Phillips et al., 2006). The presence of both demographic and behavioral dissimilarities induces higher perceived dissimilarity and eventually causes higher xenophile effect on consumers’ responses. This provides a concrete answer to the question sets forth earlier, suggesting that human images showing “different-others” on hotel websites are more appealing to customers. In addition, the more different these images are from the customers, the more effective they will be in generating positive responses.

The general homophily literature suggests that relationships with similar others provide positive reinforcement (Morry, 2005). However, the above shows that the homophily phenomenon may not always hold. Travelers innately seek for novelty and optimal level of stimulation in their decision-making, especially one

related to travel (Ng, Lee, & Soutar, 2009; Petrick, 2002). When choosing the hotel to stay at, a heterophilous individual may appear to be more appealing because they enhance the likelihood that the consumers' desire of novel experiences will be satisfied (Dijkstra & Barelds, 2008).

However, it is evident that the appeal of the human image is important. The confounding effect of human image attractiveness has been measured and controlled in study 3. The results showed that more positive feelings are elicited towards the hotel website if the browsers find the human image more attractive. This is not surprising as perceived visual aesthetics of websites are important determinants of consumers' perceptions and behaviors in the online service environment (Cyr et al., 2009; Wang et al., 2010; Wang et al., 2011). Furthermore, this finding aligns with previous research on advertising effectiveness. Specifically, physical attractiveness of the spokesperson or endorser is important in creating positive attitude toward the advertisement and toward the advertised product or brand (Eisend & Langner, 2010; Petroschius & Crocker, 1989).

Besides physical attractiveness, gender of the human image projected on the hotel website is shown to be another important factor influencing the effect of similarity. In study 1, both treatment conditions (high and low demographic similarity) showed hotel homepages with female human images (refer to Appendix I). Gender of the participants was thus recorded and included as a control variable in the data analysis. The results showed that male participants like the three hotel homepages more than female participants, which sheds light on the "gender-matching effect" (Makransky, Wismer, & Mayer, 2019). In other words,

participants may like the hotel homepage more if it features human images of the opposite gender.

8.3 The role of consumers' social needs

Consumers manifest their need for status and need for uniqueness through product consumption behaviors. Consumers' need for status is demonstrated through social comparison with others and conspicuous consumption of luxury products (Veblen, 1899; Yang & Mattila, 2017); while consumers' need for uniqueness is shown through purchasing products that are considered creative, unpopular among others, and deviating from social norms (Ruvio et al., 2008). Each individual differs in their level of need for status and uniqueness (Lynn & Harris, 1997a, 1997b). This research seeks to test the possibility that the effects of (dis)similarity on consumers' responses may be moderated by individuals' need for status and need for uniqueness.

Despite preceding discussion in section 8.1 shows that human-present hotel website does not affect consumers' responses to the website and the hotel, it is observed that these relationships are indeed dependent on the content of the image and consumers' social needs, i.e., whether they are status seekers or uniqueness seekers. For consumers that do not seek status nor uniqueness through product consumptions, the presence of any type of human images (demographic characteristics and behaviors) on the hotel website do not affect their feelings toward the website and their perceptions about the hotel. However, for consumers that have high need for status, they like the human-present hotel website more

than no-human one. Based on the visual rhetoric theory, images are the “*strategic composition of visual representations*”, which communicate meanings to the viewer (Salinas, 2002, p. 168). The presence of human on the image may symbolize the hotel’s genuine consideration and willingness to devote marketing efforts in maintaining an unconventional website. This communicates a sense of exclusivity and snootiness to status seekers, which lead them to favor the human-present website more than the no-human one.

On the other hand, uniqueness seekers tend to demonstrate the opposite reactions compared to status seekers. They like the no-human website more than the human-present one. One straight-forward interpretation of this finding is that for uniqueness seekers, the presence of human on the image signifies commonness and conformity, which uniqueness seekers tend to disapprove (Tian et al., 2001).

Another plausible explanation is formed based on the literature on need for uniqueness. Earlier research shows that high levels of similarity or dissimilarity may be considered as unpleasant by uniqueness seekers (Fromkin, 1970, 1972 cited in Ruvio et al., 2008). Furthermore, consumers’ desire for uniqueness is constrained by their need for social approval and assimilation (Snyder & Fromkin, 1980). Thus, despite having a need to be unique, uniqueness seekers generally prefer to exhibit uniqueness in a way that can simultaneously satisfy their need for assimilation (Ruvio et al., 2008). Maintaining a moderate level of uniqueness is therefore important for uniqueness seekers (Tian et al., 2001). When a website communicates strong sense of similarity, uniqueness seekers react accordingly to adjust their level of uniqueness; whereas when a website communicates strong

sense of dissimilarity, they seek to maintain assimilation. This may have led uniqueness seekers to favor a no-human website, which is perceived as symbolically neutral, rather than one that communicates over-conformity (through similarity) or the other that expresses over-deviation (through dissimilarity).

The results also indicated that consumers' need for uniqueness moderates the relationship between behavioral similarity and cognitions toward the hotel. For uniqueness seekers, the level of behavioral similarity with the human images on the website had a direct positive influence on their perception about the hotel, which means that they perceive the hotel appearing on a website with human image performing similar travel activities to be of better quality than one with human image performing dissimilar travel activities. However, when need for uniqueness was not a salient personality trait, this relationship was not significant. While the general effect of behavioral similarity was found to be negative, uniqueness seekers turn this negative effect into positive. Sense of uniqueness can be achieved by simply forming an attitude that is perceived to be different from majority others (Ames & Iyengar, 2005). Thus, the motivation of being unique cause consumers to form an evaluation of the hotel that is likely to be deviating from the others (Chark, Fong, & Tang, 2019).

The findings of this research are significant as they supplement existing knowledge on the interplay between individual consumption needs and e-servicescape on consumers' responses. Despite the effect of social symbolic cues on consumer perceptions have been well-investigated in previous research; the results of this study suggest that consumers respond to the presence of human

image and homophily in different ways. Individual level differences, in this case, consumers' need for status and need for uniqueness moderate the effects of human image and similarity on consumers' affective and cognitive responses.

8.4 The mechanism of similarity effects

One of the main objectives of the current research is to identify the mechanism underpinning the (dis)similarity effects. The S-O-R model is effective in explaining the mechanism of the (dis)similarity effects. The S-O-R model suggests that stimuli (similar human images) in the online environment will lead to different emotional states which generate either approach or avoidance responses (Mehrabian & Russell, 1974). In particular, this research shows that the positive feelings towards the hotel website generated by the dissimilar human images will increase customers' approach behaviors, including spending more time on the website and performing online booking (Bosnjak et al., 2007; Mummalaeni, 2005; Wu et al., 2008). The mediating effect of the positive thoughts toward the hotel in the relationship between dissimilar human images and approach behaviors was, however, not found. This shows that (dis)similarity is likely to activate the heuristic-based decision making process, which is unintentional and intuitive (Dhar & Gorlin, 2013; Evans & Stanovich, 2013). Consumers rely on their feelings towards the hotel website, rather than the evaluation of the hotel, as symbolic cues to decide on whether to stay at the hotel or not (Hsee & Rottenstreich, 2004).

The S-O-R model is further extended to analyze the mechanism of similarity by integrating the Affect Transfer Hypothesis (ATH), which posits that the positive affect generated by the hotel website will be transferred to the evaluation of the hotel (Mitchell & Olson, 1981; Shimp, 1981). Direct relationship between affective states towards the hotel website and the cognition towards the hotel was identified, giving support to the ATH (Baek & Ok, 2017; López & Ruiz, 2011). However, the mediating effect of the positive feelings toward the website in the relationship between dissimilar human images and cognitions was not observed. Therefore, the transfer of biases generated from the dissimilar human image on the website to the hotel may be less automatic and therefore less likely to occur (Forehand & Deshpande, 2002).

These results extend the current understanding of the homophilous and heterophilous effect by offering new insights into the mechanisms through which (dis)similarity influences consumers' behavioral responses.

8.5 Summary

This chapter discusses the results presented in Chapters 5, 6, and 7. The findings do not support the existing literature on human image, as the positive effects of embedding human images on hotel website on consumers' responses were not identified. The presence of human image might be less relevant to consumers' evaluation of a hotel website and the hotel itself. Similarity between the browsers and the human image of hotel website has negative effects on the browsers' affective, cognitive, and behavioral responses. When consumers are

exposed to a hotel website with dissimilar human image, they feel more positive toward the hotel website, and they are more likely to book the hotel. The findings give support to the heterophily effect, which suggests that individuals prefer dissimilar-others over similar-others. The two levels of similarity, namely status and value, interact in a complementary way to affect consumers' responses. The presence of both demographic and behavioral dissimilarities induces more positive effects among consumers. When consumers are making decisions related to hotel, a heterophilous individual appear to be more appealing than a homophilous counterpart. The mechanism driving the heterophilous effect is attributed to the affective states generated by dissimilarity. The findings also imply that the effects of human image and similarity largely rely on consumers' social needs. Status seekers and uniqueness seekers differ in their preferences of human images on hotel websites.

CHAPTER 9: CONCLUSION

This chapter concludes this research and provides future research directions in five sections. The first section summarizes this research in accordance with the four objectives proposed at the beginning of this thesis. Then, the second and third sections describe how the current research contributes theoretical knowledge to existing literature, and practical implications for hoteliers, marketers, and website designers. The fourth section presents the limitations of this research, as well as future research directions. A summary of this chapter is provided at the end.

9.1 Summary of research

A hotel website represents the first contact point between a hotel and its customers, which influence customers' perceptions toward the hotel and their subsequent purchase decisions. Therefore, maintaining a well-functioned and well-designed hotel website is paramount for hotels to stay competitive. Hotels increasingly embed human images in their websites in order to mitigate the undesirable effects of impersonal online interactions. The central objective of this research was to investigate the role of similar human image to generate positive consumer responses in the online environment, thereby leverage the potential of targeted marketing. Specifically, four objectives were proposed for this research: (a) To evaluate the influence of similar-other images on customer responses, (b)

to analyze the mechanism through which similar-other images affect customer responses, (c) to determine the effective way of designing similar-other

images to evoke positive customer responses, and (d) to identify the optimal psychological situation for evoking positive responses from consumers toward similar-other images. The present research performed three experiments to achieve the above objectives.

In response to the first objective, human-present hotel websites do not affect consumers' feelings toward the website and their positive thoughts about the hotel shown on the website. The effect of (dis)similarity in the context of hotel website design is confirmed. Specifically, consumers prefer dissimilar over similar human images, which positively affect consumers' feelings toward the website, perceived quality of the hotel, and their subsequent booking intention. Despite unexpected, this finding demonstrates the less popular heterophilous effect rather than the well-established homophily phenomenon.

To address the second objective, the two levels of demographic and behavioral similarities interact to affect consumers' feelings toward the hotel website, their willingness to stay on the website, and their booking intention. In particular, the positive effect of one level of dissimilarity is significant only when the other level of similarity is low. Consumers like the hotel website the most when the human image shown is both demographically and behaviorally dissimilar to them. This shows supplementary effects between the two levels of similarity.

Regarding the third objective, this research revealed that the mechanism of the effect of similarity follows the S-O-R framework. Specifically, (dis)similarity represents the stimuli in the online environment, which generates various feelings

in the consumers. These feelings then act as an organism that mediates the influence of (dis)similarity on consumers' booking intention.

To achieve the last objective, the two social needs, namely consumer need for status and need for uniqueness were found to moderate the effects of human image and similarity on consumers' responses. For consumers that do not seek status or uniqueness through product consumptions, human-present websites do not affect their responses to the website and the hotel. However, status seekers like the human-present hotel website more than no-human one, whereas uniqueness seekers like the no-human website more than the human-present one. On the other hand, consumers' need for uniqueness moderates the effect of behavioral similarity on consumers' cognition toward the hotel. In particular, it was found that uniqueness seekers, who tend to demonstrate attitude and perceptions different from the general-others, perceive the hotel appearing on a website with behaviorally similar human image to be better in terms of quality.

9.2 Theoretical contributions

With the rapid development of information and communication technologies, optimized website design has become an important topic of research in various domains, especially the hospitality industry due to its intangible characteristics. In existing hotel website literature, researchers have widely examined the functional and usable characteristics of website design, and established evaluation techniques to assess website effectiveness (Au Yeung & Law, 2004, 2006; Bai et al., 2008; Chung & Law, 2003; Ip et al., 2012; Leung et

al., 2016, Ting et al., 2013). Other studies investigated the consequences of a well-designed website on consumer behaviors, such as purchase and recommendation intentions (Hao et al., 2015; Jeon & Jeong, 2017; Law & Bai, 2008; Li et al., 2017; Park et al., 2007; Tsang et al., 2010). The present work adds to the existing literature on hotel website design with a spotlight on human image, which has not been previously explored. While human images have been investigated in advertising (Branthwaite, 2002; Forehand & Deshpandé, 2001; Forehand et al., 2002; Phillips & McQuarrie, 2002; Torres, 2007), and in online shopping platforms (Cyr et al., 2009; Hassanein & Head, 2007; Wang et al., 2014), the effectiveness of using human images has not been well examined in the hospitality and tourism context, particularly in hotel website. Therefore, this research extends the discussion by identifying how the use of one particular element in website design – human images – affects users' reactions toward the website itself and the presented hotel.

