UGC involvement, motivation and personality: Comparison between China and Spain

This cross-cultural study investigates antecedents of travel-related user-generated content (UGC) in China and Spain. Based on a critical literature review, a theoretical model was developed and tested. Co-creation, empowerment, community, and self-concept were proposed as the precursors of UGC. Personality traits (i.e. neuroticism, extraversion, openness, agreeableness, and conscientiousness) were tested as potential moderators. Study results indicate that empowerment has the greatest influence on involvement in UGC in China, whereas co-creation is the most important driver of motivation in Spain. Whereas neurotic individuals in China engage with UGC for self-empowerment, novelty seekers tend to cooperate better with others. Tourists play an essential role in the value creation process through their use of UGC. UGC has key implications for the tourism industry, as it influences tourist behavior as well as destination image and performance.

Keywords: User-Generated Content (UGC); motivation; personality; involvement; destination

1. Introduction

Developments in Information and Communication Technologies (ICTs) are changing how consumers communicate, shop, learn, and research (Ramanathan, Subramanian, & Parrott, 2017). Such ICTs as online social networks are rapidly transforming the tourism industry (Narangajavana, Fiol, Tena, Artola, & García, 2017), as tourists are more influenced than ever by these networks when making travel decisions. The content that users create and share online is called user-generated content (UGC). Tourists consult various forms of UGC, including social networks, online communities, blogs, microblogs, and picture blogs, among others, when choosing a destination to visit (Fan, Shen, Wu, Mattila, & Bilgihan, 2018; Nusair, Butt, & Nikhashemi, 2019). In a study conducted by Gretzel and Yoo (2008), 97% of the participants reported reading other travelers' reviews during their pre-trip planning process. Similarly, a study conducted

by Phocuswright (Prabu, 2014) shows that over 80% of travelers check online reviews before booking a hotel, and 53% are unwilling to book a hotel without reviews. Hotels listed on TripAdvisor with high scores and positive reviews have seen more demand and longer length of stay compared to those with poor or negative comments (Hoisington, 2018). Positive reviews increase not only booking intention but also trust in the establishment (Leon, 2019; Lo and Yao, 2019; Sparks and Browning, 2011).

Tourism practitioners now understand the importance of UGC and therefore invest time and funds in social media marketing. The success of these campaigns, however, depends on people sharing content and ratings. Research investigating the motivations that lead tourists to create and share such content as travel knowledge and travel-related experiences in virtual environments is still limited (Bilgihan, Barreda, Okumus, & Nusair, 2016). An exception is the work of Christodoulides, Jevons and Bonhomme (2012), who identified four common motivators for users to generate UGC based on a thorough review of literature on UGC. The motivators are co-creation, empowerment, community, and self-concept, which have been revealed and confirmed by numerous previous studies as drivers of UGC creation (Christodoulides et al., 2012). In addition to motivation, personality traits are important factors affecting users' online content creating and sharing behaviors (Kim et al., 2018). Yet the influence of consumers' personal characteristics on their social media behavior has yet to be sufficiently examined (Lu, Chen, & Law, 2018). After reviewing the relevant literature, the current research analyses co-creation, empowerment, community, and self-concept as drivers of involvement in UGC, and explores the moderating influence exerted on these relationships by certain personality traits possessed by reviewers (neuroticism, extraversion, openness, agreeableness, and conscientiousness).

Extant research suggests that the motivations for UGC involvement and online social interactions may have cultural differences (Kim, Sohn, & Choi, 2011). Goodrich and De Mooij (2014) confirm the international differences in consumers' information seeking and sharing behaviors through social media. In addition, it is noted that the influence of personality traits on consumer behaviors varies from one country to another (Wang, So, & Sparks, 2017; Truong, 2013). Therefore, the influence of culture should be considered when studying tourists' UGC involvement. However, little research has been conducted to examine the motivation of UGC involvement and the intermediate effect of personality traits in a cross-cultural context. Against this backdrop, the current study aims to investigate the antecedents of travel-related UGC in two different cultures (i.e. China and Spain) and test the possible moderating effects of personality traits (i.e. neuroticism, extraversion, openness, agreeableness, and conscientiousness) on proposed relationships. This research study explores the stimuli (i.e. push motivations) leading to a response (i.e. UGC involvement) in the context of tourism-related UGC - an important but understudied topic. The literature review in the next section presents an assessment of the research model constructs. Next, details of the methodology are described, followed by data analysis and study results. Finally, a general conclusion is drawn, some managerial implications and limitations are discussed, and future research avenues are proposed.

2. Literature Review

2.1 User-Generated Content

Consumers use virtual sites, online communities, platforms, and social networks to share their ideas. The content that users create and share online is called user-generated content. As the world's largest virtual community, TripAdvisor provides more than 435

million reviews and opinions, with 280 posted every minute (TripAdvisor.com, 2019). It offers a broad range of services, including travel reviews and ratings, a 'hot trends' index, forums, destination guides, and e-mail alerts, among others (Yoo, Sigala, & Gretzel, 2016). The variety of features offered by TripAdvisor has not only enhanced travelers' experience but also provided a sense of perceived empowerment by enabling consumers to co-create content and share detailed reviews (Barreda & Bilgihan, 2013).

A few studies have examined the motivations of travelers to produce UGC. Duffy (2013) claimed that social needs are the core motive for travelers to write reviews on TripAdvisor. By demonstrating expertise, reviewers not only gain social status but also create a virtual identity that can interact with other users and receive recognition for his/her contribution (Daugherty, Eastin, & Bright, 2008; TripAdvisor Browser Forum, 2012). In addition, users who share knowledge in travel platforms seek to fulfill their altruist desires (Barreda & Bilgihan, 2013; Jeong & Jang, 2011). Moreover, some other tourists may seek to reward or promote a destination with which they feel some attachment or identification (Chen, Dwyer, & Firth, 2018). Furthermore, Litvin, Goldsmith, and Pan (2018) state that posting online is one of the joys of traveling. Therefore, hedonic motivations will always be present in the desire to create and share online content (Yen & Tang, 2015). Extraversion was found to be a recurrent motivation to post online reviews, especially in the catering industry (Jeong & Jang, 2011). A study conducted by Jeong and Jang (2011) found that expressing positive feelings is a significant motivator for writing reviews about restaurants.

Although the literature suggests several drivers of UGC, no average UGC user' exists (Dixit et al., 2019). Earlier studies reveal that social interactions among individuals play a vital part in sustaining virtual communities, and that online social interaction among

such community members can be supported through interfaces that enhance shared experience and sociability (Novakovich, Miah, & Shaw, 2017).

All social media encourage online interaction among members. Differences in the target markets, however, lead to variations in the services offered on said sites (Wang, Jackson, Zhang, & Su, 2012). Some researchers have noted the influence of content on their users' behavior (Moore & McElroy, 2012). In the context of tourism, content created and shared by users has a significant effect on tourists' travel decision-making process (Quang & Trang, 2016). Tourists' willingness to use UGC influences their behavior (Prendergast & Ko, 2010) and online involvement (Liang, Ekinci, Occhiocupo, & Whyatt, 2013).

