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Website Design in Tourism and Hospitality: A Multilevel Review

ABSTRACT

Synthesizing and integrating the works of 78 journal articles on the effect of website design on consumers, this study reconceptualizes and redefines five design features constituting effective website design for tourism and hospitality. The review shows that content and system designs are the most studied design features, followed by social, sensory, and hedonic features. Existing website design research predominantly focuses on website-level outcomes, overlooking the importance of product- and consumer-level outcomes. An integrative framework encompassing the four crucial elements of website design (i.e., design features, outcomes, processes, and conditions) in tourism and hospitality research is proposed.

KEYWORDS - website design, website feature, technology, tourism and hospitality, literature review

1. INTRODUCTION

Travel products and services, such as destinations, hotels, and attractions, are inherently experiential and intangible. Such products and services are mostly purchased in advance and distant from the actual place of consumption, which represent risk and uncertainty. The introduction of the Internet has significantly transformed travelers' behaviors and tourism business landscape. Given the appeal of convenience and product variety, travelers become increasingly dependent on the Internet for travel-related arrangements (Buhalis & Law, 2008). Statista (2019) showed that over 80% of American travelers visited more than three different websites or service providers before booking a flight. Therefore, designing and maintaining quality websites is an essential part of digital marketing strategy, which is closely intertwined with tourism management (Sun, Fong, Law, & He, 2017). In addition to complementing existing business activities, websites serve as an important channel for tourism suppliers to promote their products, communicate corporate images, and facilitate sales.

Given that websites have become increasingly popular among travelers and critical to the survival and competitiveness of tourism suppliers, extensive research efforts have been devoted to developing website evaluation models (e.g., Chung & Law, 2003; Ip, Law, & Lee, 2012; Leung, Law, & Lee, 2016), analyzing website usage intensity and performance of tourism suppliers (e.g., Baloglu & Pekcan, 2006; Ting, Kuo, & Li, 2012), and identifying the effects of website design on consumers (e.g., Loureiro, 2015; Jeon & Jeong, 2017). These website design studies have been reviewed and categorized on the basis of the evaluation techniques used (Ip, Law, & Lee, 2011; Law, Qi, & Buhalis, 2010), the time an evaluation is conducted (Morrison, Taylor, & Douglas, 2005), the evolution of evaluation methods over time (Law, 2019), and the role of websites in consumers'

decision-making process and suppliers' business functions (Sun et al., 2017). Despite the review articles published thus far, a few gaps in the website design research in tourism and hospitality exist. First, most existing reviews focused on the methodological aspects of website evaluation (Morrison et al., 2005; Ip et al., 2011; Law et al., 2010; Law, 2019). These studies largely focused on how websites have been evaluated, overlooking the constituents of effective websites. Second, website design literature in tourism and hospitality remains largely fragmented and inconclusive due to the different definitions and measures adopted for the same concepts, such as website functionality and usability (Law, 2019). Ultimately, knowledge of what website design features trigger or hinder certain consumer behavioral responses has not been comprehensively synthesized and consolidated. Fundamentally, our understanding on how to design effective websites for tourism and hospitality products remains sparse.

To bridge the identified gaps in the literature and supplement existing review studies, the present study provides a systematic analysis of all published articles on website design in tourism and hospitality. Particularly, the current review seeks to reconceptualize and redefine the constituents of effective website design pertinent to tourism and hospitality. This study also synthesizes existing knowledge on the effect of website design features on consumers and their responses toward tourism websites and products. A multilevel model incorporating various design features, outcomes, mediators, and moderators is provided to facilitate future research in clarifying the roles of various constructs and improve our understanding of the mechanism and conditions under which effective websites lead to specific outcomes. This study contributes to the existing literature on website design by establishing a solid base and indicating research directions for future knowledge development. The findings of the current review also offer practical insights

into tourism and hospitality managers to take a holistic view on website design, comprehensively understand the strategies to enhance their websites, and anticipate the outcomes corresponding to such strategies.