On the other hand, the theoretical foundation of existing research on website design has been dominated by theories in information system and computer-mediated communication, such as the technology acceptance model, social presence theory, media richness theory, and flow theory etc. (e.g., Barreda et al., 2016; Bilgihan & Bujisic, 2015; Bilgihan, Nusair, Okumus, & Cobanoglu, 2015; Hassanein & Head, 2007). To the best knowledge of the researcher, this study is among the first to extend a sociological phenomenon - the homophily theory - to examine the impact of users' responses to specific website design features.

Furthermore, existing studies on homophily mostly focused on one level of similarity, either in terms of status (Burger et al., 2004; Forehand & Deshpandé, 2001, Forehand et al., 2002, Forman et al., 2008; Gino et al., 2009; Mollica et al., 2003; Naylor et al., 2011; Pentina et al., 2018; Shan, 2016; Smith et al., 2014; Torres, 2007; Wan & Wyer, 2018; Zhang et al., 2014) or value (Ayeh et al., 2013; Han et al., 2015; He & Bond, 2013; Hu et al., 2016; Shen et al., 2010; Su et al., 2015). The current research thus contributes to the extent literature of social psychology by considering both status and value homophilies simultaneously and investigating their interactive impacts on consumers (Chan et al., 2017; Launay & Dunbar, 2015; Phillips & Loyd, 2006).

Although the effect of homophily has been frequently demonstrated in previous studies, the explanation of the effect has been largely unexplored. This study identified the explanatory process of the homophilous (heterophilous) effect on consumers' behavioral responses by integrating the S-O-R paradigm. Specifically, this research contributes to the literature by looking at the process through which (dis)similarity leads to higher booking intentions. Consumers like the website with dissimilarity more, and are thus more willing to stay on the website and perform booking. This enriches the overall current understanding of the homophily (heterophily) phenomenon. Additionally, the framework developed in this research may be used to explain the homophily (heterophily) effect in other situations.

Finally, the present study responds to the call for more research on the moderating effects of individual differences on consumers' susceptibility to the

effect of similarity (Wan & Wyer, 2018). Based on the Veblen's (1988) theory of conspicuous consumption and Snyder and Fromkin's (1977) theory of uniqueness, consumers may respond to similarity differently due to their different consumption motivations. The current research confirmed these propositions and set out new research directions related to the impact of human images and homophily in other disciplines.

9.3 Practical contributions

Hotel website is one of the most important channels for hotels to reach their customers, especially before actual consumption experiences. Thus, hotels actively seek to enhance their websites in order to meet the requirements of the increasingly sophisticated customers. Images shown on hotel websites are one of the crucial elements which consumers rely on to develop an impression towards and perform evaluation on the hotel.

The findings from this research suggest that the content on the images, as well as the way in which these images are used on hotel websites, can affect browsers' feelings and perceptions. It seems wise to advise hoteliers and website designers to adopt no-human images showing merely the functional aspects of the hotel, rather than human-present images which focus more on demonstrating the hedonic experience at the hotel, since browsers' feelings and perceptions will not differ irrespective to the presence of human images. However, this research also demonstrates that consumers favor human images that communicate a sense of dissimilarity over those with a similarity appeal. In other words, the type of human

featured, and therefore the message projected on the image, should be carefully considered in designing the website.

Hoteliers may use the images on the hotel website to highlight the distinctive experiences that the hotel could offer to prospective customers. Models having dissimilar demographic backgrounds than the target customers and at the same time, performing activities that are unfamiliar to the target customers are more desirable as they generate more positive feelings. This implies that one generic website may not appeal to all customers, and that practitioners may wish to develop a set of localized and customized hotel websites, featuring models of various demographic backgrounds and enjoying differing activities, in order to appeal to respective target segments and drive bookings (Hanks et al., 2017). To achieve this, hotel operators should devote efforts in identifying the demographic backgrounds and tourist activities that can generate dissimilarity perceptions in their target markets, so as to leverage the heterophilous and xenophile effects.

This research also provides implications for various businesses in the accommodation sector, whose target markets are innately different. In particular, the moderating roles of consumers' consumption motivations on the effect of human images suggest that practitioners have to be cautious in aligning the images used on their websites with the personal traits of their target consumers. Consumers with different consumption motivations tend to look for different types of accommodation (Varma, Jukic, Pestek, Shultz, & Nestorov, 2016), which lead to different expectations and perceived importance on the same attributes (Rhee & Yang, 2015; Tanford, Raab, & Kim, 2012). For instance, consumers choosing

boutique hotels and Airbnb are driven by the appeal of experiencing differentness (Chak et al., 2018; Tussyadiah & Zach, 2017), while consumers opting for luxury hotels may be the ones seeking status through consumption (Yang & Mattila, 2017). This grants further support to the suggestions of website customization. A no-human hotel website may only attract those consumers who do not seek status or uniqueness through product consumptions. They consider hotels to satisfy their basic need to stay overnight, rather than a representation of their personal image. Thus, these consumers tend to focus on the functional aspects of hotels, such as the bed and the bathroom (Rhee & Yang, 2015). The human images on the hotel website then appear less relevant for them, and therefore do not affect their evaluation of the hotel website and the hotel.

Luxury and high-end hotels, whose target markets are likely to be status seekers, should consider embedding human images in their websites, which signal a sense of affluence and extravagance. Accommodations pursuing a more distinctive appeal may introduce human images that communicate a sense of similarity to uniqueness seekers, whose preferences tend to divert away from the majority. In short, hotel operators should endeavor to obtain a better understanding of their target customers' personal traits, particularly, their need for status and need for uniqueness, so that more effective human images could be adopted and adapted to generate affective responses.

The proposed website personalization and customization strategy based on psychological motivations of consumers allows hoteliers to leverage the potential of targeted marketing without causing uncomfortable feelings in prospective

consumers (Liu & Mattila, 2017).

9.4 Limitations and future research

Although this research contributes theoretical knowledge and provides practical solutions, it has several limitations. First, to enhance the external validity of this research, online experiment was conducted via an online survey company instead of lab experiment. The potential impact of the environmental factors on participants' reactions could hardly be measured and controlled. Thus, future research may replicate the three experiments in a lab setting. However, caution should then be taken to generalize those findings.

Second, instead of presenting the participants with a fully-functional hotel website, only the hotel homepage was given in avoid any confounding effects. The homepage without any links to other pages looks less complicated and comprehensive than an established hotel website. This might have reduced participants' perceived authenticity of the website, thereby influencing their reported responses. Moreover, the dependent variables in this research, including website stickiness and hotel booking, were operationalized and measured as behavioral intentions, which may not always be translated into actual behaviors (Webb & Sheeran, 2006). Thus, an improvement of the current research could be to develop a full-service hotel website incorporating the opinions from professional website designers and hoteliers to enhance realism. In this way, participants' browsing and stickiness behaviors may be recorded using Google Analytics or eye-tracking methods, whereas participants' booking behavior may

be recorded by adding the actual booking function to the website.

The sample used in the experiments is another limitation of the current study. In order to manipulate perceived demographic similarity along the dimensions of age and nationality, participants are all from Mainland China at a relatively young age. Thus, the findings may not be generalizable to populations of other nationality. A natural extension of the current research, therefore, could be to replicate the experiments on participants of different age group and nationalities. This modified replication would not only help verify the heterophilous effect in hotel booking context, but also illuminate the potential impact of cultural differences on the effect of human-present and similar human images.

Demographic similarity was operationalized by combining previous research in advertising context (e.g., Forehand & Deshpandé, 2001; Forehand et al., 2002), which operationalizes demographic similarity using ethnicity, with more recent research in the online context (e.g., Chan et al., 2017; Shan, 2016), which operationalize demographic similarity as an aggregated perception having more than one dimension. Nevertheless, only three ethnicities (East Asian, Southeast Asian, and European) were included in the pretest for determining demographic similarity. Further research may consider extending the variety of ethnicity when designing the manipulation of demographic similarity.

Moreover, this research represents one of the first studies trying to manipulate deep-level similarity in the hotel and tourism context. In particular, behavioral similarity was manipulated based on the travel activities that the browsers and the human images share in common. Future studies may explicate

similarity between viewers and human images and try to operationalize behavioral similarity in a different way to compare and contrast with the findings of this study. Additionally, the potential effects of other types of similarity, such as language, incidental and preference similarity, could be explored in future studies (He & Bond, 2013; Burger et al., 2004; Su et al., 2015; Wan & Wyer, 2018). The findings will complement the current research, and will also contribute to a more comprehensive understanding of the homophily-heterophily phenomenon in the online environment.

Furthermore, the independent variables were manipulated by two levels, i.e., presence vs. absence of human image and similar vs. dissimilar human images. Since adding more treatment levels will require a larger sample, manipulating more levels of similarity was desirable but hardly viable for the current study. Future research may consider adding more levels of treatment to examine whether the effects of human image and similarity on behaviors is linear or not. For example, instead of simply presence and absence of human image, the presence of human image can be divided into no-human, medium-human, and high-human conditions (Cyr et al., 2009). Medium-human condition may be operationalized as image containing only one person, while high-human conditions show image containing more than one person. The findings may provide implications on the point where the effects of human image and (dis)similarity are optimized.

Similarly, the mediating variables (affective states and cognitions), moderating variables (need for status and need for uniqueness), and dependent variables (website stickiness and booking intention) explored in the current

research are limited. A model was developed based on the S-O-R framework to explore the mechanism of the similarity effect. Other theoretical frameworks may be used to explore the effects of other mediators, such as the self-brand congruence, social presence, trust, mental imagery, etc., thereby provide further insights into consumers' evaluation process. Different models may also be compared in one study to identify the model with higher explanatory power for the effect of (dis)similarity. While the concept of xenophilia and novelty-seeking has been used to explain the heterophilous effect revealed in this research, future studies could empirically verify the precision of this argument by including additional moderating variables.

Lastly, the effect of human image merits further scholarly attention. This study grounds the investigation of the human image on the homophily theory. Other attributes, such as concreteness (concrete vs. abstract), complexity (simple vs. complex), as well as the content (e.g., interior vs. exterior of the hotel) of the image, maybe considered and tested together with the effect of human image (Miller & Stocia, 2003; Sparks & Wang, 2014; Yoo & Kim, 2014).

9.5 Summary

This chapter concludes this research by summarizing the findings and presenting the theoretical and practical implications. The four objectives set forth earlier were fulfilled. Specifically, the individual and interactive effects of status and value homophily on consumers' affective and behavioral responses have been identified. The mechanism underpinning these effects have been tested and

confirmed. The moderating roles of consumers' social needs (i.e., need for status and need for uniqueness) have been revealed. The study contributes to the literature of hotel website design, visual communication, and the homophily-heterophily phenomenon. Moreover, practical suggestions on website customization and localization strategies are offered to hotel practitioners and website designers to leverage the benefits of targeted marketing. Future research directions have been provided to address the limitations of this study and extend the current findings.

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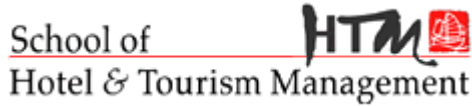
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APPENDICES

Appendix A Questionnaire for pretest 1



Dear Participant:

I am a PhD student of the School of Hotel and Tourism Management, The Hong Kong Polytechnic University. I am conducting a study related to the travel preferences of young adults, and would like to invite you to participate in this research study by completing a survey, which would require approximately 10 minutes.

The participation is totally voluntary and you can stop and leave at any time during the process. The information collected will be solely used for research. Please be assured that all your responses will be kept strictly confidential.

Please be noted that there is no right or wrong answer to the questions, and you just have to provide answers that best reflect your opinions. Should you have any questions regarding this questionnaire, please do not hesitate to contact me. Thank you!

您好！

我是來自香港理工大學酒店與旅遊管理學院的一名博士生，現在正進行一項關於年輕人的旅遊喜好的研究。我誠邀您參加這個實驗。完成這次調研大約需要10分鐘。

參與本次調研純屬自願，您可以隨時終止此填寫此問卷及離關。您的資訊將僅用作學術研究，您所有的回答將嚴格保密。

所有答案沒有對與錯之分，你只需要提供你認為最合適的答案。如填寫問卷時遇到任何問題，請與我聯繫。非常期待您的參與！

Irene Chan Cheng Chu (陳正珠)

Email (電郵): irene.cc.chan@

Contact number (聯絡電話): +853 6616 / +852 6651

☐ 我同意參與這項研究(I agree to participate in this research)

☐ 我拒絕參與這項研究(I refuse to participate in this research)

1. 你是否曾參與本調研？

Have you participated in this study before?

☐ 是 Yes

☐ 否 No

2. 現在請你看一下以下照片，然後回答接下來的問題。

Please take a look at the picture below and answer the question that comes after.

(One of the following pictures was randomly displayed)





請詳細閱讀以下句子，並圈出您對於以下陳述的贊同程度。

Please rate the extent to which you agree with the following statement.

	非常同意 Strongly agree					非常不同意 Strongly disagree		
	7	6	5	4	3	2	1	
3. 我認為相片中的人和我的國籍很相似。 The person appearing on the image is similar to me in terms of nationality.								

以下是有關你的個人資訊，請選擇/填寫最適合你的答案。

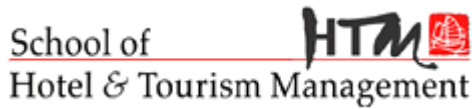
Below is your personal information. Please select/fill in the answers that are most appropriate to you.