2.2 Co-Creation

Co-Creation can be defined as the consumer's creative and social-based collaboration to shape their experiences in tourism through co-created content such as online content and through a co-created dialogue. (Vargo and Lusch, 2004; Prahalad and Ramaswamy, 2002). The emergence of ICTs has changed social behavior patterns by allowing people to become active producers of content and sharers of knowledge. Consumers influence others online and are influenced by others in turn. They have gone beyond being simply receivers of marketing information to 'prosumers' who can impact other consumers as well as businesses' marketing strategies (Buhalis & Sinarta, 2019). Co-creation is understood as the process wherein customers actively co-create value in the entire value chain (Prahalad & Ramaswamy 2002). It involves all circumstances in which consumers cooperate with other consumers or businesses to produce value (Lei, Wang and Law, 2019; Humphreys & Grayson, 2008). Consumers are driven to participate in co-creation activities in virtual environments to obtain learning benefits, social integrative benefits, personal integrative benefits and hedonic benefits from their online

interactions (Nambisan & Baron, 2009). Tourists voice their comments of a product or destination via UGC. UGC enables users to read and share other tourists' travel experiences (Chiu et al., 2014; Lin, Yang, Ma and Huang, 2018), thus fulfilling their learning, social, and hedonic needs. It is therefore expected that tourists' motivation to co-create online content may affect their involvement with UGC. Hence the following hypothesis based on the previous arguments:

H1: *The more an individual is motivated to co-create online content about a tourist destination, the more engaged with UGC s/he is.*

2.3 Empowerment

Consumer Empowerment is defined as the individual's capacity to participate in an environment with which they are involved, such as an online forum, which provides them a greater voice and allows them to exert control in decision making (Pires, Rita, & Stanton, 2006). ICTs offer open, user-centric, and responsive platforms that empower consumers. These platforms enable users to challenge the business's authority and to scrutinize its credibility (Halliday, 2016). The expansion of UGC has provided travelers with a new 'expert power' and informational influence over peers (Murphy, Centeno Gil, & Schegg, 2010). Travelers who consider themselves experts are highly motivated to share specialized knowledge, since they regard their opinion as valuable for fellow users (Ong & Ito, 2019). Being a referent for fellow travelers, reviewers perceive a sense of self-efficacy, which encourages them to get more involved in posting contributions (Viswanathan et al., 2017).

Empowerment derived from UGC is highly valued by consumers (Füller, 2010). Bronner and de Hoog (2011) found that travelers who post negative online reviews expect the companies in question to take actions regarding their concerns. UGC has provided travelers with an environment in which they can assume a level of authority

over firms and communicate their suggestions or air their grievance in a more convenient way. It has been pointed out that empowered consumers are more likely to share honest and more frequent reviews about products and services (Li, Zhang, Meng, & Zhang, 2019; Vivek, Beatty, & Morgan, 2012). Based on the above discussions, the following hypothesis is proposed:

H2: *The more empowered an individual is to post online content about a tourist destination, the more engaged with UGC s/he is*

2.4 Community

The ICT revolution has resulted in new forms of online social groups, each structured around the values, rules, roles, and behavior patterns of its members (Muniz & O'Guinn, 2001). Members of such groups use online platforms as a means to interact with the aim of co-creating and sharing content (de Chernatony & Christodoulides, 2004). The high levels of homophily and belonging within the virtual community lead to other key drivers of members' active participation, such as resemblance to and identification with others (Kim et al., 2018).

The definition of 'Sense of Community' can be operationalized as a sense of belonging to a community or group and the conviction that the needs of the group will be met by sharing information mainly through different and informal information channels (McMillan & Chavis, 1986). 'Sense of Community' thus describes the desire to collaborate and interact with community members. Previous research showed that members' active participation and high level of interaction in online travel communities increase one's sense of pertinence and group identification (Qu & Lee, 2011). By generating online content and receiving acceptance of fellow users, travelers feel inherently gratified as productive members of an online community (Baym, 2015). Members with high levels of attachment are more inclined to share their experiences

and knowledge with peers, as well as actively promote their community to others without an economic interest (Agag & El-Masry, 2016; Kim, Lee, & Hiemstra, 2004). Thus, highly integrated virtual community members are more loyal and prolific UGC co-creators (McAlexander, Schouten, & Koenig, 2002). The third hypothesis is therefore proposed:

H3: *The stronger the sense of community that an individual has regarding online content about a tourist destination, the more engaged with UGC s/he is*

2.5 Self-concept

Self-concept is the collection of beliefs and attitudes of an individual about himself or herself (Valkenburg, 2017), and has implications for all aspects of social interaction (Markus & Wurf, 1987). In this study, self-concept is defined as the individual's thoughts and feelings about himself/herself (Malhotra, 1988) and the desire for self-expression in light of his/her social interaction (Cooley, 1902). Oh, Susarla, and Tan (2008) state that UGC websites encourage users to express themselves by sharing their opinions online. UGC's social dimension can be a tool for self-presentation (Burmann & Arnhold, 2008; Moro & Rita, 2018). Production of UGC helps to increase the creators' self-esteem, as they feel themselves to be part of an online community that value the same principles. This helps to affirm their self-identity and their belief about the world (Daugherty, et al., 2008). In the context of tourism, Chu, Lien, and Cao (2018) found in their study that young Chinese travelers' need for positive self-enhancement is associated with their creation of UGC regarding their trips on social media platforms. The desire to build a socially acceptable virtual identity encourages young users to showcase selected life events to enhance their social image among their online networks (Packard, Gershoff, & Wooten, 2016). Kim and Tussyadiah (2013) highlight that travelers receiving recognition and acceptance from their virtual network

are more motivated to shared real-time travel-related posts while on holidays. Based on the above extant research, the following hypothesis is proposed:

H4: *The stronger the self-concept that an individual possesses related to online content about a tourist destination, the more engaged with UGC s/he is*

2.6 Personality Traits

Personality is defined by Maddi (1989) as a stable set of traits and inclinations that distinguish an individual in how s/he thinks, feels and acts. Personality traits are generally described in five dimensions: neuroticism, agreeableness, extraversion, openness to experience, and conscientiousness, which together comprise the well-known Big Five Model (Farnadi, Zoghbi, Moens, & de Cock, 2013). Eysenck, Eysenck, and Barrett (1985) claim that these traits decide how individuals behave in diverse situations consistently. The information provided by UGC on social networks is of high value for business intelligence applications, as this content can be leveraged for personalization (Farnadi et al., 2013). Amiel and Sargent (2004) find that people with different personality traits show unique Internet use behaviors. Hamburger and Ben-Artzi's (2000) study examined the interaction between personality traits and use of Internet services, demonstrating that extraversion and neuroticism are associated with different factors of Internet services (i.e. information services, social services, and leisure services).

Personality characters have strong connection with people's attitudes and behaviors. Li and Chignell (2010) argue that personality traits are an important driver of how individuals interact with UGC. Oberlander and Nowson (2006) establish an approach to the classification of authors' personality traits from weblog texts. Qiu, Lin, Ramsay, and Yang (2012) identify linguistic markers on Twitter that are significantly correlated with certain users' personality traits, while Staiano et al. (2012) use personality traits to study

network features in the context of mobile phones. Back et al. (2010) examine the Big Five user personality traits on Facebook. Personality features can explain how individuals use Facebook and the nature of the content they post on Facebook (Moore & McElroy, 2012). Moreover, Farnadi et al. (2013) propose that machine learning techniques could be used to extrapolate user personality traits from Facebook status updates.