2. METHODOLOGY

2.1 Data Collection

Data collection was conducted in August 2020. The keyword-based approach was adopted to collect website design articles from three databases, namely, Scopus, ScienceDirect, and EBSCOHost. In combination with “tourism,” or “travel,” or “hospitality,” or “hotel,” keywords, including “website” and “online platform” were searched within the “keywords, titles or abstracts” sections of the articles to identify relevant studies. All relevant studies published in tourism and non-tourism disciplines were included to enhance the comprehensiveness of the current review. Unlike other review studies in which a starting point was set for data collection (e.g., Sun et al., 2017), all articles published thus far were included. An initial screening was performed to exclude research notes, editorials, and book reviews given their limited contributions to knowledge advancement (Law et al., 2019).

A total of 482 articles were collected. The authors then read the title and abstract of each retrieved article carefully to determine their relevance to the topic. The articles were primarily categorized on the basis of their titles and abstracts into one of the following three main research themes. The first stream of research centers on tourism suppliers’ usage of websites. For instance, Baloglu and Pekcan (2006) analyzed the website design characteristics and marketing practices of hotels in Turkey. The second theme revolves

around the evaluation of websites, which focuses on identifying the critical attributes of effective websites and evaluating website performances. For instance, Chung and Law (2003) developed a performance indicator by quantifying the information richness of websites ranging from facilities to customer contact information, reservation, surrounding area information, and site management. This stream of research identifies the antecedents of effective website dimensions by revealing the dimensions of website evaluation. However, these studies usually do not include any examination of outcome variables. The last theme focuses on the effect of websites on users' cognitive and behavioral responses. For example, Loureiro (2015) examined the effect of different website stimuli on consumers' attitude, visit intention, and recommendation by generating emotional responses. This stream of research differs from the preceding theme as it clearly specifies the outcome variables under investigation. Given that the present study aims to review the effects of specific website design features on triggering and hindering certain behavioral responses of consumers, only articles in the last stream of research were retained.

The above procedure resulted in 78 relevant articles, which first emerged in 2001 when Jeong and Lambert (2001) investigated the effect of information quality on consumers' intention to use lodging websites. The number of articles has been steadily rising since then and peaked in 2017 ($n = 13$). The publications on the effect of website design were scattered around 36 journals and that most listed journals have contributed one to two articles over the entire period. *Journal of Travel & Tourism Marketing* published the highest number of articles (nine articles, 11.5%), followed by *International Journal of Hospitality Management* (six articles, 7.7%) and *Tourism Management* (six articles, 7.7%). *International Journal of Contemporary Hospitality Management* and *Journal of Hospitality & Tourism Research* contributed five (6.4%) and four articles

(5.1%), respectively.

2.2 Data Analysis

The present study uses content analysis to review and consolidate the current knowledge of the effect of various website design features on consumers. The data analysis involves five sequential steps. First, the authors read each article rigorously and extracted four information from the content, namely, website design features (independent variables), outcomes (dependent variables), processes (mediators), and conditions (moderators) under investigation. Second, the extracted information was imported to the QDA Miner software for coding and analysis. The data analysis follows an inductive process. Initial coding was performed on the basis of the literal meaning of the extracted information. For instance, “navigability” relates to the ease or difficulty in moving through the website (Herrero & San Martín, 2012) and was thus coded as “navigation.” The design feature “aesthetic appeal” refers to the overall look and visual appearance of the website and was thus coded as “overall appearance” (Huang, Li, Mou, & Liu, 2017; Tsai, 2017).

Data coding and analysis revealed that the variables have been conceptualized and operationalized differently in the existing studies. Thus, in the next step, the definition and measurement items of each design feature used in the studies were reviewed. Recoding was then performed to reconcile any inconsistencies between the literal meaning and adopted definition of the constructs. For instance, the design feature “entertainment” in Li, Peng, Jiang, and Law's (2017) study was coded as “entertainment” in the previous step. However, after reviewing the definition adopted in their study, this feature was recoded as “overall appearance” and “innovativeness.” At this stage, codes

for any design features containing more than one dimension were also supplemented. If a concept containing sub-dimensions was investigated as the independent variable, then the sub-dimensions of the concept were coded individually instead.