4. 性別
Gender: ☐ 男 Male ☐ 女 Female
5. 年齡:
Age: _____
6. 你來自:
You are originally from: ☐ 香港 Hong Kong ☐ 澳門 Macau
☐ 中國大陸 Mainland China ☐ 其他 (請註明)
Others (Please specify):
7. 你現正就讀:
You are studying: ☐ 學士 Bachelor ☐ 碩士或以上
Master or above

*****問卷結束，謝謝你的參與*****

*****This is the end, thank you for your participation *****

Appendix B Questionnaire for pretest 2



Dear Participant:

I am a PhD student of the School of Hotel and Tourism Management, The Hong Kong Polytechnic University. I am conducting a study related to the travel preferences of young adults, and would like to invite you to participate in this research study by completing a survey, which would require approximately 10 minutes.

The participation is totally voluntary and you can stop and leave at any time during the process. The information collected will be solely used for research. Please be assured that all your responses will be kept strictly confidential.

Please be noted that there is no right or wrong answer to the questions, and you just have to provide answers that best reflect your opinions. Should you have any questions regarding this questionnaire, please do not hesitate to contact me. Thank you!

您好！

我是來自香港理工大學酒店與旅遊管理學院的一名博士生，現在正進行一項關於年輕人的旅遊喜好的研究。我誠邀您參加這個實驗。完成這次調研大約需要10分鐘。

參與本次調研純屬自願，您可以隨時終止此填寫此問卷及離開。您的資訊將僅用作學術研究，您所有的回答將嚴格保密。

所有答案沒有對與錯之分，你只需要提供你認為最合適的答案。如填寫問卷時遇到任何問題，請與我聯繫。非常期待您的參與！

Irene Chan Cheng Chu (陳正珠)

Email (電郵): irene.cc.chan@

Contact number (聯絡電話): +853 6616 / +852 6651

☐ 我同意參與這項研究(I agree to participate in this research)

☐ 我拒絕參與這項研究(I refuse to participate in this research)

1. 你是否曾參與本調研？

Have you participated in this study before?

☐ 是 Yes

☐ 否 No

以下是一系列於旅遊時進行的活動。請根據你的個人喜好，對每項活動於旅行時的重要性作出評分。

The following shows a list of tourist activities. Please rate the level of importance of engaging in each of these activities for a satisfying leisure trip.

	非常重要 Very important					非常不重要 Very unimportant		
2. 購物 Shopping	7	6	5	4	3	2	1	
3. 去酒吧 Going to bars	7	6	5	4	3	2	1	
4. 品嚐當地美食 Eating local foods	7	6	5	4	3	2	1	
5. 遠足 Hiking	7	6	5	4	3	2	1	
6. 出席音樂會 Going to concerts	7	6	5	4	3	2	1	
7. 露營 Camping	7	6	5	4	3	2	1	
8. 露天游泳 Open water swimming	7	6	5	4	3	2	1	
9. 參加遊輪 Going on a cruise	7	6	5	4	3	2	1	
10. 山地單車 Mountain biking	7	6	5	4	3	2	1	
11. 荒野遠足 Wilderness hiking	7	6	5	4	3	2	1	
12. 攀山 Mountaineering	7	6	5	4	3	2	1	
13. 出海 Sailing	7	6	5	4	3	2	1	
14. 深海釣魚 Deep-sea fishing	7	6	5	4	3	2	1	
15. 去叢林野生動物園 Jungle safari	7	6	5	4	3	2	1	
16. 激流活動 River rafting	7	6	5	4	3	2	1	
17. 狩獵 Hunting	7	6	5	4	3	2	1	
18. 在海灘曬日光浴 Sunbathing at the beach	7	6	5	4	3	2	1	
19. 到泳池游泳 Swimming in a pool	7	6	5	4	3	2	1	

20.	探訪家人 Visiting family	7	6	5	4	3	2	1
21.	探訪朋友 Visiting friends	7	6	5	4	3	2	1
22.	參觀自然景點 Visiting natural attractions	7	6	5	4	3	2	1
23.	參觀歷史遺跡 Visiting historical sites	7	6	5	4	3	2	1
24.	參觀博物館 Visiting a museum	7	6	5	4	3	2	1
25.	請選擇 "非常不重要" Please choose "Very unimportant" for this item	7	6	5	4	3	2	1
26.	觀看體育賽事 Watching sporting events	7	6	5	4	3	2	1
27.	去劇院 Going to the theater	7	6	5	4	3	2	1
28.	參加藝術博覽會 Attending an arts fair	7	6	5	4	3	2	1
29.	參觀宗教場所 Visiting religious sites	7	6	5	4	3	2	1
30.	參加文化節 Attending a cultural festival	7	6	5	4	3	2	1
31.	參觀農民市場 Visiting a farmers' market	7	6	5	4	3	2	1
32.	騎自行車 Road biking	7	6	5	4	3	2	1
33.	參觀政府大樓 Visiting government centers	7	6	5	4	3	2	1
34.	欣賞芭蕾舞表演 Going to ballet	7	6	5	4	3	2	1
35.	湖邊釣魚 Lake fishing	7	6	5	4	3	2	1
36.	宗教朝聖 Religious pilgrimage	7	6	5	4	3	2	1
37.	欣賞歌劇表演 Going to the opera	7	6	5	4	3	2	1
38.	參觀主題公園 Visiting theme parks	7	6	5	4	3	2	1
39.	體驗當地習俗 Experiencing local custom	7	6	5	4	3	2	1
40.	其他 (請註明) : Others (please specify):	7	6	5	4	3	2	1
41.	其他 (請註明) : Others (please specify):	7	6	5	4	3	2	1
42.	其他 (請註明) : Others (please specify):	7	6	5	4	3	2	1

以下是有關你的個人資料，請選擇/填寫最適合你的答案。

Below is your personal information. Please select/fill in the answers that are most appropriate to you.

43. 性別

☐ 男 Male

☐ 女 Female

Gender:

44. 年齡:

Age:

45. 你來自:

☐ 香港 Hong Kong

☐ 澳門 Macau

You are originally from:

☐ 中國大陸 Mainland China

☐ 其他 (請註明):

46. 你現正就讀:

☐ 學士 Bachelor

☐ 碩士或以上
Master or above

You are studying:

*****問卷結束，謝謝你的參與*****

*****This is the end, thank you for your participation *****

Appendix C Chinese questionnaire - Study 1

School of
Hotel & Tourism Management



您好！

我是来自香港理工大学酒店与旅游管理学院的一名博士生，现在正进行一项关于酒店网站对客户购买行为影响的研究。我诚邀您参加这个实验，当中包括浏览一个酒店网站，然后回答一些有关该网站的问题。完成这次调查大约需要 15 分钟。

参与本次调查纯属自愿，您可以随时终止此实验或填写此问卷。您的资讯将仅用作学术研究，您所有的回答将严格保密。

所有答案没有对与错之分。如填写问卷时遇到任何问题，请与我联系。非常期待您的参与，谢谢！

陈正珠

电邮：[irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

联络电话：+852 6651

☐我同意参与这项研究

☐我拒绝参与这项研究

在正式回答问卷之前，请先回答以下问题。

1. 你是否曾参与本调查？

☐ 是

☐ 否

接下来的句子是有关你对购买产品时的一些想法。请仔细阅读每一句句子，并选出你对该句子的赞同程度。

		非常 同意				非常不 同意
2.	我对一件能象征身份的产品很感兴趣。	5	4	3	2	1
3.	我会购买一件能象征身份的产品。	5	4	3	2	1
4.	我愿意支付更昂贵的价钱去购买一件能象征我身份的产品。	5	4	3	2	1
5.	一件产品是否能象征身份与我 <u>没有关系</u> 。(R)	5	4	3	2	1
6.	对我来说，一件有派头的产品更具价值。	5	4	3	2	1
7.	我经常配搭自己拥有的东西，去建立一个不可被模仿的个人形象。	5	4	3	2	1
8.	我喜欢原创的产品。	5	4	3	2	1
9.	我透过购买特别的产品去积极塑造个人独特性。	5	4	3	2	1
10.	寻找罕见的产品有助我建立独特的形象。	5	4	3	2	1
11.	我购买的产品令我破坏了既定的规律。	5	4	3	2	1
12.	我经常违反社交圈子对应该购买什么的明确规律。	5	4	3	2	1
13.	我经常违背我的社交圈子对某些产品应该如何正确使用的规则。	5	4	3	2	1
14.	这是一项检测专注度的问题，请选择 "非常不同意"。	5	4	3	2	1
15.	我喜欢购买我身边的人似乎不太会接受的东西，以挑战他们普遍的口味。	5	4	3	2	1
16.	当我拥有的产品在普罗大众中变得流行时，我会开始减少使用它。	5	4	3	2	1
17.	我经常避免购买大家都会购买的产品。	5	4	3	2	1
18.	我的原则是我不喜欢所有人都购买的产品。	5	4	3	2	1

19. 一个产品在大众中越普遍，我越 不感兴趣 去购买。	5	4	3	2	1
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现在请想像一下以下情况：

你现正计划到布雅达岛旅行度假，你有三个月时间准备行程。 你对布雅达岛这个目的地**不太熟悉**，你在网上看到 "比格斯酒店" (Pegasus Hotel) 似乎不错。于是你想先看看它的网站，再决定是否预订。

在下一页，你将会看到“比格斯酒店”的网站，请细心留意酒店网站的内容，因为你将被问到一些关于该网站的问题。

*** Refer to Appendix I for the websites used***

20. 以下内容均有在酒店网店上出现，除了：

- ☐ 酒店房间 (Accommodation) ☐ 酒店设施 (Facilities & Services)
- ☐ 布雅达岛地图 (Map of Buyuada Island)

21. 请问你看到的酒店网站中有人像的照片出现过嗎？

- ☐ 有 ☐ 没有 ☐ 我不记得

请仔细阅读以下句子，并选出您对于以下陈述的赞同程度。

		非常 同意					非常不 同意
22.	我认为酒店网页中的人像和我的：						
	a. 年纪很相似。	7	6	5	4	3	2 1
	b. 国籍很相似。	7	6	5	4	3	2 1
23	我认为酒店网页中的人像的外表很吸引。	7	6	5	4	3	2 1
24.	我喜欢这个酒店网站。						
25.	我对这个酒店网站有好感。	7	6	5	4	3	2 1
26.	我对这个酒店网站感觉正面。	7	6	5	4	3	2 1
27.	这个酒店网站很好。	7	6	5	4	3	2 1
28.	这是一家高质素的酒店。	7	6	5	4	3	2 1
29.	这家酒店似乎是稳固的。	7	6	5	4	3	2 1
30	这家酒店似乎是可靠的。	7	6	5	4	3	2 1
31	我认为酒店网站是真实的。	7	6	5	4	3	2 1
32	我可以想像自己使用这个酒店网站。	7	6	5	4	3	2 1
33	使用这个网站来评估这家酒店有助我完成这次调查。	7	6	5	4	3	2 1

以下是有关你的旅行经验，请选择/填写最适合你的答案。

34. 你于过往 12 个月内出外旅行 (过夜) 的次数为： _____

35. 你于过往 12 个月内入住酒店的次数为：

☐ 0 次 (没有入住过酒店)

☐ 1 次或以上

以下是有关你的个人资讯，请选择最适合你的答案。

36. 性别

☐ 男

☐ 女

37. 年龄

☐ 18 岁以下

☐ 18-25 岁

☐ 26-32 岁

☐ 33 岁或以上

38. 你现正为：

☐ 大学生

☐ 硕士生或以上

☐ 在职人士

☐ 以上都不是

39. 我认为：

		非常 同意					非常不 同意	
a	我有足夠的錢去買我想要的東西。	7	6	5	4	3	2	1
b	我不用為支付自己的賬單過於擔心。	7	6	5	4	3	2	1
c	我覺得自己比其他人相對富裕。	7	6	5	4	3	2	1

*****问卷结束，多谢你的参与*****

Appendix D English questionnaire - Study 1

School of 
Hotel & Tourism Management



Dear Participant:

My name is Chan Cheng Chu (Irene) and I am a PhD student of the School of Hotel and Tourism Management, The Hong Kong Polytechnic University. I am conducting a study relating to the effect of hotel websites on purchase behaviors, and would like to invite you to participate in this research study by completing an experiment. You will be asked to **browse a hotel website**, and then answer some questions related to that website. The entire experiment will require approximately 15 minutes.

The participation is totally voluntary and you can stop at any time during the process. The information collected will be solely used for research. Please be assured that all your responses will be kept strictly confidential.

Please be noted that there is no right or wrong answer to the questions, and you just have to provide answers that best reflect your opinions. Should you have any questions regarding this questionnaire, please do not hesitate to contact me. Thank you!

Irene Chan Cheng Chu

Email: [irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

Contact number: +852 6651

- ☐ I **agree** to participant in this study
- ☐ I **refuse** to participate in this study

Please answer the following questions before proceeding with the experiment.

1. Have you participated in this study before?

☐ Yes

☐ No

(proceed only if “no” is selected)

The following statements are about your perceptions on product consumption. Please indicate your level of agreement to each statement by circling the number that best describes what you think.