Personality traits are expected to have moderating effects on motivations for creating UGC (Rensink, 2013). Building on earlier studies showing the ability of personality traits to motivate people to write online reviews (Lo & Yao, 2019; Rensink, 2013), this paper adopts the Big Five personality traits as moderators. Based on the above discussions, the following hypothesis of the moderating effect of personality on creation of online content is proposed:

H5: *Reviewers' personality traits (agreeableness, extraversion, conscientiousness, neuroticism, openness) moderate the relationship between motivation drivers (co-creation, community, empowerment, self-concept) and UGC involvement*

H5a: *The more extraverted an individual is, the stronger the relationship between motivation drivers and UGC involvement*

H5b: *The more open to new experiences an individual is, the stronger the relationship between motivation drivers and UGC involvement*

H5c: *The more neurotic an individual is, the stronger the relationship between motivation drivers and UGC involvement*

H5d: *The more conscientious a person is, the stronger the relationship between motivation drivers and UGC involvement*

H5e: *The more agreeable a person is, the stronger the relationship between motivation drivers and UGC involvement*

2.7 Culture

Culture is found to influence consumer behavior in different ways (Gretzel, Kang, & Lee, 2008; Sanz Blas & Carvajal-Trujillo, 2014; Wang, So & Sparks, 2017). In the context of UGC, Gefen and Heart (2006) and Sia et al. (2009) highlight that cultural values and backgrounds may affect individuals' cognitive responses, which in turn influences their involvement in online information creation (Lam, Lee, & Mizerski, 2009; Lee & Gretzel, 2014). It is noted that consumers from collectivist cultures are more likely to create community content directed to a general audience rather than only towards friends and families, as in the case of individualistic cultures. On the other hand, in individualistic cultures, users are more likely to produce online content to reflect and document personal experiences and as a way to fulfill ego-enhancement motivations (Lee & Gretzel, 2014). In addition, Rui and Stefanone (2013) found that in individualistic cultures, users tend to update their posts more often to achieve social recognition and generate a positive public impression. In contrast, individuals from collectivist cultures share information online as a way to build rapport and contribute to knowledge of the virtual community (Fong & Burton, 2008). In a social media context, Kim, Sohn, and Choi (2011) compared Western culture (American sample) with Eastern culture (Korean sample) and revealed that Korean respondents put more weight on obtaining social support from existing social relationships, while American respondents place relatively greater emphasis on seeking entertainment. Another study that investigates cultural differences has found that social contacts serve different purposes in individualistic versus collectivistic cultures (Lucas, Diener, & Grob, 2000). Individualistic culture members are more likely to raise potentially controversial topics such as negative UGC as compared to members from collectivistic cultures whereas collectivist culture members tend to rely on social norms more than the individualistic

culture members (Nadkarni & Hofmann, 2012). Based on the above discussion, the following hypothesis is proposed:

H6: Culture moderates the proposed set of relationships in the research model

2.8 The Conceptual Research Model

Based on the above literature review, the conceptual research model developed for this study is shown in Figure 1. The model is built on the relationship stimulus versus response tested in previous studies (Ali, Kim, Li, & Cobanoglu, 2018; Hsu, Chang, & Chen, 2012). Founded on earlier research, this model proposes four key drivers as stimuli (empowerment, co-creation, self-concept, and community) as motivation factors of UGC involvement (Christodoulides et al., 2012), along with the moderating role played by some personal user traits in this relationship (Wang et al., 2012), also used as stimulus. The model hypothesizes that: 1) empowerment, co-creation, self-concept, and community all have positive and significant influences on UGC involvement, 2) personality traits (extraversion, agreeableness, conscientiousness, neuroticism, openness) of users moderate these relationships and 3) culture has a moderating effect on the above relationships.

[Insert Figure 1 about here]

3. Method

3.1 Data Collection

The target population was tourists engaged in UGC regarding their travel experiences and destination features. Data were collected in Spain and the People's Republic of China using travel-related online social networks from October to December 2018 through an online survey. A screening question was asked to select respondents who had experience of writing travel-related online reviews. The G*Power program was

used to calculate the sample size required for a multi-regression analysis based on an effect of 0.15 (medium effect) for the predictors, a precision level of 5%, a test power of 0.97 and 29 predictors. The sample size required was 279 respondents (Memon et al., 2020). In total, 725 responses were collected in Spain and 765 responses in China. From those samples, in China, 75% of participants have ever posted online reviews about a tourist destination whereas in Spain this percentage was 77%. Then, after filtering by the screening question and removing the records with systematically missing values and incomplete responses, a total of 574 questionnaires from China and 558 from Spain were valid for data analysis. Thus, the sample size requirement was met for surveys in both countries.

The sample was made up of 47.52% males and 52.48% females in China and 43.35% males and 56.65% females in Spain. Group ages were represented as follows: The majority age group was between 26 to 35 years old with 43.32% from China and 49.61% from Spain. This group is followed by the youngest group 18 to 25 years old, with 39.72% in China and 29.19% in Spain. 12.52 % of respondents in China were between 36 to 45 years old and 15.75% in Spain. Lastly, 4.52% and 5.45% participants in China and in Spain respectively were older than 46. Regarding the weekly hours spent on networking sites, 73.23% of the Chinese participants and 62.35% of the Spanish participants spent more than an hour (Table 1).

[Insert Table 1]

3.2 Measures

This study adopted a quantitative approach based on an online survey administered in Spain and China. A questionnaire was developed based on previous studies in the academic literature. The questionnaire was divided into three sections. The first section included a filter question to ensure that respondents had experience posting online reviews after

visiting a tourist destination. The second section of the questionnaire contains information about respondents' demographic profiles and the third section included questions related to the construct measures.

Age and gender were used as control variables in the research model. Gender was defined as a dichotomous variable taking the value of one for women. The categorical variable of age was split into three dichotomous variables where the value zero represents the reference category, i.e. those who are in the 26-35 age interval.

The latent variables were based on validated scales from the academic literature and adapted to the specific context of this study. The items for the constructs Co-creation, Empowerment, Sense of Community and Self-Concept have been evaluated on a 7-point Likert-scale ranging from 'strongly disagree' (1) to 'strongly agree' (7) and are described in Table 2.

The *Co-Creation* construct was measured with four items adapted from questions developed by Vargo and Lusch (2004) and Prahalad and Ramaswamy (2002). *Empowerment* was measured with three items based on the studies by Pires et al (2006), Conger and Kanungo (1988), and Hoffman, Novak, and Schlosser (2003). The *Sense of Community* variable was measured with three items adapted from Chavis, Hogge, McMillan, and Wandersman (1986) and Muniz, and O'Guinn (2001). *Self-Concept* is a three-item instrument based on the work by Markus and Wurf (1987).

To measure *Involvement with UGC,* participants were asked to answer why it is important for them to become involved in writing online reviews after visiting a tourist destination. Regarding *Involvement with UGC,* participants were asked to answer why it is important for them to become involved in writing online reviews after visiting a tourist destination. The construct's nine-items were measured by using a seven-point

semantic differential scale adapted from Zaichkowsky (1994), from Unimportant (1) to Important (7).