In the fourth step, codes that are closely related to one another were combined to form an over-arching concept. For instance, “navigation,” “accessibility,” “layout,” and “ease of use” relate to the overall structural design of a website and were thus merged to form a design feature named as “structure” (Karimov, Brengman, & Van Hove, 2011). Moreover, “interactive speed,” “efficiency,” and “customer services” were all merged with “responsiveness” (Park & Gretzel, 2007). Figure 1 illustrates an example of the coding process. The coding and grouping of the other three information collected (i.e., dependent variables, mediators, and moderators) followed a similar logic and procedure.

Please place Figure 1 here

In the last step, the extracted studies were sorted into three main categories on the basis of the outcome variables being studied. Specifically, studies investigating consumers’ responses toward the website, such as perceived satisfaction with the website and adoption of the website for information search, were categorized as “website-level outcomes.” This group of research constitutes 69.2% of the existing tourism website design literature (54 papers). Articles exploring consumers’ responses toward the focal product or brand depicted on the website, such as interest in the tourism product, travel intention, and perceived destination image, were grouped into “product-level outcomes.” This group of articles represents 23.1% of the literature (18 papers). Only two articles

(2.6%) have investigated consumer-level outcomes, such as emotions (Björk, 2010). The remaining 5.5% (four articles) investigated multiple levels of outcomes (i.e., consumer- and product-levels, and website- and product levels). Statistical tools in QDA, such as coding frequency and co-occurrence, were used to aid subsequent data analysis.

In the following section, the website design features identified in the existing literature were first synthesized into five major design categories. Definitions for each category and design feature are provided. Afterward, the most frequently revealed effects of website design on consumers' responses at the three levels of outcomes (consumer-, website-, and product-levels) are presented.

3. RESULTS

3.1 Website design features

In total, 17 website design features were identified from the 78 retrieved articles. These design features are grouped into five categories, including the following: content ($n = 105$, 39.6%), system ($n = 79$, 29.8%), sensory ($n = 35$, 13.2%), social ($n = 30$, 8.2%), and hedonic designs ($n = 16$, 6%). Table 1 shows the definition and sample citations for each identified design feature.

Place Table 1 here

Content design relates to the information components conveyed through the website (Karimov et al., 2011). The most studied content design features are information quality ($n = 49$) and assurances ($n = 48$), followed by personalization ($n = 7$). Only Tatar and

Eren-Erdoğan (2016) explored the collaborative feature of websites, which is related to the connection of a website with other useful sites. *System design* is related to the technical aspect that ensures the website's function. Structural features ($n = 59$), such as the navigability of the website and accessibility of information, have received ample scholarly attention. Other system design features being studied include responsiveness ($n = 16$), transaction ($n = 3$), and resilience ($n = 1$). *Sensory design* denotes website features that engage or stimulate users' senses, mainly sight and hearing (Schmitt, 2003). The overall appearance of the website ($n = 22$) has received the most attention among the three sensory design features, followed by graphics ($n = 12$). Only Lee and Gretzel (2012) investigated the effect of audio feature on consumers' responses.

Social design relates to the embedded cues in the website that conveys a sense of social presence and personal interactions. Particularly, social design includes interactivity ($n = 27$), cultural cues ($n = 2$), and customer relationship ($n = 1$). Interactivity is the most popular social feature of websites being studied, whereas customer relationship (Liu & Zhang, 2014) and cultural cues (Tigre Moura et al., 2015) have rarely been studied. Last, *hedonic design* refers to website attributes that trigger users' emotions and feelings (Lee, 2018). Three types of hedonic design features have been identified from the existing literature, including entertainment ($n = 11$), innovative cues ($n = 4$), and unpleasantness ($n = 1$).

3.2 Design–outcome relationships

3.2.1 Consumer-level outcomes

Consumer-level outcomes represent studies investigating the effects of website design on consumers without any direct or indirect association with the tourism website or product. The current review shows that consumer-level outcomes have been rarely

investigated. Björk (2010) focused on solely consumer-related consequences, whereas Loda, Teichmann, and Zins, (2009) and Wang and Li (2019) incorporated consumer-related outcomes as one of the multiple outcomes of website design. Specifically, the design features that will generate consumer-level outcomes are mostly connected to the website's content design. For instance, high information quality will not only satisfy users' information needs (Loda et al., 2009) but also encourage them to share their experiences after their trips (Wang & Li, 2019). Moreover, Björk (2010) proposed that design features, such as information content and structure, pictures, interactivity, and overall impression may generate emotional responses in consumers. Among these features, information content and pictures are the most essential website features in generating customer emotions, such as making them feel happy and excited.