		<i>Strongly agree</i>			<i>Strongly disagree</i>	
2.	I am interested in a product with status.	5	4	3	2	1
3.	I would buy a product because it has status.	5	4	3	2	1
4.	I would pay more for a product if it had status.	5	4	3	2	1
5.	The status of a product is irrelevant to me (R).	5	4	3	2	1
6.	A product is more value to me if it has some snob appeal.	5	4	3	2	1
7.	I often combine possessions in such a way that I create a personal image that cannot be duplicated.	5	4	3	2	1
8.	I like original products.	5	4	3	2	1
9.	I actively seek to develop my personal uniqueness by buying special products.	5	4	3	2	1
10.	Having an eye for products that are unusual assists me in establishing a distinctive image.	5	4	3	2	1
11.	When it comes to the products I buy, I have broken customs.	5	4	3	2	1
12.	I have often violated the understood rules of my social group regarding what to buy.	5	4	3	2	1
13.	I have often gone against the understood rules of my social group regarding how certain products are properly used.	5	4	3	2	1

14.	This is an attention check question, please select “strongly disagree”.	5	4	3	2	1
15.	I enjoy challenging the prevailing taste of people I know by buying something they would not seem to accept.	5	4	3	2	1
16.	When a product I own becomes popular among the general public, I begin to use it less.	5	4	3	2	1
17.	I often try to avoid products that I know are bought by the general public.	5	4	3	2	1
18.	As a rule, I dislike products that are customarily bought by everyone.	5	4	3	2	1
19.	The more commonplace a product is among the general public, the less interested I am in buying it.	5	4	3	2	1

Please imagine the following scenario:

*You are currently planning a vacation to **Buyuada Island**, which will happen in three months’ time. You **do not know much about the destination**. But after some information search, you found that a hotel at the destination **“Pegasus Hotel”** seems nice. You found the **website** of the hotel, and so you would like to take a look at it first before making a decision.*

*When you click on the “next” button, you will see the website of “Pegasus Hotel”, **please pay attention to the content on the website**, as the questions that come after are related to the website.*

*** refer to Appendix I for the websites used ***

20. All of the following have appeared on the hotel website, except:

- ☐ Accommodation
- ☐ Facilities & Services
- ☐ Map of Buyuada Island

21. Have you seen a human image on the hotel homepage?

☐ Yes

☐ No

☐ I do not remember

Please indicate your level of agreement to each statement by circling the number that best describes how you feel and what you think.

		<i>Strongly agree</i>					<i>Strongly disagree</i>
22.	The person appearing on the images of the Pegasus Hotel homepage is similar to me in terms of:						
	a. age	7	6	5	4	3	2 1
	b. nationality	7	6	5	4	3	2 1
23	I think that the person on the human image looks attractive.	7	6	5	4	3	2 1
24.	I like the hotel website.						
25.	I have a favorable response to the hotel website.	7	6	5	4	3	2 1
26.	I feel positive toward the hotel website.	7	6	5	4	3	2 1
27.	The hotel website is good.	7	6	5	4	3	2 1
28.	This hotel appears to be of good quality.	7	6	5	4	3	2 1
29.	This hotel appears to be durable.	7	6	5	4	3	2 1
30.	This hotel appears to be reliable.	7	6	5	4	3	2 1
31.	I think the hotel website was realistic.	7	6	5	4	3	2 1
32.	I felt I could imagine myself using this hotel website.	7	6	5	4	3	2 1
33.	For the purpose of this study, I was able to imagine using this website to evaluate this hotel.	7	6	5	4	3	2 1

The following is related to your travel experience, please select/fill in the answers that are most appropriate to you.

34. The number of overnight trips that you have made in the past 12 months is:

35. How many time have you stayed at a hotel in the past 12 months?

☐ 0 (have not stayed at a hotel)

☐ 1 time or above

Below is your personal information. Please select the answers that are most appropriate to you.

36. Gender: ☐ Male ☐ Female
37. Age: ☐ Less than 18 ☐ 18-25
☐ 26-32 ☐ 33 or above
38. You are currently: ☐ Bachelor student ☐ Master student or above
☐ Working ☐ None of the above

39. I believe that:

		<i>Strongly agree</i>				<i>Strongly disagree</i>		
		7	6	5	4	3	2	1
a	I have enough money to buy things I want.							
b	I don't need to worry too much about paying my bills.							
c	I feel relatively wealthy compared to other classmates.							

*****End of the experiment. Thank you very much! *****

Appendix E Chinese questionnaire - Study 2

School of
Hotel & Tourism Management



您好！

我是来自香港理工大学酒店与旅游管理学院的一名博士生，现在正进行一项关于酒店网站对客户购买行为影响的研究。我诚邀您参加这个实验，当中包括浏览一个酒店网站，然后回答一些有关该网站的问题。完成这次调查大约需要 15 分钟。

参与本次调查纯属自愿，您可以随时终止此实验或填写此问卷。您的资讯将仅用作学术研究，您所有的回答将严格保密。

所有答案没有对与错之分。如填写问卷时遇到任何问题，请与我联系。非常期待您的参与，谢谢！

陈正珠

电邮：[irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

联络电话：+852 6651

☐我同意参与这项研究

☐我拒绝参与这项研究

在正式回答问卷之前，请先回答以下问题。

1. 你是否曾参与本调查？

☐ 是

☐ 否

接下来的句子是有关你对购买产品时的一些想法。请仔细阅读每一句子，并选出你对该句子的赞同程度。

	非常 同意				非常不 同意
2. 我对一件能象征身份的产品很感兴趣。	5	4	3	2	1
3. 我会购买一件能象征身份的产品。	5	4	3	2	1
4. 我愿意支付更昂贵的价钱去购买一件能象征我身份地位的产品。	5	4	3	2	1
5. 一件产品是否能象征身份与我没有关系。(R)	5	4	3	2	1
6. 对我来说，一件有派头的产品更具价值。	5	4	3	2	1
7. 我经常配搭自己拥有的东西，去建立一个不可被模仿的个人形象。	5	4	3	2	1
8. 我经常寻求一件普通产品更为有趣的一面，因为我喜欢原创。	5	4	3	2	1
9. 我透过购买特别的产品去积极塑造个人独特性。	5	4	3	2	1
10. 寻找罕见的产品有助我建立独特的形象。	5	4	3	2	1
11. 我购买的产品令我破坏了约定俗成的规律。	5	4	3	2	1
12. 我经常违反社交圈子对应该购买什么的明确规律。	5	4	3	2	1
13. 我经常违背我的社交圈子对某些产品应该如何正确使用的规则。	5	4	3	2	1
14. 这是一项检测专注度的问题，请选择 "非常不同意"。	5	4	3	2	1
15. 我喜欢购买我身边的人似乎不太会接受的东西，以挑战他们普遍的口味。	5	4	3	2	1

16	当我拥有的产品在普罗大众中变得流行时，我会开始减少使用它。	5	4	3	2	1
17	我经常避免购买大家都会购买的产品。	5	4	3	2	1
18	我的原则是我不喜欢所有人都购买的产品。	5	4	3	2	1
19	一个产品在大众中越普遍，我越不感兴趣去购买。	5	4	3	2	1

20. 请于下列四个选项中，选出当你出外旅游时最(不)喜欢的旅游活动。

☐ 品尝地道美食

☐ 参观自然景色

☐ 野外狩猎

☐ 玩登山单车

***Either one of the questions was shown.*

现在请想像一下以下情况：

你现正计划到布雅达岛旅行度假，你有三个月时间准备行程。你对布雅达岛这个目的地不太熟悉，你在网上看到“比格斯酒店” (Pegasus Hotel) 似乎不错。于是你想先看看它的网站，再决定是否预订。

在下一页，你将会看到“比格斯酒店”的网站，请细心留意酒店网站的内容，因为你将被问到一些关于该网站的问题。

*** refer to Appendix J for the websites used***

21. 以下内容均有在酒店网店上出现，除了：

☐ 酒店房间 (Accommodation)

☐ 酒店设施 (Facilities & Services)

☐ 布雅达岛地图 (Map of Buyuada Island)

22. 请问你看到的酒店网站中有人像的照片出现过嗎？

☐有

☐没有

☐我不记得

23. 酒店网页中的人像在进行那项旅游活动？

☐品尝地道美食 (experience local food)

☐参观自然景色 (experience the nature)

☐野外狩猎 (experience hunting)

☐玩登山单车 (experience mount biking)

请详细阅读以下句子，并选出您对于以下陈述的赞同程度。

		非常 同意					非常不 同意	
24.	我认为酒店网页中的人像和我于旅游时所享受的活动很相似。	7	6	5	4	3	2	1
25.	出外旅游时，我喜欢去(品尝当地美食/参观自然景色/玩登山单车/到野外狩猎)。	7	6	5	4	3	2	1
26.	我喜欢这个酒店网站。	7	6	5	4	3	2	1
27.	我对这个酒店网站有好感。	7	6	5	4	3	2	1
28.	我对这个酒店网站感觉正面。	7	6	5	4	3	2	1
29.	这个酒店网站很好。	7	6	5	4	3	2	1
30.	这是一家高质素的酒店。	7	6	5	4	3	2	1
31.	这家酒店似乎是稳固的。	7	6	5	4	3	2	1
32.	这家酒店似乎是可靠的。	7	6	5	4	3	2	1
33.	我认为酒店网站是真实的。	7	6	5	4	3	2	1
34.	我可以想像自己使用这个酒店网站。	7	6	5	4	3	2	1
35.	使用这个网站来评估这家酒店有助我完成这次调查。	7	6	5	4	3	2	1

以下是有关你的旅行经验，请选择/填写最适合你的答案。

36. 你于过往 12 个月内出外旅行 (过夜) 的次数为： _____

37. 你于过往 12 个月内入住酒店的次数为：

☐ 0 次 (没有入住过酒店)

☐ 1 次或以上

以下是有关你的个人资料，请选择最适合你的答案。

38. 性别

☐ 男

☐ 女

39. 年龄

☐ 18 岁以下

☐ 18-25 岁

☐ 26-32 岁

☐ 33 岁或以上

40. 你现正为：

☐ 大学生

☐ 硕士生或以上

☐ 在职人士

☐ 以上都不是

41. 我认为：

非常

非常不

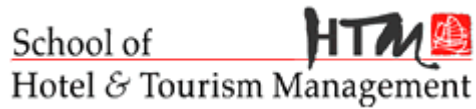
同意

同意

a	我有足夠的錢去買我想要的東西。	7	6	5	4	3	2	1
b	我不用為支付自己的賬單過於擔心。	7	6	5	4	3	2	1
c	我覺得自己比其他人相對富裕。	7	6	5	4	3	2	1

*****问卷结束，多谢你的参与*****

Appendix F English questionnaire - Study 2



Dear Participant:

My name is Chan Cheng Chu (Irene) and I am a PhD student of the School of Hotel and Tourism Management, The Hong Kong Polytechnic University. I am conducting a study relating to the effect of hotel websites on purchase behaviors, and would like to invite you to participate in this research study by completing an experiment. You will be asked to **browse a hotel website**, and then answer some questions related to that website. The entire experiment will require approximately 15 minutes.

The participation is totally voluntary and you can stop at any time during the process. The information collected will be solely used for research. Please be assured that all your responses will be kept strictly confidential.

Please be noted that there is no right or wrong answer to the questions, and you just have to provide answers that best reflect your opinions. Should you have any questions regarding this questionnaire, please do not hesitate to contact me. Thank you!

Irene Chan Cheng Chu

Email: [irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

Contact number: +852 6651

- ☐ I **agree** to participant in this study
- ☐ I **refuse** to participate in this study

Please answer the following questions before proceeding with the experiment.

1. Have you participated in this study before?

☐ Yes

☐ No

(proceed only if “no” is selected)

The following statements are about your perceptions on product consumption. Please indicate your level of agreement to each statement by circling the number that best describes what you think.

		<i>Strongly agree</i>			<i>Strongly disagree</i>	
2.	I am interested in a product with status.	5	4	3	2	1
3.	I would buy a product because it has status.	5	4	3	2	1
4.	I would pay more for a product if it had status.	5	4	3	2	1
5.	The status of a product is irrelevant to me (R).	5	4	3	2	1
6.	A product is more value to me if it has some snob appeal.	5	4	3	2	1
7.	I often combine possessions in such a way that I create a personal image that cannot be duplicated.	5	4	3	2	1
8.	I often try to find a more interesting version of run-of-the-mill products because I enjoy being original.	5	4	3	2	1
9.	I actively seek to develop my personal uniqueness by buying special products.	5	4	3	2	1
10.	Having an eye for products that are unusual assists me in establishing a distinctive image.	5	4	3	2	1
11.	When it comes to the products I buy, I have broken customs.	5	4	3	2	1
12.	I have often violated the understood rules of my social group regarding what to buy.	5	4	3	2	1
13.	I have often gone against the understood rules of my social group regarding how certain products are properly used.	5	4	3	2	1

14.	I enjoy challenging the prevailing taste of people I know by buying something they would not seem to accept.	5	4	3	2	1
15.	When a product I own becomes popular among the general public, I begin to use it less.	5	4	3	2	1
16.	I often try to avoid products that I know are bought by the general public.	5	4	3	2	1
17.	As a rule, I dislike products that are customarily bought by everyone.	5	4	3	2	1
18.	The more commonplace a product is among the general public, the less interested I am in buying it.	5	4	3	2	1
19.	The more commonplace a product is among the general public, the less interested I am in buying it.	5	4	3	2	1

20. Among the four travel activities below, which one do you prefer the most (the least) when you travel?

☐ Experience local food

☐ Visit natural attractions

☐ Hunting

☐ Mount biking

***Either one of the questions was shown.*

Please imagine the following scenario:

You are currently planning a vacation to **Buyuada Island**, which will happen in three months' time. You **do not know much about the destination**. But after some information search, you found that a hotel at the destination **"Pegasus Hotel"** seems nice. You found the **website** of the hotel, and so you would like to take a look at it first before making a decision.

When you click on the "next" button, you will see the website of "Pegasus Hotel", **please pay attention to the content on the website**, as the questions that come after are related to the website.