To examine individual differences regarding creation of UGC, individuals' personalities were measured via the Big Five: Extraversion, Openness to new experience; Neuroticism; Conscientiousness and Agreeableness. These traits were adapted from Gosling, Rentfrow, and Swann (2003). Extraversion: I see myself as someone who is extravert, enthusiastic (P1). Openness to new experiences: I see myself as someone who is open to new experiences, with vivid imagination (P2). Neuroticism: I see myself as someone who can be moody, anxious, easily upset (P3). Conscientiousness: I see myself as someone who is discipline and who does a thorough job (P4). Agreeableness: I see myself as someone who likes to cooperate with others and who likes being agreeable to others (P5). These items were rated on seven-point Likert scales from 1=strongly disagree to 7=strongly agree.

The survey was first developed in English, and then translated into Chinese and Spanish by accredited translators. It was later translated back to English to ensure meanings did not get lost during the process. Prior to the main data collection from respondents, face-to-face interviews were conducted with ten experts from China and Spain with experience in UGC consumer involvement and expertise in marketing and tourism. Feedback on the clarity, comprehensiveness, and appropriateness of the scales resulted in minor adjustments to the initial questionnaire. After this phase, a pretest was also conducted with a convenience sample of 43 students and scholars in Spain and 52 in China leading to satisfactory results to start the collecting data process.

3.3 Data Analysis

Partial least squares structural equation modeling (PLS-SEM) was applied to test the conceptual research model for the following reasons. Because the variables included in the study have been modeled as composites defined as artifacts composed of elementary elements, a composited method like PLS was more suitable (Sarstedt, Hair, Ringle, Thiele, & Gudergan, 2016; Rigdon, Sarstedt, & Ringle, 2017), providing consistent estimates (Rigdon, 2016). The study is mainly orientated to explore causal relationships rather than confirm a theory (Henseler, 2018). The aim of the research is to identify those key drivers predicting customers' UGC involvement (Hair, Ringle, & Sarsted, 2011; Henseler, 2018). The research model proposed is complex in terms of indicators and types of relationships (e.g. direct and moderating effects) involved in the model (do Valle and Assaker, 2016; Hair, Sarstedt, Ringle, & Gudergan, 2017). Therefore, the software SmartPLS 3.3.2 has been used to test the hypotheses (Ringle, Wende and Becker, 2015).

4. Results

4.1 Measurement Model

The variables included in our model are modeled as Mode A composites (Becker, Rai, & Rigdon, 2013). Factor loadings, composite reliability (CR), and average variance extracted (AVE) are evaluated to test the measurement model for reliability and convergent validity (Hair et al., 2017). Table 2 shows that all indicators meet reliability requirements, as the outer loadings are above 0.7. Convergent validity is also met, as CRs are above 0.7 and the AVE values exceed the threshold of 0.5 for all the constructs.

[Insert Table 2 about here]

Table 3 shows that all variables achieve discriminant validity following the heterotrait–monotrait (HTMT) ratio of correlations (Henseler, Ringle, & Sarstedt, 2015 and the

Fornell-Larcker criterion (Fornell and Larcker, 1981). Using HTMT.85 criteria, all the values are below 0.85, indicating that discriminant validity is not a problematic issue for any of the composites in the model. The confidence interval obtained from HTMT inference tests does not contain the value one, which supports the distinctness of the constructs (Henseler et al., 2015).

[Insert Table 3 about here]

4.2 Structural Model

The structural models for China and Spain were assessed. A bootstrapping procedure with 5,000 subsamples was used to generate t-statistics and 95% confidence intervals to evaluate the significance of the path coefficients (Henseler, Ringle, & Sinkovics, 2009). Results of the structural model and hypotheses are presented in Table 4. Co-creation has a significant positive effect on involvement in both Spain (β^{Sp}= 0.376, p<0.001) and China (β^{Ch} =0.206, p<0.001). Thus, H1 is confirmed for both countries. Empowerment positively and significantly influences involvement in UGC in Spain (β^{Sp} =0.1073, p<0.001) and China (β^{Ch} =0.347, p<0.001), confirming H2 for both countries. The positive influence of community on involvement (β^{Sp} =0.156, p<0.001 and β^{Ch} =0.1145, p<0.05) confirms H3 for both countries. H4 is also supported, as a significant positive influence of the self-concept construct is identified on involvement in both Spain and China (β^{Sp} =0.138, p<0.001 and β^{Ch} =0.078, p<0.001). Moreover, the control variable of gender shows non-significant influence on involvement in both countries (β^{Sp}=0.007, p>0.05; β^{Ch}=0.09, p>0.05). Regarding the control variable of age, no significant differences between the intervals of 18-25 and 36-45 with respect to the reference age interval of 26-35 is observed. However, a slight significant difference between the age interval greater than 46 and the reference age category is observed in both countries (β^{Sp}=-0.034, p=0.040; β^{Ch}=-0.021, p=0.045).

[Insert Table 4 about here]

Table 4 also exhibits the cross-validated redundancy measure (Q^2), which is recommended for examining a research model's predictive relevance (Hair, Sarstedt, Ringle, & Mena, 2012), The f^2 effect size and the R^2 values referring to the predictor variables' explanatory power for their respective constructs (Hair et al., 2017). The model has predictive validity for the involvement endogenous variable, as the Q^2 coefficient is positive in the two research models. 'Motivation Factors' and personality traits explain 67.6% of 'Involvement' in China and 56.87% in Spain. The f^2 effect size values allow us to evaluate whether the omitted construct has a substantive impact on the UGC Involvement. Guidelines for assessing f^2 values are that values of 0.02, 0.15 and 0.35 represent small, medium and large effects of the corresponding exogenous variable (Cohen, 1988). Thus, the model shows that Co-creation has a large impact in both countries (f^2=0.233 in Spain and f^2=0.216 in China), Self-Concept has a medium effect in both countries (f^2=0.124 in Spain and f^2=0.134 in China), Empowerment has a large effect in China (f^2=0.203) and medium effect in Spain (f^2=0.186) and Community has medium effect in both countries (f^2=0.176 in Spain and f^2=0.168 in China).

[Insert Figure 2]

Table 4 reports the moderating relationships in the model when personality traits are considered for both countries. The following results are obtained for the two considered countries based on a one-tailed t-test and using 5000 bootstrap resamples (Chin, Kim, & Lee, 2013). First, for Spain, the 'Extraversion' and 'Openness to new experiences' personality traits positively moderate the relationship between 'Sense of Community' and UGC involvement (β^{Sp}*P1=0.079, $p<0.05$; β^{Sp}*P2=0.1034, $p<0.01$). H5a and H5b are supported for 'Extraversion' and 'Openness to new experiences' as moderators of Community. 'Conscientiousness' positively moderates the relationship between 'Co-

creation' and UGC involvement (β^{Sp}*P4=0.1502, p<0.01). Therefore, H5d is confirmed for 'Conscientiousness' as a moderator of 'Co-creation' and online review involvement. 'Agreeableness' positively intensifies the relationship between 'Self-concept' and UGC involvement (β^{Sp}*P5=0.1054, p<0.05). So H5e is supported for 'Agreeableness' as a moderator of the relationship between 'Self-concept' and online involvement.