Processes and conditions

The mechanisms driving the effects of various design features on consumer-level outcomes have seldom been investigated. Loda et al. (2009) and Wang and Li (2019) focused on the cognitive processing of consumers, namely, perceived persuasiveness and perceived usefulness, respectively. No previous research has explored the moderating factors on the design–outcome relationship for consumer-level analysis.

3.2.2 Website-level outcomes

Website-level outcomes refer to studies investigating the effects of design on consumers' responses toward the website itself. As mentioned, such website-level outcome is the most commonly studied outcome, representing 69.2% of all retrieved studies. Most outcome variables being investigated are related to the behavioral intentions of consumers. Emotional responses and perceptions have been relatively less explored.

For instance, information quality, assurance, structure, and overall appearance of the website will affect users' adoption of the website for information search and purchases (e.g., Herrero & San Martín, 2012; Jeo, Ok, & Choi, 2018; Lee, 2018). Whether the website can be personalized on the basis of users' preferences and contain entertaining features will also influence users' intention to revisit the website (e.g., Bilgihan & Bujisic, 2015; Bilgihan, Nusair, Okumus, & Cobanoglu, 2015; Jeon & Jeong, 2017). Moreover, the responsiveness of the website and its overall appearance will determine whether users will recommend the website to others (e.g., Abou-Shouk & Khalifa, 2017; Lee, 2018). The interactivity of a website will generate various consumer perceptions on the website, including perceived social interaction (Aluri, Slevitch, & Larzelere, 2015), perceived service quality of the website (Hahn, Sparks, Wilkins, & Jin, 2017), and intention to revisit the website (e.g., ; Sreejesh & Ponnamp, 2017).

Existing studies showed that information quality and visual appearance are the most important features that can generate positive perceptions toward the website, such as perceived quality (Loureiro, 2015) and ease of use (Aljukhadar & Senecal, 2015). Other studies unveiled that interactivity, reliability, and playfulness are the most important factors influencing users' satisfaction with the website (Mohammed, Wafik, Jalil, & El Hassan, 2016; Vladimirov, 2012).

Processes

The processes driving the effects of various design features on consumers' responses toward the website have been extensively studied and can be categorized into cognitive, affective, experiential, and conative processes. Nevertheless, cognitive processes have received the most scholarly attention. Current literature suggests that consumers' attitude toward the website (Jeong & Choi, 2005; Wu, Li, & Chiu, 2014) and perceived information quality and usability (Xu & Schrier, 2019) mediate the effects of such sensory

design features as graphics and appearance on consumers' behavioral responses. Content design, such as information quality and website reputation will influence the adoption of the website for information searching and making online reservations by increasing the perceived usefulness of the website (Herrero & San Martín, 2012), mitigating perceived risk, and increasing perceived benefits and value (Chen, Jai, & Yuan, 2017). Other cognitive processes, such as mental imagery (Lee & Gretzel, 2012), fashionability (Chen & Lin, 2018), perceived information-task fit (Dedeke, 2016), perceived control over the website (Lee et al., 2013), and perceived persuasiveness (Loda et al., 2009) have also been investigated in driving the design–outcome relationship at website-level analysis.

The affective processes linking website design features with consumers' responses toward the website are rather limited. For example, customer satisfaction mediates the effect of website design features on consumers' continued usage of the website (Jeon & Jeong, 2017). Several studies have investigated the experiential processes driving the influence of website design. For instance, flow experience refers to the state when users feel complete control, concentration, and involvement in the website. Flow experience is frequently used to explain the process of how a website's design influences consumers' emotional and behavioral responses, such as trust towards, satisfaction with, and adoption of the website (Bilgihan et al., 2015; Jeon et al., 2018). Lee (2018) explored the role of telepresence, which denoted a user's immersion into the online environment, as a mediating process between website design attributes and consumers' behavioral intentions.