*** refer to Appendix J for the websites used ***

21. All of the following have appeared on the hotel website, except:

- ☐ Accommodation ☐ Facilities & Services
☐ Map of Buyuada Island

22. Have you seen a human image on the hotel homepage?

- ☐ Yes ☐ No ☐ I do not remember

23. What kind of tourist activity was shown on the hotel homepage?

- ☐ Experience local food
☐ Experience the nature
☐ Experience hunting
☐ Experience mount biking

Please indicate your level of agreement to each statement by circling the number that best describes how you feel and what you think.

		<i>Strongly agree</i>					<i>Strongly disagree</i>	
		7	6	5	4	3	2	1
24.	I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do							
25.	I like to try local food/visit natural attractions/do mount biking/do hunting when I travel.							
26.	I like the hotel website.							
27.	I have a favorable response to the hotel website.							
28.	I feel positive toward the hotel website.							
29.	The hotel website is good.							
30.	This hotel appears to be of good quality.							
31.	This hotel appears to be durable.							
32.	This hotel appears to be reliable.							
33.	I think the hotel website was realistic.							

34.	I felt I could imagine myself using this hotel website.	7	6	5	4	3	2	1
35.	For the purpose of this study, I was able to imagine using this website to evaluate this hotel.	7	6	5	4	3	2	1

The following is related to your travel experience, please select/fill in the answers that are most appropriate to you.

36. The number of overnight trips that you have made in the past 12 months is:

37. How many time have you stayed at a hotel in the past 12 months?

☐ 0 (have not stayed at a hotel)

☐ 1 time or above

Below is your personal information. Please select the answers that are most appropriate to you.

38. Gender:

☐ Male

☐ Female

39. Age:

☐ Less than 18

☐ 18-25

☐ 26-32

☐ 33 or above

40. You are currently:

☐ Bachelor student

☐ Master student
or above

☐ Working

☐ None of the
above

41. I believe that:

		<i>Strongly agree</i>				<i>Strongly disagree</i>		
a	I have enough money to buy things I want.	7	6	5	4	3	2	1
b	I don't need to worry too much about paying my bills.	7	6	5	4	3	2	1
c	I feel relatively wealthy compared to other classmates.	7	6	5	4	3	2	1

*****End of the experiment. Thank you very much! *****

Appendix G Chinese questionnaire - Study 3

School of
Hotel & Tourism Management



您好！

我是来自香港理工大学酒店与旅游管理学院的一名博士生，现在正进行一项关于酒店网站对客户购买行为影响的研究。我诚邀您参加这个实验，当中包括浏览一个酒店网站，然后回答一些有关该网站的问题。完成这次调查大约需要 15 分钟。

参与本次调查纯属自愿，您可以随时终止此实验或填写此问卷。您的资讯将仅用作学术研究，您所有的回答将严格保密。

所有答案没有对与错之分。如填写问卷时遇到任何问题，请与我联系。非常期待您的参与，谢谢！

陈正珠

电邮：[irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

联络电话：+852 6651

☐我同意参与这项研究

☐我拒绝参与这项研究

在正式回答问卷之前，请先回答以下问题。

1. 你是否曾参与本调查？

☐ 是

☐ 否

接下来的句子是有关你对购买产品时的一些想法。请详细阅读每一句句子，并选出你对该句子的赞同程度。

		非常 同意				非常不 同意
2.	我经常配搭自己拥有的东西，去建立一个不可被模仿的个人形象。	5	4	3	2	1
3.	我喜欢原创的产品。	5	4	3	2	1
4.	我透过购买特别的产品去积极塑造个人独特性。	5	4	3	2	1
5.	寻找罕见的产品有助我建立独特的形象。	5	4	3	2	1
6.	我购买的产品令我破坏了既定的规律。	5	4	3	2	1
7.	我经常违反社交圈子对应该购买什么的明确规律。	5	4	3	2	1
8	我经常违背我的社交圈子对某些产品应该如何正确使用的规则。	5	4	3	2	1
9.	我喜欢购买我身边的人似乎不太会接受的东西，以挑战他们普遍的口味。	5	4	3	2	1
10.	当我拥有的产品在普罗大众中变得流行时，我会开始减少使用它。	5	4	3	2	1
11.	我经常避免购买大家都会购买的产品。	5	4	3	2	1
12.	我的原则是我不喜欢所有人都购买的产品。	5	4	3	2	1
13.	一个产品在大众中越普遍，我越不感兴趣去购买。	5	4	3	2	1

接下来的句子是有关你对「思考」的一些看法。请仔细阅读每一句句子，并选出你对该句子的赞同程度

		非常 同意				非常不 同意
14.	相对简单的问题，我更喜欢复杂的。	5	4	3	2	1
15.	我喜欢负责处理需要大量思考的事情。	5	4	3	2	1
16.	我 <u>不认为</u> 思考是一种乐趣。	5	4	3	2	1
17.	我宁可做一些 <u>不太需要思考</u> 的事情，而非一些肯定会挑战到我思维能力的事情。	5	4	3	2	1
18.	我试图避免有可能要深入思考某些事情的情况。	5	4	3	2	1
19.	我在努力认真思考的过程中找到满足感。	5	4	3	2	1
20.	我只尽我所能去思考。	5	4	3	2	1
21.	这是一项检测专注度的问题，请选择 "非常不同意"。	5	4	3	2	1
22.	相较于长远打算，我更愿意思考日常事务。	5	4	3	2	1
23.	我喜欢那些我学会了之后就 <u>不需要</u> 思考太多的任务。	5	4	3	2	1
24.	依靠个人观点来实现目标很吸引我。	5	4	3	2	1
25.	我很享受那种通过创新方式解决问题的任务。	5	4	3	2	1
26.	学习新的思考方式 <u>并不会</u> 让我感到非常兴奋。	5	4	3	2	1
27.	我更喜欢自己的生活充满了困惑的挑战。	5	4	3	2	1
28.	抽象思维这个概念很吸引我。	5	4	3	2	1
29.	相对那些不太需要思考的任务，我更喜欢那种需要动脑根的任务。	5	4	3	2	1
30.	完成一项需要大量思考的任务后，我感到解脱而非满足。	5	4	3	2	1
31.	对我来说，完成工作就足够了；我不在乎当中的过程或原因。	5	4	3	2	1
32.	我还是会认真思考一件事情，即使对我自身没有影响。	5	4	3	2	1

33. 请于下列四个选项中，选出当你出外旅游时最(不)喜欢的旅游活动。

☐ 品尝地道食品

☐ 参观自然景点

☐ 钓鱼

☐ 玩登山单车

***Either one of the questions was shown.*

现在请想像一下以下情况：

你现正计划到布雅达岛旅行度假，你有三个月时间准备行程。你对布雅达岛这个目的地不太熟悉，你在网上看到"比格斯酒店" (Pegasus Hotel) 似乎不错。于是你想先看看它的网站，再决定是否预订。

在下一页，你将会看到“比格斯酒店”的网站，请细心留意酒店网站的内容，因为你将被问到一些关于该网站的问题。

*** refer to Appendix K for the websites used***

34. 以下内容均有在酒店网店上出现，除了：

☐ 酒店房间 (Accommodation)

☐ 酒店设施 (Facilities & Services)

☐ 布雅达岛地图 (Map of Buyuada Island)

35. 请问你看到的酒店网站中有人像的照片出现过吗？

☐ 有

☐ 没有

☐ 我不记得

36. 酒店网页中的人像在进行哪项旅游活动？

☐ 品尝地道食品 (experience local food)

☐ 参观自然景点 (visit natural attractions)

☐ 钓鱼(experience fishing)

☐ 玩登山单车 (experience mountbiking)

请仔细阅读以下句子，并选出您对于以下陈述的赞同程度。

	非常 同意						非常不 同意
37. 我认为酒店网页中的人像和我于旅游时所享受的活动很相似。	7	6	5	4	3	2	1
38. 我认为酒店网页中的人像和我的：							
a. 年纪很相似。	7	6	5	4	3	2	1
b. 国籍很相似。	7	6	5	4	3	2	1
39. 我认为酒店网页中的人像的外表很吸引。	7	6	5	4	3	2	1
40. 出外旅游时，我喜欢去品尝当地食品 (参观自然景点/玩登山单车/去钓鱼)。	7	6	5	4	3	2	1

以下是关于你对刚才看过的酒店网站的感觉及对该酒店的想法。请选出你对于以下陈述的赞同程度。

	非 常 同 意						非常不 同意
41. 我喜欢这个酒店网站。	7	6	5	4	3	2	1
42. 我对这个酒店网站有好感。	7	6	5	4	3	2	1
43. 我对这个酒店网站感觉正面。	7	6	5	4	3	2	1
44. 这个酒店网站很好。	7	6	5	4	3	2	1
45. 我愿意花更多时间去浏览这个酒店网站。	7	6	5	4	3	2	1
46. 我愿意阅读更多这个酒店网站上的资讯。	7	6	5	4	3	2	1
47. 我愿意继续浏览这个酒店网站。	7	6	5	4	3	2	1
48. 我愿意再次到访这个酒店网站。	7	6	5	4	3	2	1
49. 这是一家高质素的酒店。	7	6	5	4	3	2	1
50. 这家酒店似乎是稳固的。	7	6	5	4	3	2	1
51. 这家酒店似乎是可靠的。	7	6	5	4	3	2	1
52. 我很可能会入住在这家酒店。	7	6	5	4	3	2	1
53. 如果在不久的将来，我需要预订酒店的	7	6	5	4	3	2	1

话，我会考虑预订这家。								
54.	我 <u>绝不会</u> 考虑预订这家酒店。	7	6	5	4	3	2	1
55.	我认为酒店网站是真实的。	7	6	5	4	3	2	1
56.	我可以想像自己使用这个酒店网站。	7	6	5	4	3	2	1
57.	使用这个网站来评估这家酒店有助我完成这次调查。	7	6	5	4	3	2	1

以下是有关你的旅行经验，请选择/填写最适合你的答案。

58. 你于过往 12 个月内出外旅行(过夜)的次数为： _____

59. 你于过往 12 个月内入住酒店的次数为：

☐ 0 次 (没有入住过酒店)

☐ 1 次或以上

以下是有关你的个人资料，请选择最适合你的答案。

60. 性别

☐ 男

☐ 女

61. 年龄

☐ 18 岁以下

☐ 18-25 岁

☐ 26-32 岁

☐ 33 岁或以上

62. 你现正为：

☐ 大学生

☐ 硕士生或以上

☐ 在职人士

☐ 以上都不是

63. 我认为：

非常

非常不

同意

同意

a	我有足够的钱去买我想要的东西。	7	6	5	4	3	2	1
b	我不用为支付自己的账单过于担心。	7	6	5	4	3	2	1
c	我觉得自己比其他人相对富裕。	7	6	5	4	3	2	1

*****问卷结束，多谢你的参与*****

Appendix H English questionnaire - Study 3

School of 
Hotel & Tourism Management



Dear Participant:

My name is Chan Cheng Chu (Irene) and I am a PhD student of the School of Hotel and Tourism Management, The Hong Kong Polytechnic University. I am conducting a study relating to the effect of hotel websites on purchase behaviors, and would like to invite you to participate in this research study by completing an experiment. You will be asked to **browse a hotel website**, and then answer some questions related to that website. The entire experiment will require approximately 15 minutes.

The participation is totally voluntary and you can stop at any time during the process. The information collected will be solely used for research. Please be assured that all your responses will be kept strictly confidential.

Please be noted that there is no right or wrong answer to the questions, and you just have to provide answers that best reflect your opinions. Should you have any questions regarding this questionnaire, please do not hesitate to contact me. Thank you!

Irene Chan Cheng Chu

Email: [irene.cc.chan@](mailto:irene.cc.chan@polyu.edu.hk)

Contact number: +852 6651

- ☐ I **agree** to participant in this study
- ☐ I **refuse** to participate in this study

Please answer the following questions before proceeding with the experiment.

1. Have you participated in this study before?

☐ Yes

☐ No

(proceed only if “no” is selected)

The following statements are about your perceptions on product consumption. Please indicate your level of agreement to each statement by circling the number that best describes what you think.

		<i>Strongly agree</i>			<i>Strongly disagree</i>	
2.	I often combine possessions in such a way that I create a personal image that cannot be duplicated.	5	4	3	2	1
3.	I like original products.	5	4	3	2	1
4.	I actively seek to develop my personal uniqueness by buying special products.	5	4	3	2	1
5.	Having an eye for products that are unusual assists me in establishing a distinctive image.	5	4	3	2	1
6.	When it comes to the products I buy, I have broken customs.	5	4	3	2	1
7.	I have often violated the understood rules of my social group regarding what to buy.	5	4	3	2	1
8.	I have often gone against the understood rules of my social group regarding how certain products are properly used.	5	4	3	2	1
9.	I enjoy challenging the prevailing taste of people I know by buying something they would not seem to accept.	5	4	3	2	1
10.	When a product I own becomes popular among the general public, I begin to use it less.	5	4	3	2	1
11.	I often try to avoid products that I know are bought by the general public.	5	4	3	2	1

12.	As a rule, I dislike products that are customarily bought by everyone.	5	4	3	2	1
13.	The more commonplace a product is among the general public, the less interested I am in buying it.	5	4	3	2	1

The following statements are about your perceptions toward “thinking”. Please indicate your level of agreement to each statement by circling the number that best describes what you think.