The following significant moderating effects are found for China. 'Openness to new experience' and 'Conscientiousness' positively moderate the relationship between 'Sense of Community' and online involvement (β^{Ch}*P2=0.2286, p<0.01; β^{Ch}*P4=0.3281, p<0.01). Thus, H5b and H5d are supported for 'Openness' and 'Conscientiousness' as moderators of the 'Community'-UGC involvement relationship. 'Conscientiousness' positively influences the relationship between 'Co-creation' and online involvement (β^{Ch}*P4=0.081, p<0.05). H5d is therefore supported for 'Conscientiousness' as a moderator in the aforementioned relationship. 'Neuroticism' moderates the relationship between 'Empowerment' and UGC involvement (β^{Ch}*P3=0.321, p<0.01). H5c is supported for 'Neuroticism' as a moderator between 'Empowerment' and UGC involvement. Finally, H5e is supported for 'Agreeableness' as a moderator of the relationship between 'Self-concept' and UGC involvement (β^{Ch}*P5=0.342, p<0.01). The Standardized Root Mean Square Residual (SRMR) is also computed as an indicator of the composite factor model's fit (Henseler, Hubona, & Ray, 2016). SRMR results show that the model has fit values of 0.073 and 0.066 for China and Spain respectively. SRMR therefore indicates an adequate model fit for both countries, as these values are below 0.08.

4.3 Multi-group Analysis

Once the structural model is estimated, a multi-group analysis is conducted to test differences across cultures. First, we tested the invariance of composites (MICOM)

across countries (Table 5). The results from the MICOM procedure revealed that the measurement invariance of both groups was established.

[Insert Table 5]

Then, the Henseler's MGA test (Henseler et al., 2009) and permutation test (Chin & Dibbern, 2010) were used to test differences in path coefficients between the two cultures. Table 6 shows the structural models and results of the MGA and permutation test for those relations in Table 4 which represent the most relevant relationships to be analyzed across cultures. According to Henseler's MGA procedure, a *p-value* of differences between path coefficients lower than 0.05 or higher than 0.95 indicates significant differences between specific path coefficients across two groups at a 5%. So, Hypothesis 6 is partially supported. From the research model proposed (Figure 1), significant differences across cultures are found in the following relationships: Co-creation on UGC involvement (β^{Spain}-β^{China} = 0.1700, p-value=0.018); Empowerment on UGC involvement (β^{Spain}-β^{China} = -0.2397, p-value=0.9602); the moderating effect of Neuroticism on the relationship between Empowerment and UGC involvement (β^{Spain}-β^{China} = -0.271, p-value=0.9703); the moderating effect of Openness to new experience on the relation between Sense of Community and UGC involvement (β^{Spain}-β^{China} = -0.1252, p-value=0.032); the moderating effect of Conscientiousness on the relation Sense of Community on UGC involvement (β^{Spain}-β^{China} = -0.3051, p-value=0.997) and finally the moderating effect of Agreeableness on the relation between Self-Concept and UGC involvement (β^{Spain}-β^{China} = -0.2366, p-value=0.9674). No other relations displayed in the research model (Figure 1) are found significant across cultures.

[Insert Table 6]

5. Discussion and Conclusions

This study investigated the antecedents of travel-related UGC in China and Spain. Co-creation, empowerment, community, and self-concept were proposed as the predictors of UGC. Focusing on a multi-group analysis some differences are found in participants across the two cultures (Table 6). Co-creation appears to be a positive motivation for tourists to become involved in UGC and therefore generate value for the visited tourist destination (Table 4). However, Co-creation as a driver of UGC appears to be more important for the Spanish than the Chinese when they are involved with online content (β^{Spain}-β^{China} = 0.1700, p-value=0.018) (Table 6). In contrast, Empowerment appears to be a UGC driver with greater influence in China than in Spain (β^{Spain}-β^{China} = -0.2397, p-value=0.9602) (Table 5), though a positive correlation between Empowerment and UGC Involvement is observed for both Chinese and Spanish participants (Table 4).

The cultural differences may be explained by Hofstede's cultural dimensions (Hofstede Insights, 2020). Tourism literature widely deploys Hofstede's (1980) cross-cultural dimensions as principal variables (Crotts & Pizam, 2003; Kozak, Crotts & Law, 2007; Reisinger & Mavondo, 2006; Reisinger & Crotts, 2010). According to Hofstede Insights (2020), China has a Masculine culture, where people are driven by assertiveness, achievement and heroism. These can be fulfilled by the empowerment function of UGC involvement, as consumers can exert significant informational influence over peers through creating UGC (Murphy et al., 2010) and assume a level of authority over firms by giving suggestions or complaints online (Bronner and de Hoog, 2011). In contrast, Spanish culture is more Feminine with a preference for cooperation. Hofstede's cultural dimensions (Hofstede Insights, 2020) also report that Spanish have higher tendency for uncertainty avoidance. Spanish culture feels more threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these more than Chinese culture. This is in line with the co-creation motivation and process, in which

consumers cooperate with other consumers or businesses to produce value by engaging with UGC (Humphreys & Grayson, 2008; Lei, Wang and Law, 2019).

The results for both countries show that Self-concept motivation and UGC involvement in a tourist destination are positively and significantly correlated (Table 4). This confirms that involvement in UGC also encourages consumers to express themselves creatively by sharing their experiences (Berthon et al., 2008). The contribution made by creators of UGC is appreciated by other members from the online community (Burmann & Arnhold, 2008) and helps to enhance their self-image (Packard, et al., 2016). No significant differences were found in self-concept across cultures (β^{Spain}-β^{China} = 0.06, p-value= 0.311) (Table 6). This can be explained by the fact that self-esteem is a fundamental need of all human beings (Maslow, 1943) and individuals seek to establish self-concept through social interaction (Blackwell, Miniard, & Engel, 2001). UGC is a useful tool for self-presentation (Burmann & Arnhold, 2008; Moro & Rita, 2018) and self-image enhancement (Packard, Gershoff, & Wooten, 2016) and as such is employed by both Chinese and Spanish users to establish self-concept. Therefore consumers from both cultures are driven by self-concept to engage in UGC creation.

Sites linked to tourist destination-related UGC platforms, such as tripadvisor.com, ciao.com, lonelyplanet.com, and yelp.com encourage community development, the desire to share knowledge, interaction and collaboration, and favor advocacy among community members. Study results confirm an assumption in both cultures: namely, that the stronger a consumer's perception of involvement on a social site facilitates a sense of community, the greater the level of UGC involvement. The current study results support the notion that community is a social driver of UGC (Krishnamurthy & Dou, 2008) (Table 4). Furthermore, it is worth noting that no significant differences were found between cultures for the Sense of Community (β^{Spain}-β^{China} = 0.041, p-

value=0.311) (Table 6). The absence of cultural difference is not surprising as the sense of belonging is a basic human need (Maslow, 1943). UGC creators seek the feeling of belonging and share the faith that the needs of the group will be met through sharing information within the community (McMillan & Chavis, 1986; Kim et al., 2018). So it is expected that Sense of community is a common driver for UGC involvement regardless of the user's cultural background.

The moderating effects of personality traits on relationships between the predictors and the involvement in UGC within countries and across cultures were also examined. Several key conclusions can be drawn from the study results in each country (Table 4) and across cultures (Table 5). The personality traits that have significant effects on the relationships between the motivation factors and UGC involvement are Extraversion, Openness to new experiences, Agreeableness, and Conscientiousness for Spain; and Openness to new experiences, Conscientiousness, Neuroticism, and Agreeableness for China (Table 4 and Figure 2).