Last, the conative process refers to the intentions generated from website usage. Intention to use the website to perform purchases (Bilgihan et al., 2015) and intention to revisit the website (Jeon & Jeong, 2017) drive the effects of website design features on consumers' behavioral responses to the website, such as loyalty.

Conditions

Scholars have investigated the conditions (i.e., moderators), on which the design–outcome relationship varies at website-level analysis. These moderators can be categorized into consumer characteristics, website characteristics, and product characteristics. Website design features affect consumers with different demographic features differently, such as gender. Jeon and Jeong (2017) showed that overall service quality of a website has a stronger effect on satisfaction with the website for male users than for female users. Consumers’ dispositional factors, such as their personality (Jeon et al., 2018) and need for human interaction (Aslanzadeh & Keating, 2014) were also found to moderate the design-outcome relationship. Sreejesh and Ponnampalath (2017) uncovered that design features influence consumers with different levels of usage experience of the website differently. Specifically, the effects of appearance and entertainment features are more influential to less experienced customers, whereas information quality and structure are more influential to experienced customers in forming their attitude toward the website.

The moderating roles of website and product characteristics have been occasionally explored in the literature. Specifically, Ku and Chen (2015) showed that the effects of website design and service quality on tourist satisfaction are enhanced when the website contains interactive features. Aljukhadar and Senecal (2015) revealed that the effects of interactivity and aesthetics are stronger for websites offering services, whereas the effect of information quality is stronger for websites offering tangible products.

3.2.3 *Product-level outcomes*

Research focusing on product-level outcomes refer to studies investigating the effects of website design on consumers’ evaluation on and responses toward the product,

supplier, or brand communicated on the website. The purpose of identifying product-level outcomes is to investigate whether the effects generated from the use of the website will be transported to the focal product (Law, 2019). Among the 78 retrieved articles, only 18 (23.1%) of them have investigated the impact of website design features on consumers' responses toward the tourism product or supplier.

The current review shows that browsing an effective website will lead to various outcomes related to the focal product depicted. In addition, they are mostly related to the perceptions and behavioral intentions toward the tourism product. Focusing on destination, existing studies showed that a website with quality information, responsive features, and good structural design will lead to positive destination image and visit intention (Choi, Ok, & Choi, 2016; Koo, Chung, Kim, & Hlee, 2016; Loureiro, 2015). Tigre Moura et al. (2015) found that embedding cultural cues incongruent to target customers will also generate positive destination image and high willingness to travel. The information quality, overall appearance, interactive, and collaborative features of the website will result in other behavioral outcomes. Such outcomes include intention to revisit the destination or repurchase the tourism product (e.g., Tatar & Eren-Erdoğan, 2016), recommended the tourism product to others (Loureiro, 2015) and remained resilient toward negative information about the product (Bilro, Loureiro, & Ali, 2018).

The assurance features signal a website's reputation, image, and ability to ensure the security and privacy of users. As shown in the current review, these features tend to generate emotional responses in consumers, such as trust on the brand (Tatar & Eren-Erdoğan, 2016) and positive feelings toward the tourism product (Alcántara-Pilar, Blanco-Encomienda, Armenski, & Del Barrio-García, 2018).

Among the various design features, Tsang, Lai, and Law (2010) unveiled that system design features, particularly the structure, organization, navigation, and accessibility of

information of the website have the strongest effects on customer satisfaction and repurchase intention toward an online travel agency. However, other studies showed that assurances on privacy and safety are more important features that could generate positive perceptions toward the tourism suppliers (Ganguly, Dash, & Cyr, 2011; Ku & Fan, 2009).