		<i>Strongly agree</i>			<i>Strongly disagree</i>	
14.	I would prefer complex to simple problems.	5	4	3	2	1
15.	I like to have the responsibility of handling a situation that requires a lot of thinking.	5	4	3	2	1
16.	Thinking is not my idea of fun. (R)	5	4	3	2	1
17.	I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (R)	5	4	3	2	1
18.	I try to avoid situations where there is likely chance I will have to think in depth about something. (R)	5	4	3	2	1
19.	I find satisfaction in deliberating hard.	5	4	3	2	1
20.	I only think as hard as I have to. (R)	5	4	3	2	1
21.	This is an attention check question, please select “strongly disagree”.	5	4	3	2	1
22.	I prefer to think about daily projects to long-term ones. (R)	5	4	3	2	1
23.	I like tasks that require little thought once I've learned them. (R)	5	4	3	2	1
24.	The idea of relying on thought to make my way to the top appeals to me.	5	4	3	2	1
25.	I really enjoy a task that involves coming up with new solutions to problems.	5	4	3	2	1
26.	Learning new ways to think doesn't excite me very much. (R)	5	4	3	2	1
27.	I prefer my life to be filled with puzzles that I must solve.	5	4	3	2	1
28.	The notion of thinking abstractly is appealing to me.	5	4	3	2	1

29.	I would prefer a task that is intellectual to one that is somewhat important but does not require much thought.	5	4	3	2	1
30.	I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (R)	5	4	3	2	1
31.	It's enough for me that something gets the job done; I don't care how or why it works. (R)	5	4	3	2	1
32.	I usually end up deliberating about issues even when they do not affect me personally.	5	4	3	2	1

33. Among the four travel activities below, which one do you prefer the most (the least) when you travel?

☐ Experience local food

☐ Visit natural attractions

☐ Fishing

☐ Mount biking

***Either one of the questions was shown.*

Please imagine the following scenario:

You are currently planning a vacation to **Buyuada Island**, which will happen in three months' time. You **do not know much about the destination**. But after some information search, you found that a hotel at the destination **“Pegasus Hotel”** seems nice. You found the **website** of the hotel, and so you would like to take a look at it first before making a decision.

When you click on the “next” button, you will see the website of “Pegasus Hotel”, **please pay attention to the content on the website**, as the questions that come after are related to the website.

*** refer to Appendix K for the websites used***

34. All of the following have appeared on the hotel website, except:

- ☐ Accommodation ☐ Facilities & Services
☐ Map of Buyuada Island

35. Have you seen a human image on the hotel homepage?

- ☐ Yes ☐ No ☐ I do not remember

36. What kind of tourist activity was shown on the hotel homepage?

- ☐ Experience local food
☐ Experience the nature
☐ Experience fishing
☐ Experience mount biking

Please indicate your level of agreement to each statement by circling the number that best describes how you feel and what you think.

		<i>Strongly agree</i>					<i>Strongly disagree</i>		
		7	6	5	4	3	2	1	
37	I think that the person appearing on the image of the hotel website enjoys similar travel activity as I do								
38	The person appearing on the images of the Pegasus Hotel homepage is similar to me in terms of:								
	a. age	7	6	5	4	3	2	1	
	b. nationality	7	6	5	4	3	2	1	
39	I think that the person on the human image looks attractive.	7	6	5	4	3	2	1	
40	I like to try local food/visit natural attractions/do mount biking/do hunting when I travel.	7	6	5	4	3	2	1	

The following is about your feelings toward the hotel website that you have just browsed, as well as your thoughts about the hotel. Please indicate your level of agreement to each statement by circling the number that best describes how you feel and what you think.

		<i>Strongly agree</i>					<i>Strongly disagree</i>		
41.	I like the hotel website.	7	6	5	4	3	2	1	
42.	I have a favorable response to the hotel website.	7	6	5	4	3	2	1	
43.	I feel positive toward the hotel website.	7	6	5	4	3	2	1	
44.	The hotel website is good.	7	6	5	4	3	2	1	
45.	I am willing to spend more time in browsing this hotel website.	7	6	5	4	3	2	1	
46.	I am willing to read more information on this hotel website.	7	6	5	4	3	2	1	
47.	I am willing to continue browsing this hotel website.	7	6	5	4	3	2	1	
48.	I am willing to visit this hotel website again.	7	6	5	4	3	2	1	
49.	This hotel appears to be of good quality.	7	6	5	4	3	2	1	
50.	This hotel appears to be durable.	7	6	5	4	3	2	1	
51.	This hotel appears to be reliable.	7	6	5	4	3	2	1	
52.	It is likely that I will stay at this hotel.	7	6	5	4	3	2	1	
53.	If I were to book a hotel in the near future, it is likely that I would book a room at his hotel.	7	6	5	4	3	2	1	
54.	I would never consider booking this hotel (R).	7	6	5	4	3	2	1	
55.	I think the hotel website was realistic.	7	6	5	4	3	2	1	
56.	I felt I could imagine myself using this hotel website.	7	6	5	4	3	2	1	
57.	For the purpose of this study, I was able	7	6	5	4	3	2	1	

to imagine using this website to evaluate
this hotel.

The following is related to your travel experience, please select/fill in the answers that are most appropriate to you.

58. The number of overnight trips that you have made in the past 12 months is:

59. How many time have you stayed at a hotel in the past 12 months?

☐ 0 (have not stayed at a hotel)

☐ 1 time or above

Below is your personal information. Please select the answers that are most appropriate to you.

60. Gender:

☐ Male

☐ Female

61. Age:

☐ Less than 18

☐ 18-25

☐ 26-32

☐ 33 or above

62. You are currently:

☐ Bachelor student

☐ Master student
or above

☐ Working

☐ None of the
above

63. I believe that:

*Strongly
agree*

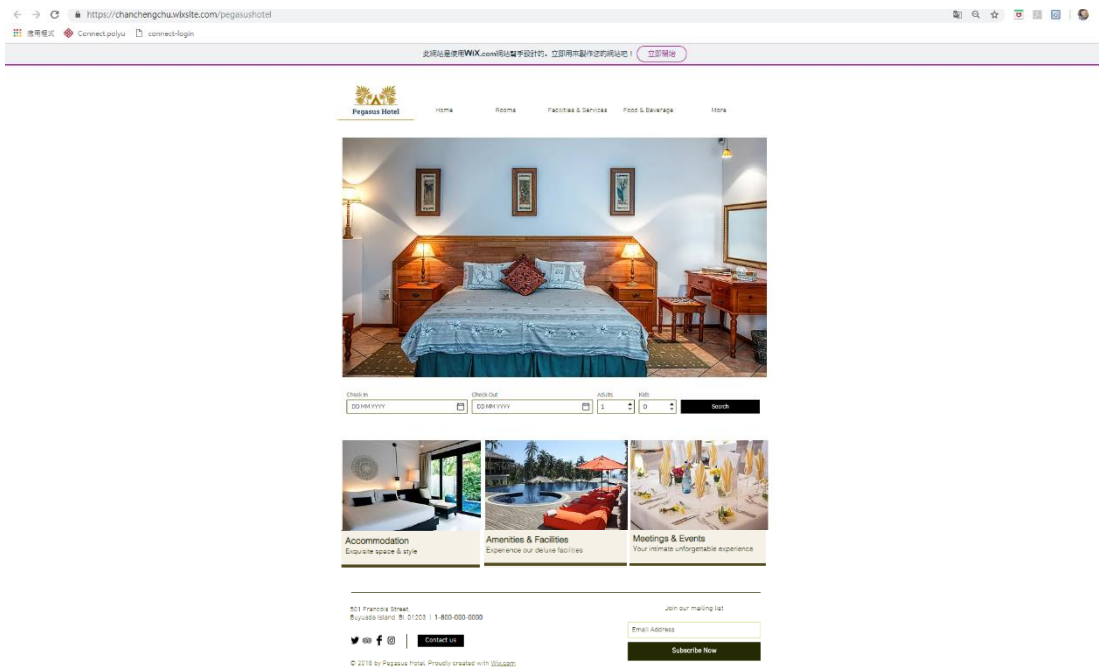
*Strongly
disagree*

a	I have enough money to buy things I want.	7	6	5	4	3	2	1
b	I don't need to worry too much about paying my bills.	7	6	5	4	3	2	1
c	I feel relatively wealthy compared to other classmates.	7	6	5	4	3	2	1

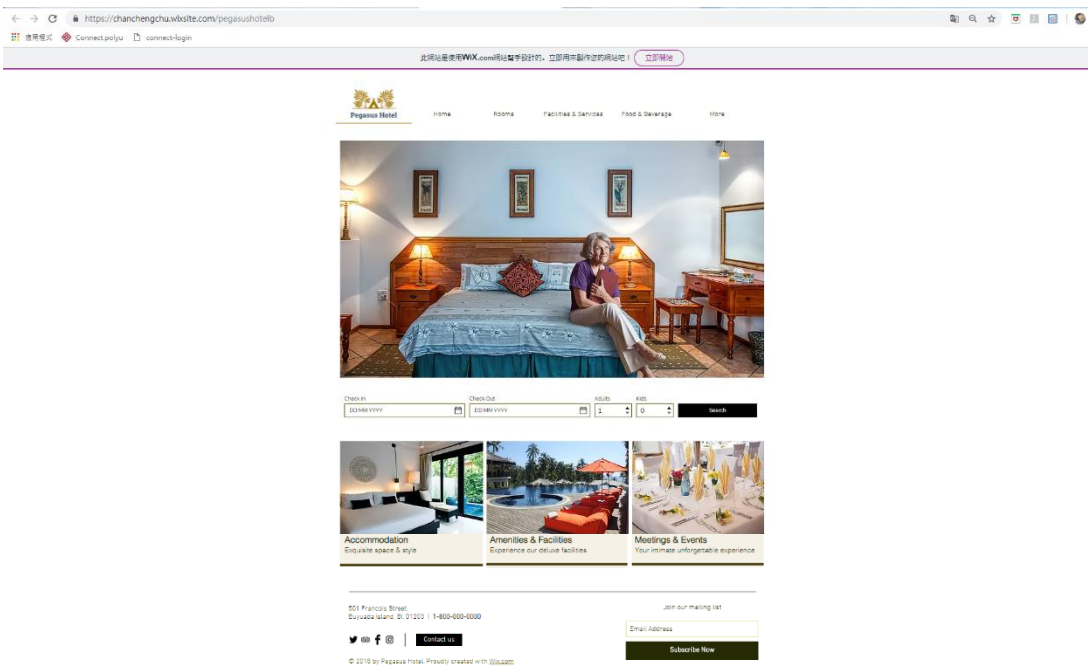
*****End of the experiment. Thank you very much! *****