Extraverted people are more likely to communicate with others than introverted individuals. According to Judge, Higgins, Thoresen, and Barrick (1999), extraverts tend to be socially oriented and therefore actively participate in creating social networking. Jiao, Ertz, Jo, and Sarigollu (2018) revealed that consumers with an extraverted personality derive more social value from social media participation. Hence, this finding shows that extraversion reinforces people's desire to interact and collaborate with others and share their knowledge through the creation of UGC. The moderating effect of Extraversion on the relation Community→Involvement is found in both cultures with no significant differences (β^{Spain}-β^{China}=0.0771, p-value=0.458) (Table 6).

People who are more receptive to new experiences (Openness to new experiences) are more involved in creating online reviews when the sense of community is high. This

seems to be the case for both China (β^{China} =0.2286) and Spain (β^{Spain} =0.1034). Individuals who are more likely to seek novelty cooperate better with others. Furthermore, the personality openness to new experience moderate more the relation Community→Involvement in China than in Spain (β^{Spain}-β^{China} = -0.1252, p-value=0.032) (Table 6). People from China are characterized for being meticulous and careful when involved in something and it is translated into a higher moderating effect of Conscientiousness in the relationship between Sense of Community and UGC involvement in China than in Spain.

With respect to Neuroticism, a significant moderating effect of this personality trait on the relationship between Empowerment and UGC involvement is found in China (β^{China} =0.321) (Table 4). Neurotic people are more likely to be insecure, timid, and pessimistic than non-neurotic individuals. Creating UGC could be a way for neurotics to feel empowered. Furthermore, there are differences across cultures regarding the moderating effect of Neuroticism. Neurotic people in China are involved more with UGC for empowerment than in Spain (β^{Spain}-β^{China} = -0.271, p-value=0.9703) (Table 6).

Conscientiousness is found to be a moderator for the Co-creation motivation of UGC involvement in both Spain (β^{Spain}=0.1502) and China (β^{China} = 0.081) (Table 4 and Figure 2). When conscientious individuals create UGC, they are aware of being an active part of the value-creation process. No cross-cultural difference was identified regarding the moderating effect of conscientiousness on the relationship between co-creation and UGC involvement (β^{Spain}-β^{China} = 0.0692, p-value=0.391).

Individuals scoring higher on agreeableness more proactively express themselves by sharing ideas with others (self-concept) both in Spain (β^{Spain} =0.1054) and China (β^{China} =0.342) (Table 4 and Figure 2). Agreeable people see being engaged in UGC as a vehicle for self-expression, self-presentation, and identity shaping. As Daugherty et al.

(2008) recognize, UGC's identity-based dimension might be interpreted as enabling consumers to manifest their attitudes and patterns in ways that are agreeable to others. With regard to cultural differences, a higher influence of Agreeableness on the relation Self-concept→Involvement is found in China than the case in Spain (β^{Spain}-β^{China} = -0.2366, p-value=0.9674).

5.1 Theoretical Implications

This study provides several theoretical implications for online destination marketing. Results provide evidence that tourists are motivated to co-create travel experience for themselves and others by producing online UGC, such as sharing travel-related information and engaging in dialogues. Perceived empowerment is one of the key drivers that motivate tourists to create online content. In addition, sense of community and self-concept are also proved to be antecedents for tourists' online UGC involvement.

The present study points to considerable differences between Chinese and Spanish respondents with regard to UGC involvement motivation. Study results reveal that empowerment is the UGC driver with the greatest influence in China. Factors such as esteem, pride, and confidence play a more important role in Chinese culture. Conversely, self-concept has the lowest weight for the Chinese respondents compared with other predictors. Furthermore, non-significant differences were found between Chinese and Spanish regarding Self-concept. Neurotic people in China engage more with UGC for Empowerment needs than in Spain. We also find that individuals who are more likely to seek novelty cooperate better with others. Study results are consistent with several previous studies (e.g. Kim et al., 2011) in the areas of cultural differences in social network usage, but also offer new insights in the areas of co-creation, empowerment, community, and self-concept in online environments. The findings shed

light on how culture plays a major role in travel-related UGC creation. While Empowerment has the greatest influence for the Chinese travelers, Co-creation was the most dominant factor for the Spanish travelers.

This is the first study looking into the antecedents of travel-related UGC in two different cultures, i.e. China and Spain. Study results do not fully support previous studies in the areas of altruistic and community-related motivations highlighted as the important motivators of online knowledge sharing behavior (e.g. Munar & Jacobsen, 2014), as the current research found that for Chinese travelers, empowerment is the key driver for sharing information.

5.2 Managerial Implications

From a practical perspective, engaging tourists and motivating them to provide UGC is a key step in increasing sales, building a destination image, and creating loyal customers. Findings of this study bring valuable insights to precursors that stimulate UGC involvement and provide practical implications for destination marketing. Results of this research show that Co-creation, Empowerment, Community, and Self-concept drive travelers to produce UGC online. To encourage tourists' UGC involvement, destination marketing organizations (DMOs) and tourism businesses should provide online platforms that facilitate interaction among users to co-create travel experiences. For example, dedicated forums can be created for tourists to exchange ideas about trip preparation and itineraries and to share travel experience. It is also advised to show recognition of users' contribution and offer membership benefits to create a feeling of Empowerment and Sense of community. In practice, membership can be classified according to users' input and differentiated benefits (e.g. meal vouchers, free hotel nights) can be offered to members of different levels. In addition, considering the

importance of self-concept, a personal space can be offered to users to present their profile, pictures, destinations visited and links to all the UGC they have contributed.

Practitioners need to distinguish the needs of travelers from different cultures and address them accordingly. For example, in the case of Chinese travelers who are more likely to be motivated by empowerment to produce UGC, it is important that practitioners respond to their comments/questions in a timely manner and have a mechanism to acknowledge their input. For Spanish travelers who are more driven by co-creation, the platform should provide convenient and efficient means of communication to facilitate collaboration and exchange of information in different formats.

The research findings of this study also have implications for destination development. Travelers who have visited a destination in an early stage of development can help to promote it via UGC. DMOs should encourage tourists, especially repeat tourists, to become online ambassadors who actively share their knowledge and experience of the destination. To achieve this, an award and ranking system can be used to instill a feeling of empowerment and a sense of community. At the same time, UGC is also a critical source for visitor feedback regarding problems of the destination's development. Travelers can play a monitoring role by posting their observations and comments online. To encourage such behavior, DMOs should provide appropriate stimulus as mentioned above.

5.3 Limitations and Directions for Future Research

This study has several limitations. The primary one is its inability to generalize the findings to a larger population. The analysis of causal relationships has been restricted to Chinese and Spanish participants, which limits the generalizability of the research findings. Future research may test the model with more samples, and may also include

other variables about how and why people engage in UGC. Satisfaction of travel experience has been recognized in the literature as a relevant motivation for tourists to post UGC (Serra-Cantallops, Ramón-Cardona, & Salvi, 2018). And so, under the conceptual framework of this study, this variable could be included in the research model to control for the influence of positive or negative experience on the UGC involvement. There could be some external factors, such as design elements, that push people to share their experiences. For example, gamification techniques like collecting badges might trigger tourists to write more reviews after they visit a destination. The big data of UGC can also provide insights on understanding why people participate in content co-creation. As the capabilities of the Internet increase and more people become connected, even deeper understandings of user behavior can be obtained.