Processes

Similar to website-level analysis, many mediators involved in explaining the mechanism between design features and product-level outcomes were related to the cognitive processes of consumers. The cognitive processes are attributed to the tourism website and product. For instance, Tang et al. (2012) showed that website design with superior aesthetic and functional features will affect users' information search behavior and travel intention via users' cognition about the website. Design features, such as information quality, curiosity fulfilment, and enjoyment will enhance the perceived usefulness of the website, which will lead to purchase decision of the travel products (Wang & Li, 2019). Other cognitive processes used to explain the effect of website design on product-level outcomes include credibility and persuasiveness (Loda et al., 2009), information quality (Tang et al., 2012), and usability of the website (Alcántara-Pilar, Del Barrio-García, Crespo-Almendros, & Porcu, 2017). Cognitive processes attributed to the product have also been explored, including thoughts about the destination (Tang et al., 2012) and mental imagery (Lee & Gretzel, 2012).

The affective processes linking design features with consumers' responses toward the focal tourism product have been investigated in the current literature. Feelings and emotions generated from the use of the website mediate the effect of website design on consumers' behavioral intention, such as their intention to visit and recommend a destination (Bilro et al., 2018; Loureiro, 2015). Moreover, customer satisfaction with the

website mediates the effect of the website design on consumers' intention to visit a destination (Alcántara-Pilar et al., 2017; Koo et al., 2016). Other affective processes being investigated include brand trust (Tatar & Eren-Erdoğan, 2016) and attitude toward the website and destination (e.g., Tang et al., 2012).

Similar to website-level analysis, experiential processes, such as flow experience (Bilgihan, Okumus, Nusair, & Bujisic, 2014) and telepresence (Choi et al., 2016), have been used to explain the effects of website design on consumers' perceptions on and behavioral intentions toward tourism products.

Conditions

Only consumer characteristics have been investigated as the moderators on the relationship between design features and product-level outcomes. Alcántara-Pilar et al. (2017) uncovered that the indirect effects of assurance design on consumers' attitude toward the destination and their visit intention depend on consumers' level of uncertainty avoidance and short- or long-term orientation. Tang et al. (2012) analyzed the moderating role of consumers' involvement on consumers' travel intention, and found that highly involved people are affected by the information quality of a website, whereas low involvement people are affected by structural design features. Other consumer-related moderators being investigated include perceived risk during online browsing (Alcántara-Pilar et al., 2018) and visit experience (Koo et al., 2016).

4 DISCUSSIONS

4.1 Existing knowledge of website design in tourism

As an initial step to guide future research, Figure 2 shows a comprehensive framework consolidating our knowledge on the effects of website design on consumers

in tourism. Essentially, the framework contains the following four major components: the design features of an effective website, the outcomes resulted from an effective website, the underlying processes that drive the design–outcome relationship, and the conditions under which the design–outcome relationship varies.

Please place Figure 2 here

The design features are further classified as follows: *common features* (i.e., design features that affect consumers, their responses toward the tourism website and the depicted tourism product or supplier), *website-specific features* (i.e., design features that affect consumers' responses toward the website), and *product-specific features* (i.e., design features that affect consumers' responses toward the product or supplier). The examples of common features include assurance, structure, and appearance. The four website-specific features include resilience and transaction (system), customer relation (social), and innovative cues (hedonic). Product-specific features contain three attributes, including audio (sensory), cultural cues, (social) and unpleasantness (hedonic).

Website design will lead to three outcomes, including *emotional responses*, *perceptions*, and *behaviors*. These outcomes may be attributed to one or more objects, including consumers, websites, and products/suppliers. The underlying processes driving the effect of design features are categorized as follows: *cognitive process* (i.e., perceptual evaluation and elaboration of information), *affective process* (i.e., emotions and feelings), *experiential process* (i.e., pertaining to the overall usage experience), and *conative process* (i.e., behavioral intentions). The conditions under which the design–outcome

relationship changes are grouped into *consumer characteristics*, *website characteristics*, and *product characteristics*.

The framework, which is developed on the basis of the literature review, provides a basis for understanding the diverse website design research by summarizing all levels of analysis (consumer-, website-, and product-levels) and theoretical constructs. Other important yet uninvestigated variables and relationships can be added to the framework, to enhance the understanding of website design from various theoretical lens. The framework serves as a concrete foundation to guide future website design research in tourism and hospitality systematically.