Appendix I Simulated websites - Study 1

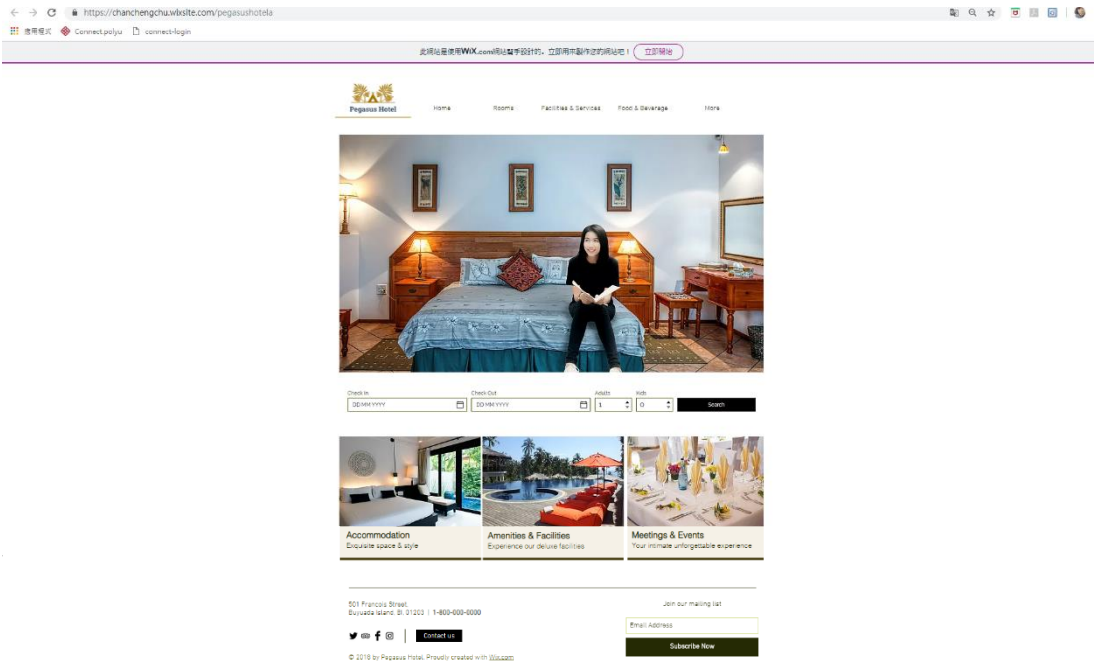
Condition: Control – no-human image



Condition: Human-present 1 – low demographic similarity

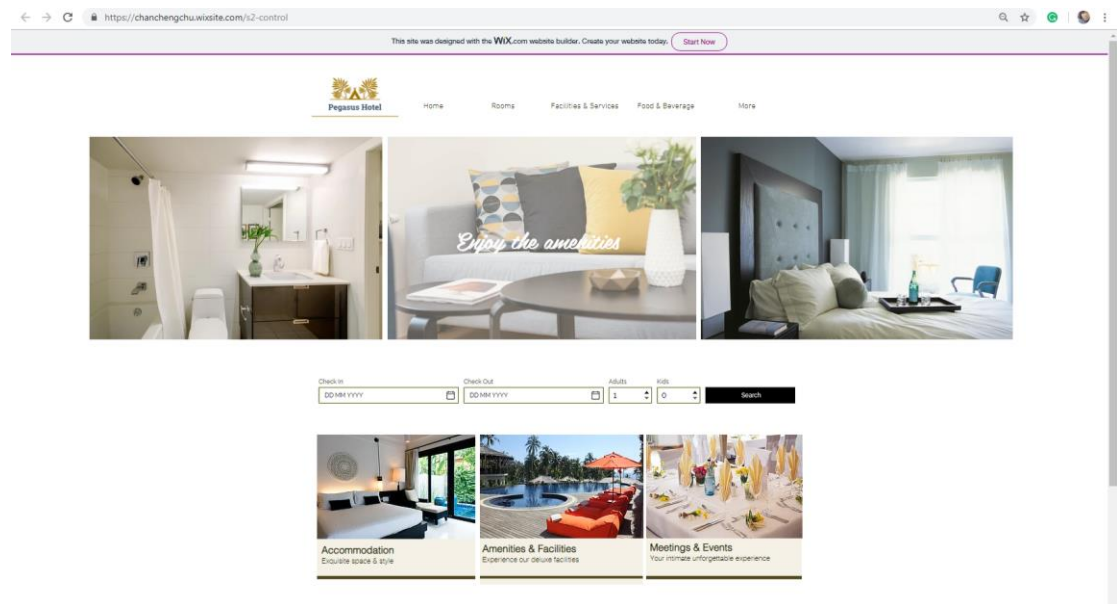


Condition: Human-present 2 – high demographic similarity

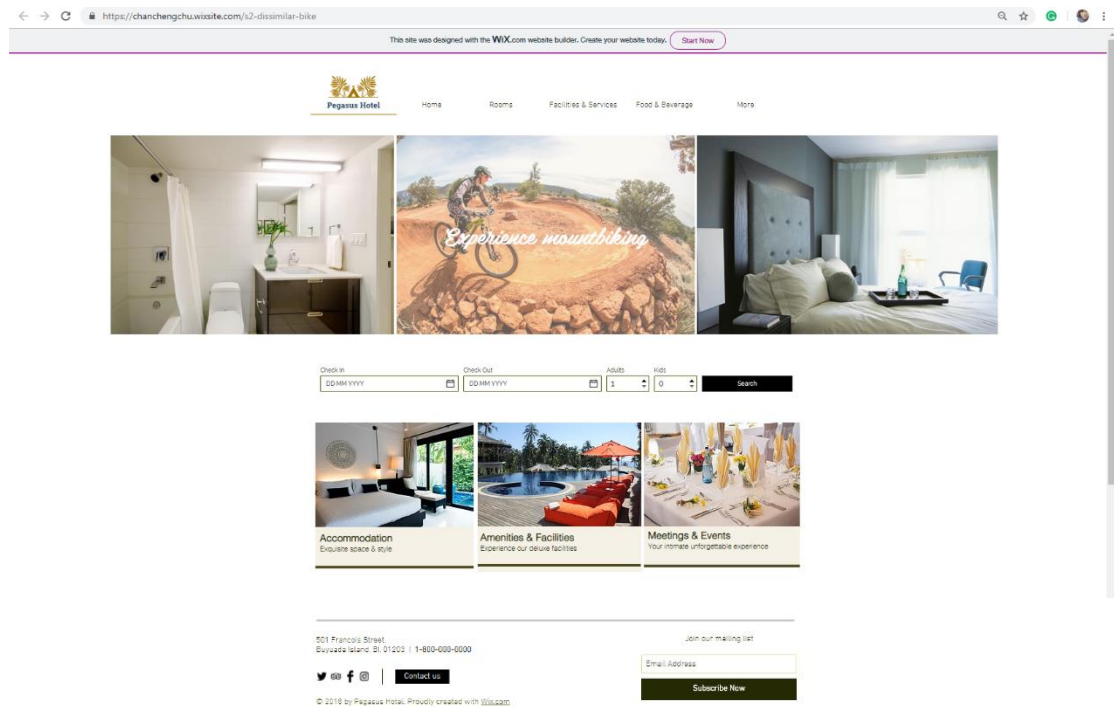


Appendix J Simulated websites - Study 2

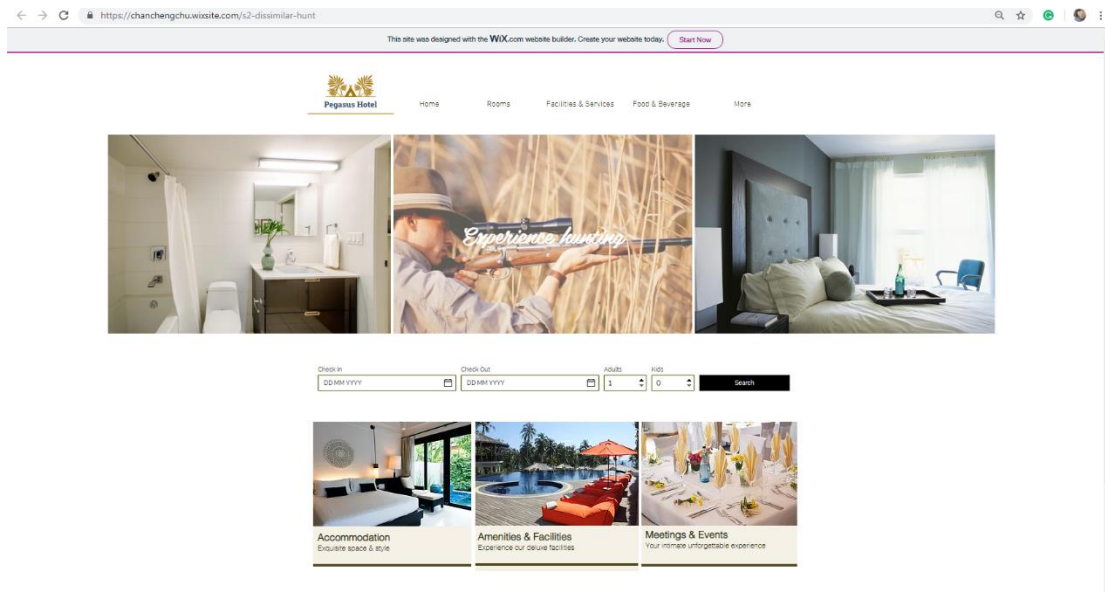
Condition: Control – no-human image



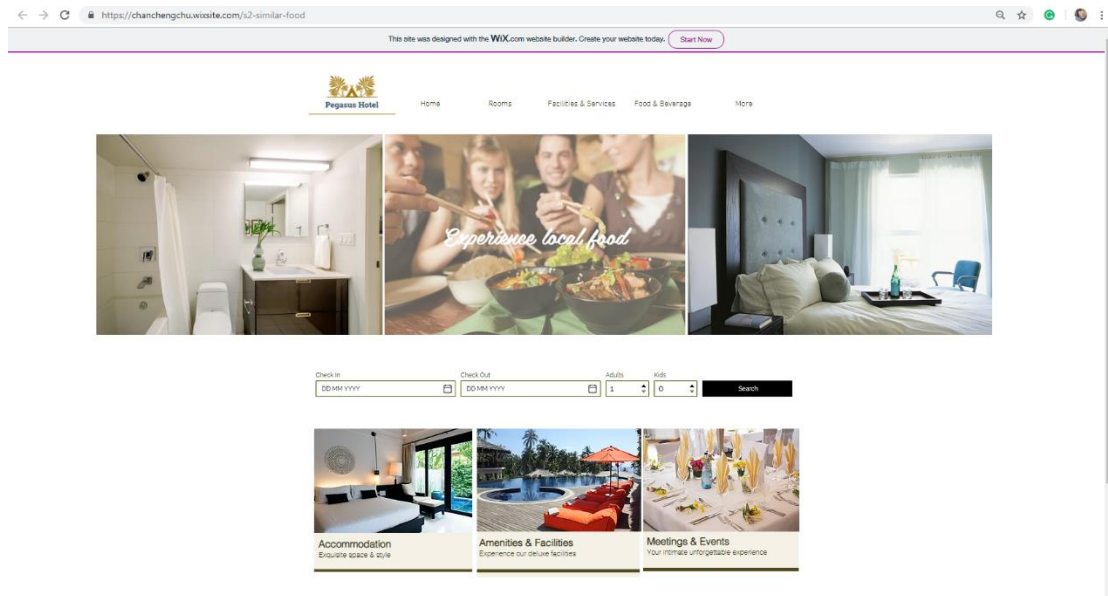
Condition: Condition: Human-present 1 – low behavioral similarity (mountbiking)



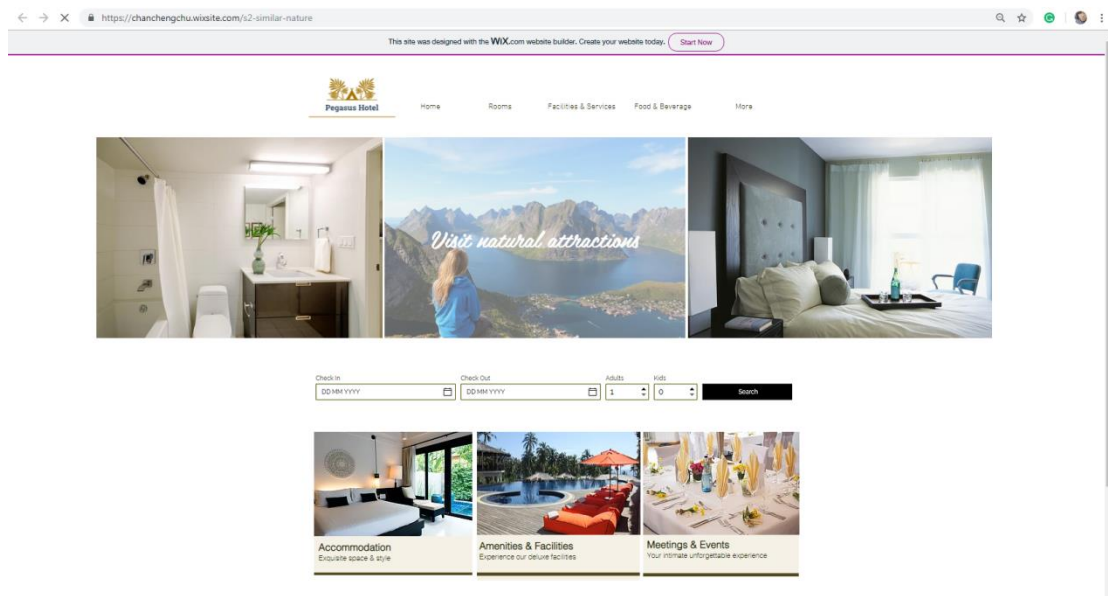
Condition: Condition: Human-present 1– low behavioral similarity (hunting)



Condition: Human-present 2 – high behavioral similarity (experience local food)

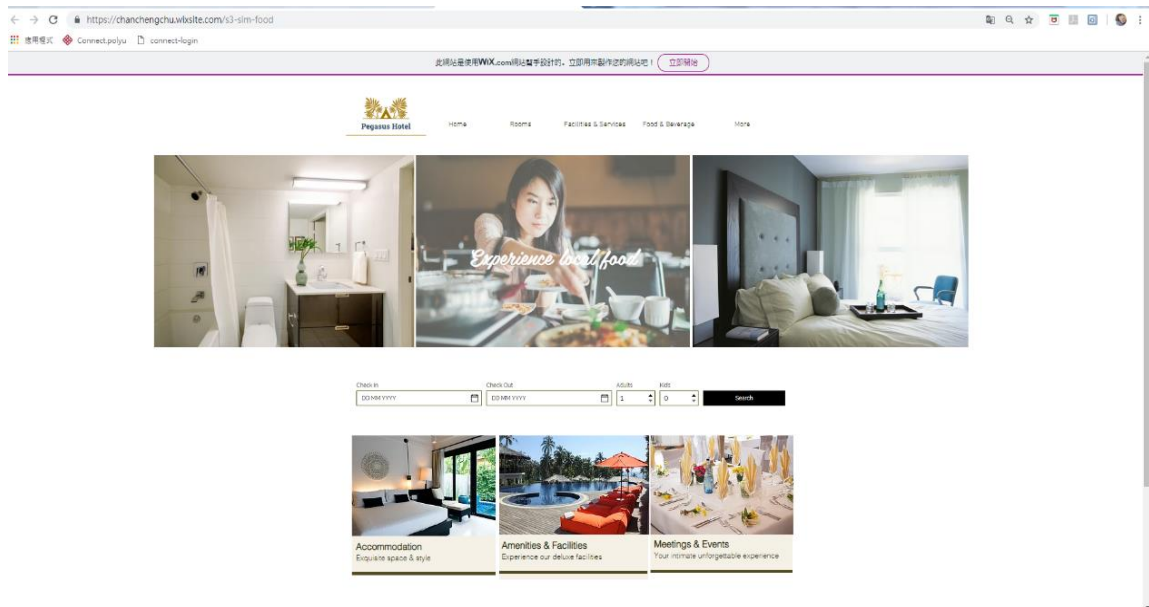


Condition: Human-present 2 – high behavioral similarity (visit natural attractions)