References

Agag, G., & El-Masry, A. A. (2016). Understanding consumer intention to participate in online travel community and effects on consumer intention to purchase travel online and WOM: An integration of innovation diffusion theory and TAM with trust. *Computers in Human Behavior, 60*, 97-111.

Ali, F., Kim, W. G., Li, J., & Cobanoglu, C. (2018). A comparative study of covariance and partial least squares based structural equation modelling in hospitality and tourism research. *International Journal of Contemporary Hospitality Management, 30*(1), 416-435.

Amiel, T., & Sargent, S. L. (2004). Individual differences in Internet usage motives. *Computers in Human Behavior, 20*(6), 711–726.

Back, M. D., Stopfer, J. M., Vazire, S., Gaddis, S., Schmukle, S. C., Egloff, B., & Gosling, S. D. (2010). Facebook profiles reflect actual personality, not self-idealization. *Psychological Science, 21*(3), 372-374.

Barreda, A., & Bilgihan, A. (2013). An analysis of user-generated content for hotel experiences. *Journal of Hospitality and Tourism Technology, 4*(3), 263-280.

Baym, N. K. (2015). Connect with Your Audience! The Relational Labor of Connection. *The Communication Review, 18*(1), 14-22.

Becker, J. M., Rai, A., & Rigdon, E. (2013). Predictive validity and formative measurement in structural equation modelling: Embracing practical relevance, *Thirty Fourth International Conference on Information Systems (ICIS)*, Milan, 2013.

Berthon, P., Pitt, L., & Campbell, C. (2008). Ad lib: When customers create the ad. *California Management Review, 50*(4), 6-30.

Bilgihan, A., Barreda, A., Okumus, F., & Nusair, K. (2016). Consumer perception of knowledge-sharing in travel-related online social networks. *Tourism Management, 52*, 287-296.

Blackwell, R.D., Miniard, P.W., & Engel, J.F., (2001). *Consumer Behavior*, 9th ed. Ohio: South Western.

Bronner, F., & De Hoog, R. (2011). Vacationers and eWOM: Who posts, and why, where, what? *Journal of Travel Research, 50*(1), 15-26.

Buhalis, D., & Sinarta, Y. (2019). Real-time co-creation and nowness service: lessons from tourism and hospitality. *Journal of Travel & Tourism Marketing, 36*(5), 563-582.

Burmann, C., & Arnhold, U. (2008). *User generated branding: state of the art of research* (Vol 8). LIT Verlag Münster, Berlin.

Chavis, D. M., Hogge, J. H., McMillan, D. W., & Wandersman, A. (1986). Sense of community through Brunswik's lens: A first look. *Journal of Community Psychology, 14*(1), 24-40.

Chen, N., Dwyer, L., & Firth, T. (2018). Residents' place attachment and word-of-mouth behaviors: A tale of two cities. *Journal of Hospitality and Tourism Management, 36*, 1-11.

de Chernatony, L., and Christodoulides, G. (2004). Taking the brand promise online: Challenges and opportunities. *Interactive Marketing, 5*(3), 238–251.

Chin W.W., Kim Y.J., Lee G. (2013) Testing the Differential Impact of Structural Paths in PLS Analysis: A Bootstrapping Approach. In: Abdi H., Chin W., Esposito Vinzi V., Russolillo G., Trinchera L. (eds) *New Perspectives in Partial Least Squares and Related Methods. Springer Proceedings in Mathematics & Statistics, 56*, 221-229. Springer, New York, NY. https://doi.org/10.1007/978-1-4614-8283-3_15

Chin, W. W., & Dibbern, J. (2010). A permutation-based procedure for multi-group PLS analysis: Results of tests of differences on simulated data and a cross cultural analysis of the sourcing of information system services between Germany and the USA. In V. E. Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications in Marketing and Related Fields*, 171–192. Heidelberg: Springer.

Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: The roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal, 24*(1), 85–114.

Christodoulides, G., Jevons, C., & Bonhomme, J. (2012). Memo to marketers: Quantitative evidence for change: How user-generated content really affects brands. *Management Slant, 52*(1), 53-64.

Chu, S.-C., Lien, C.-H., & Cao, Y. (2018). Electronic word-of-mouth (eWOM) on WeChat: examining the influence of sense of belonging, need for self-enhancement, and consumer engagement on Chinese travelers' eWOM. *International Journal of Advertising, 38*(1), 26-49.

Conger, J. A., & Kanungo, R. N. (1988). The empowerment process: Integrating theory and practice. *Academy of Management Review, 13*(3), 471-482

Cooley, C.H. (1902). *Human Nature and the Social Order*. New York: Scribner's, 1902.

Crotts, J., & Pizam, A. (2003). The effect of national culture on consumers' evaluation of travel services. *Tourism Culture & Communication, 4*(1), 17-28.

Daugherty, T., Eastin, M. S., & Bright, L. (2008). Exploring Consumer Motivations for Creating User-Generated Content. *Journal of Interactive Advertising, 8*(2), 16-25.

Dixit, S., Badgaiyan, A. J., & Khare, A. (2019). An integrated model for predicting consumer's intention to write online reviews. *Journal of Retailing and Consumer Services. 46*, 112-120.

Duffy, A. M. (2013). *Fellow travelers: what do users trust on recommender websites? A case study of TripAdvisor. com.* Unpublished manuscript, National University of Singapore, Singapore.

Eysenck, S.B.G., Eysenck, H.J., & Barrett, P.T. (1985). A revised version of the psychoticism scale. *Personality and Individual Differences, 6*(1), 21-29.

Fan, A., Shen, H., Wu, L., Mattila, A. S., & Bilgihan, A. (2018). Whom do we trust? Cultural differences in consumer responses to online recommendations. *International Journal of Contemporary Hospitality Management, 30*(3), 1508-1525.

Farnadi, G., Zoghbi, S., Moens, M. F., & de Cock, M. (2013, July). Recognizing personality traits using Facebook status updates. In *Proceedings of the workshop on computational personality recognition (WCPR13) at the 7th international AAAI conference on weblogs and social media (ICWSM13)*. AAAI.

Fong, J., & Burton, S. (2008). A cross-cultural comparison of electronic word-of-mouth and country-of-origin effects. *Journal of Business Research, 61*(3), 233-242.

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, *18*, 382-388.

Füller, J. (2010). Refining Virtual Co-Creation from a Consumer Perspective. *California Management Review, 52*(2), 98–122.

Gefen, D., & Heart, T. H. (2006). On the need to include national culture as a central issue in e-commerce trust beliefs. *Journal of Global Information Management, 14*(4), 1-30.

Goodrich, K., & De Mooij, M. (2014). How 'social' are social media? A cross-cultural comparison of online and offline purchase decision influences. *Journal of Marketing Communications, 20*(1-2), 103-116.

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*(6), 504-528.

Gretzel, U., & Yoo, K. H. (2008). Use and impact of online travel reviews. *Information and communication technologies in tourism 2008*. Innsbruck: Springer Vienna.