4.2 Knowledge gaps and future research on website design

Existing website design research in tourism and hospitality largely focused on website-level outcomes. Scholarly attention on consumer- and product-related studies is lacking, which together represent only one-third of all retrieved articles. The ultimate goal of designing an effective website is to enhance users' evaluation and behavioral responses toward a particular product or service provider (Chiou, Lin, & Perng, 2010; Leung et al., 2016). Thus, investigating whether the positive effect generated from using the website will be transported from the website to the focal product is paramount. However, existing research shows contradictory results. For instance, Loureiro (2015) showed that an effective destination website will generate positive emotions and consumer attitude toward the website, which will be transformed into consumers' intention to visit and recommendation of the destination. Contrarily, Tang et al. (2012) revealed that the positive attitude generated from the use of the website can be transferred to the destination. However, the positive attitude toward the destination may not predict people's intentions to travel unless positive thoughts toward the destination have also been formed. Thus,

additional research is needed to further examine the “effect-transfer” hypothesis by incorporating multiple levels of outcomes in one single research. Particularly, future research may investigate whether embedding certain website design features will enhance consumers’ responses toward the website and whether such responses will be transported to the tourism product, supplier, or brand consequently.

The second gap relates to the predominant focus on a small number of design features under content and system designs. The analysis shows that over half of the identified design features belong to these two categories, such as information quality, assurance and structure. They certainly represent the core elements of website design. However, the effects of advanced design features, such as personalization of website content according to consumers’ characteristics and preferences, embedded cultural cues, entertainment features and innovative symbols, should be more frequently investigated. Moreover, Figure 2 shows that the effects of some of the identified website design features were investigated on either website-level outcomes (i.e., website-specific features) or product-level outcomes (i.e., product-specific features). This suggests that the effects of website-specific features on product-level outcomes may be further explored using a cross-level perspective. For instance, website resilience may enhance consumers’ attitude toward the tourism product and trust toward the supplier. In addition, embedding customer relationship features, such as a membership program in the website, may increase consumers’ perceived social interaction with the supplier. Future studies are suggested to put more attention on the effects of sensory, social, and hedonic design features on consumers’ responses and adopt a cross-level approach to investigate the effects of website-specific features on product- and consumer-level outcomes. The restricted design features explored may be ascribed to the third gap in the extent literature, which relates to the lack of multiple theoretical lens. Identifying the theoretical foundation

is not the main research objective of this study. However, the present study reveals that website design research in tourism and hospitality has a concrete theoretical foundation because over half of the retrieved articles (43 articles, 58.9%) have based their study on one or more theories or frameworks. However, as reflected from the constructs incorporated in the integrative framework in Figure 2, existing research mostly draws on theories in the field of information system, such as technology acceptance model (e.g., Wang & Li, 2019), theory of reasoned action (e.g., Jeon & Jeong, 2017), and theory of planned behavior (e.g., Wen, 2013). Several studies have adopted the stimulus-organism-response framework (e.g., Chen et al., 2017; Loureiro, 2015) and flow theory (Wu et al., 2014), which originate from the environmental psychology literature. Despite their relevance to the topic of website design, studies grounded on computer-mediated communication, such as social presence, media richness, and signalling theories, have been limited (Walther, 2011). As such, future research may enhance knowledge on website design by exploring the same set of research questions through a different or multiple theoretical lens, thereby offering a novel perspective. Moreover, theory pruning, which involves testing competing theories and hypotheses, may be used to offer provocative discussions in the scholarly field. Ultimately, future studies are suggested to contemplate website design from novel perspectives and theories from other disciplines, and incorporate multiple theories to enrich the existing understanding.

Another gap in the literature is related to the lack of understanding on the conditions that affect the design–outcome relationships, which are related to moderating effects. The current study shows that website design in tourism and hospitality has been more focused on the constituents of effective website, the respective outcomes and mediators, rather than on moderators. Specifically, only 21 out of 78 extracted articles (i.e., 26.9%) have explored the role of moderating variables, and they mostly focused on consumer

characteristics, such as demographics, experiences, involvement, and perceptions. Thus, we know about the factors forming an effective website, what is the outcome as a result and the mechanisms driving such outcomes. However, we have little knowledge on the conditions under which these outcomes are more or less likely to occur. Future studies may investigate the moderating role of other consumer, website, and product characteristics on the design–outcome relationship. For instance, future studies may investigate whether people with lower levels of self-efficacy will rely on a set of website design features that differ from those with higher levels of self-efficacy. Future studies are suggested to expand their scope and empirically test the multilevel framework developed in the current study to investigate the effects of different moderating variables.