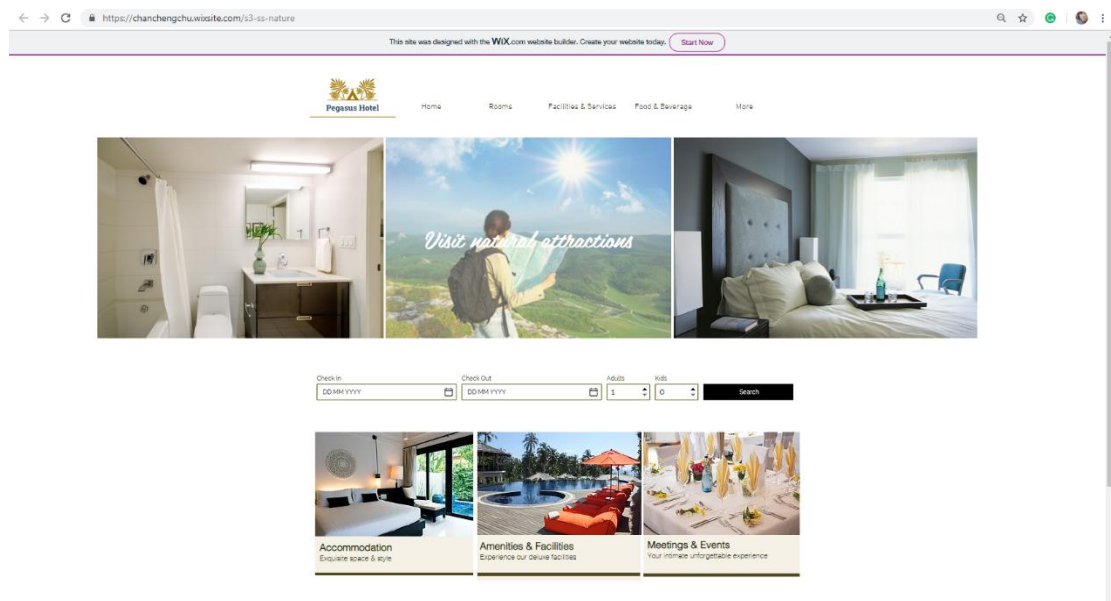


Appendix K Simulated websites - Study 3

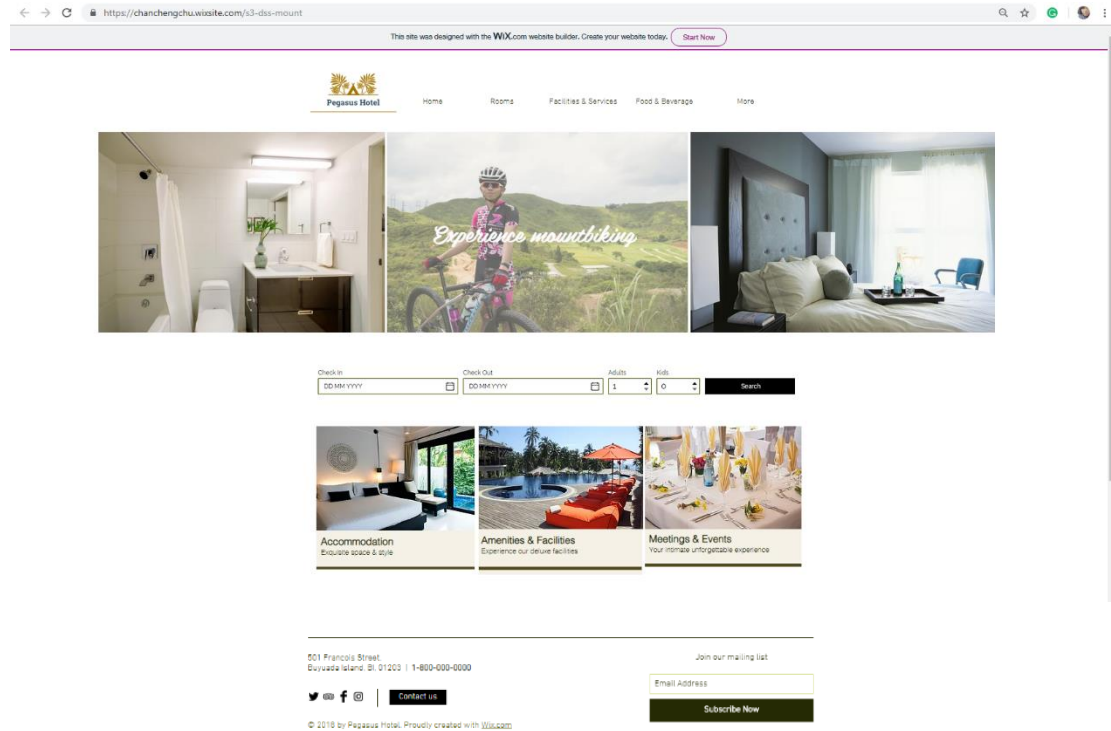
Condition: High demographic similarity and high behavioral similarity (experience local food)



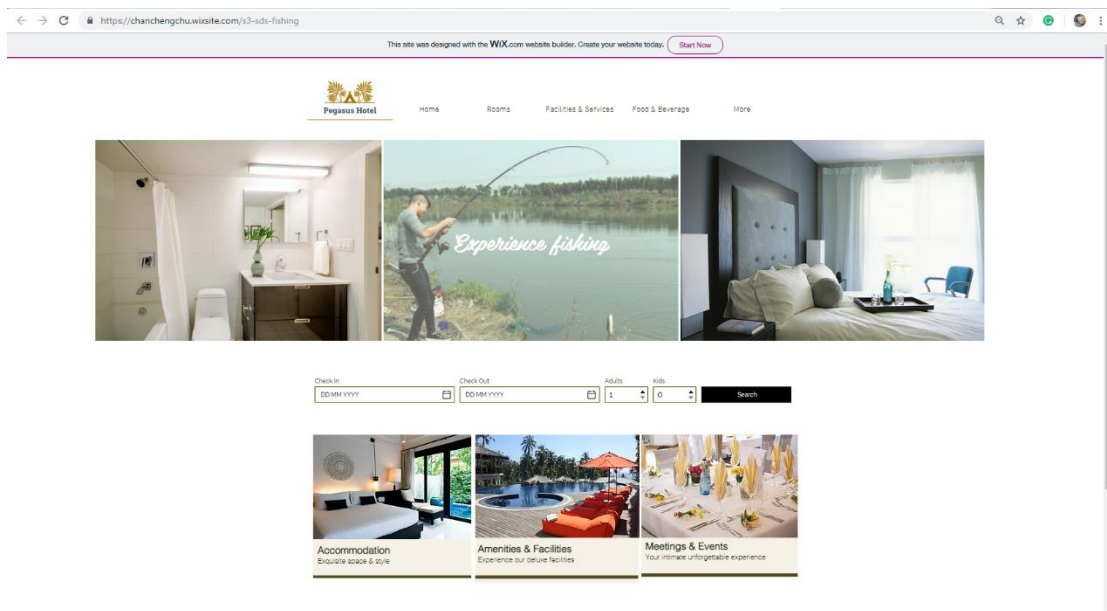
Condition: High demographic similarity and high behavioral similarity (visit natural attractions)



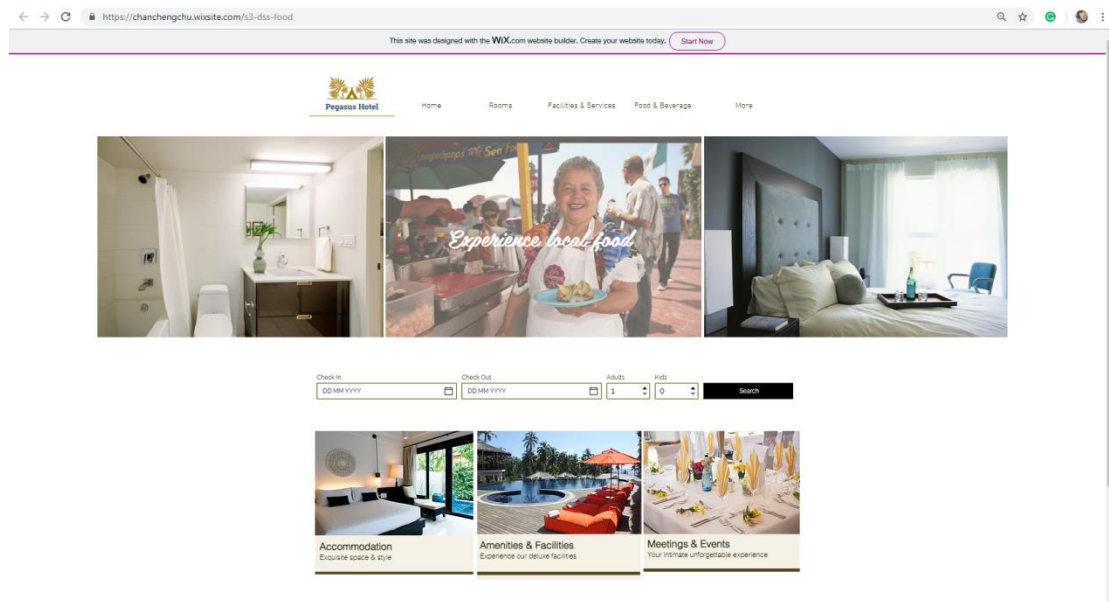
Condition: High demographic similarity and low behavioral similarity (mountbiking)



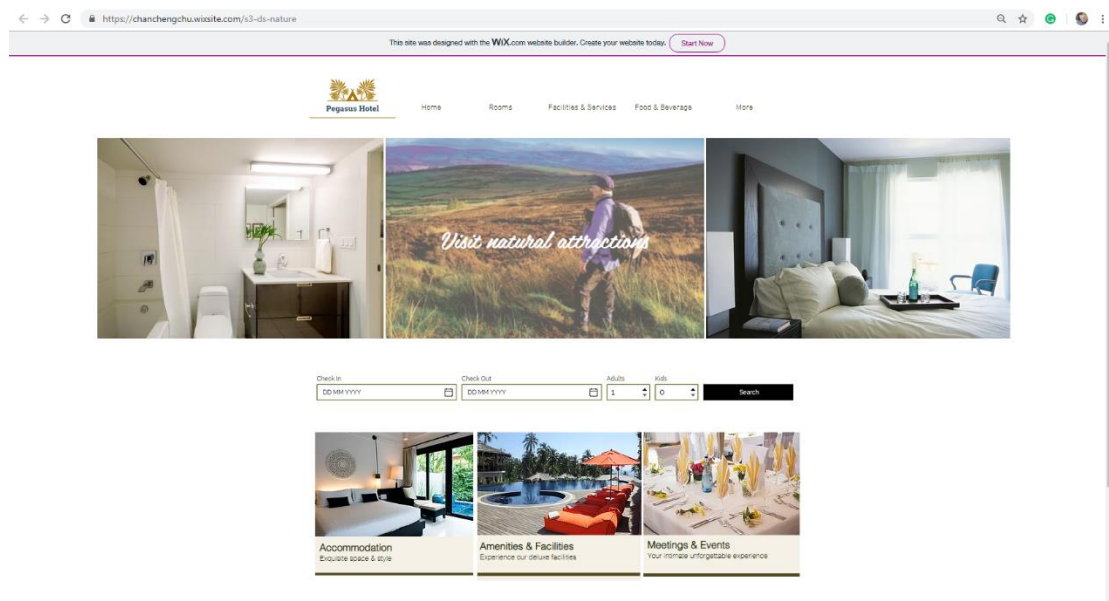
Condition: High demographic similarity and low behavioral similarity (fishing)



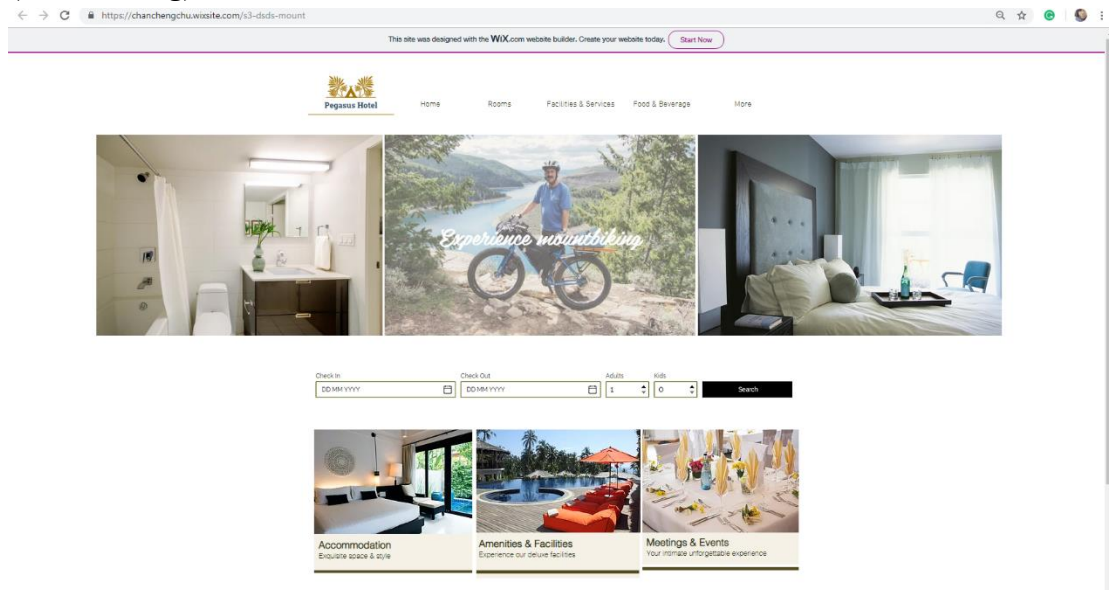
Condition: Low demographic similarity and high behavioral similarity (experience local food)



Condition: Low demographic similarity and high behavioral similarity (visit natural attractions)



Condition: Low demographic similarity and low behavioral similarity (mountbiking)



Condition: Low demographic similarity and low behavioral similarity (fishing)