Exploring the moderating effects of website-related characteristics is equivalent to analyzing the interaction effects among different design features, which have rarely been performed in the existing literature (Aslanzadeh & Keating, 2014; Ku & Chen, 2015). A central question then becomes “*how do different design features interact to influence consumers’ responses?*” Moreover, the comparative and relative effects of various website design features have also been overlooked in existing studies. Among the 78 articles reviewed in this study, only 11 of them have compared the effectiveness of different design features. Specifically, information quality, visual appearance, interactivity, reliability, and playfulness are found to have the most prominent effects on website-level outcomes (Aljukhadar & Senecal, 2015; Loureiro, 2015; Mohammed et al., 2016; Vladimirov, 2012), whereas structure and assurance are more important features that affect product-/supplier-level outcomes (Ganguly et al., 2011; Ku & Fan, 2009; Tsang et al., 2010). Another central question “what are the features with the most prominent effects on consumers’ responses?” also remains unanswered. Understanding what features should or should not be placed together and which features should be prioritized

are particularly important for tourism marketers to establish effective websites. Thus, future research may investigate the combined and relative effects of various website design features in one single study.

5 CONCLUSIONS

Websites have become a critical tool for tourism businesses to reach their customers, and designing effective websites are vital for these businesses to stay competitive in the tourism system. In their effort to synthesize the success factors of destination marketing website, Park and Gretzel (2007) concluded that “many Web evaluation efforts currently restrict themselves to ratings of features and do not link evaluations to outcome measures (p. 51).” The present study shows that considerable efforts have been devoted to investigating the outcome of website evaluative features. However, research on the effects of website design has primarily adopted diverse conceptualization and operationalization. This finding has led to fragmented knowledge rather than a unified understanding of what constitutes an effective tourism website and what are the effects of an effective website on consumers. The current review contributes theoretical knowledge by offering a comprehensive overview on the overwhelming and fragmented research evidence of website design. This study synthesizes the existing definitions of various website design features into five design features with new conceptualizations and definitions. The multilevel framework of the four key components (i.e., design features, outcomes, process, and conditions) is another theoretical contribution of this review study. The framework not only serves as a comprehensive summary of existing research, but also provides a relevant point of departure for future research on website design.

The present study also offers practical implications. The success of website design efforts relies on an extensive understanding on the effects of various website features on

consumers. The findings of the present work serve as a reference for tourism and hospitality managers to comprehensively understand website design and constantly review and enhance their website, which represent an important part of their digital marketing strategies. To produce favorable consumers' responses toward the website and the tourism product or supplier, the present study suggests marketers or website designers to ensure that their websites are fully operational by incorporating the common features. Essentially, information quality, assurances, structure, visual appearance, and interactivity are the most important features. In terms of content, an effective website should provide accurate, comprehensive, and relevant information to its users and embed company logos and other signs that ensure the security and privacy of users' personal information. In terms of system design, an effective website should be easy to navigate and control so that all information is readily accessible. Moreover, the website should efficiently respond to the request of the users. From sensory design perspective, the website should be visually attractive to retain the attention of the users. On the social aspect, interactive features, such as embedding social media connections and instant messaging that allow two-way communications between users and the website/supplier should be maintained. Finally, design elements that create a sense of enjoyment are important to fulfil the hedonic purpose of website usage.

This study is not without limitation. The review analysis conducted in this paper is based on a broad definition of tourism and hospitality websites that may potentially have various purposes, such as a destination website for destination marketing purposes, a hotel website for online booking functions, a metasearch engine for comparison of tourism products, and an online platform for travel resources sharing. These websites tend to cover various sectors in tourism, such as hotels, destinations, travel agencies, attractions, and peer-to-peer accommodation. Future research may replicate the current analysis to reveal

any potential differences in the design of the websites contingent to the purposes and sectors.

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