Gretzel, U., Kang, M., & Lee, W. (2008). Differences in Consumer-Generated Media Adoption and Use: A Cross-National Perspective. *Journal of Hospitality & Leisure Marketing, 17*(1-2), 99-120.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice, 19*(2), 139-152.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). Advanced issues in partial least squares structural equation modelling. SAGE Publications.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science, 40(*3), 414-433.

Halliday, S. V. (2016). User-generated content about brands: Understanding its creators and consumers. *Journal of Business Research, 69*(1), 137-144.

Hamburger, Y. A., & Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in Human Behavior, 16*(4), 441-449.

Henseler, J. (2018). Partial least squares path modeling: Quo vadis? *Quality & Quantity*, *52*(1), 1-8.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modelling in new technology research: updated guidelines. *Industrial Management & Data Systems*, *116*(1), 2-20.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. *Journal of the Academy of Marketing Science*, *43*(1), 115-135.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modelling in international marketing. In *New challenges to international marketing*, 277-319. Emerald Group Publishing Limited.

Hoffman, D. L., Novak, T. P., & Schlosser, A. E. (2003). Locus of control, web use, and consumer attitudes toward internet regulation. *Journal of Public Policy & Marketing*, *22*(1), 41-57.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Hofstede Insights, 2020. *Country Comparison.* Retrieved 03.08.2020. from: <https://www.hofstede- insights.com/country-comparison/china,spain/>

Hoisington, A. (2018). *Why hoteliers can't ignore TripAdvisor*. Retrieved 20.10.2019 from: <https://vtechworks.lib.vt.edu/bitstream/handle/10919/87605/Why_hoteliers_can%E2%80%99t_ignore_TripAdvisor.pdf?sequence=1&isAllowed=y>

Hsu, C. L., Chang, K. C., and Chen, M. C. (2012). The impact of website quality on customer satisfaction and purchase intention: perceived playfulness and perceived

flow as mediators. *Information Systems and e-Business Management, 10*(4), 549-570.

Humphreys, A., & Grayson, K. (2008). The intersecting roles of consumer and producer: a critical perspective on co-production, co-creation and presumption. *Sociology Compass, 2*(3), 963-980.

Jeong, E., & Jang, S. (2011). Restaurant experiences triggering positive electronic word-of-mouth (eWOM) motivations. *International Journal of Hospitality Management, 30*(2), 356-366.

Jiao, Y., Ertz, M., Jo, M., & Sarigollu, E. (2018). Social value, content value, and brand equity in social media brand communities: a comparison of Chinese and U.S. consumers. *International Marketing Review, 35*(1), 18-41.

Judge, T. A., Higgins, C. A., Thoresen, C. J., & Barrick, M. R. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel Psychology, 52*(3), 621-652

Kim, W. G., Lee, C., & Hiemstra, S. J. (2004). Effects of an online virtual community on customer loyalty and travel product purchases. *Tourism Management, 25*(3), 343-355.

Kim, Y., Sohn, D., & Choi, S. M. (2011). Cultural difference in motivations for using social network sites: A comparative study of American and Korean college students. *Computers in Human Behavior*, *27*(1), 365-372.

Kim, S., Kandampully, J., & Bilgihan, A. (2018). The influence of eWOM communications: An application of online social network framework. *Computers in Human Behavior, 80*, 243-254.

Kim, J., & Tussyadiah, I. P. (2013). Social Networking and Social Support in Tourism Experience: The Moderating Role of Online Self-Presentation Strategies. *Journal of Travel & Tourism Marketing, 30*(1-2), 78-92.

Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travelers. *International Journal of Tourism Research, 9*(4), 233-242.

Krishnamurthy, S., & Dou, W. (2008). Note from special issue editors: Advertising with user-generated content: A framework and research agenda. *Journal of Interactive Advertising, 8*(2), 1-4.

Lam, D., Lee, A., & Mizerski, R. (2009). The effects of cultural values in word-of-mouth communication. *Journal of International Marketing, 17*(3), 55-70.

Lee, Y., & Gretzel, U. (2014). Cross-Cultural Differences in Social Identity Formation through Travel Blogging. *Journal of Travel & Tourism Marketing, 31*, 37-54.

Lei, S. I., Wang, D., & Law, R. (2019). Hoteliers' service design for mobile-based value co-creation. *International Journal of Contemporary Hospitality Management, 31* (11), 4338-4356.

Leon, R. D. (2019). Hotel's online reviews and ratings: a cross-cultural approach. *International Journal of Contemporary Hospitality Management, 31*(5), 2054-2073.

Li, H., Zhang, Z., Meng, F., & Zhang, Z. (2019). 'When you write review' matters: The interactive effect of prior online reviews and review temporal distance on consumers' restaurant evaluation. *International Journal of Contemporary Hospitality Management, 31*(3), 1273-1291.

Li, J., & Chignell, M. (2010). Birds of a feather: How personality influences blog writing and reading. *International Journal of Human-Computer Studies, 68*(9), 589-602.

Liang, S. W. J., Ekinci, Y., Occhiocupo, N., & Whyatt, G. (2013). Antecedents of travelers' electronic word-of-mouth communication. *Journal of Marketing Management, 29*(5-6), 584-606.

Lin, S., Yang, S., Ma, M., & Huang, J. (2018). Value co-creation on social media: Examining the relationship between brand engagement and display advertising effectiveness for Chinese hotels. *International Journal of Contemporary Hospitality Management, 30*(4), 2153-2174.

Litvin, S. W., Goldsmith, R. E., & Pan, B. (2018). A retrospective view of electronic word-of-mouth in hospitality and tourism management. *International Journal of Contemporary Hospitality Management, 30*(1), 313-325.

Lo, A. S., & Yao, S. S. (2019). What makes hotel online reviews credible? An investigation of the roles of reviewer expertise, review rating consistency and review valence. *International Journal of Contemporary Hospitality Management, 31*(1), 41-60.

Lu, Ying (Tracy), Chen, Z., & Law, R. (2018) Mapping the progress of social media research in hospitality and tourism management from 2004 to 2014. *Journal of Travel & Tourism Marketing, 35*(2),102-118.

Lucas, R. E., Diener, E., Grob, A., Suh, E. M., & Shao, L. (2000). Cross-cultural evidence for the fundamental features of extraversion. *Journal of Personality and Social Psychology, 79*(3), 452.

Maddi, S. R. (1989). *Personality theories: A comparative analysis*. Dorsey Press.

Malhotra, N. K. (1988). Self-concept and product choice: An integrated perspective. *Journal of Economic Psychology, 9*(1), 1-28.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38*(1), 299–337.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370–396.

McAlexander, J. H., Schouten, J., & Koenig, H. (2002). Building brand community. *Journal of Marketing, 66*(1) 38–54.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, *14*(1), 6-23.

Memon, M. A., Ting, H., Cheah, J. H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). The sample size for survey: Review and recommendations. *Journal of Applied Structural Equation Modeling*, *4*(2), 1-20

Moore, K., & McElroy, J. C. (2012). The influence of personality on Facebook usage, wall postings, and regret. *Computers in Human Behavior, 28*(1), 267-274.

Moro, S., & Rita, P. (2018). Brand strategies in social media in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, *30*(1), 343-364.

Munar, A. M., & Jacobsen, J. K. S. (2014). Motivations for sharing tourism experiences through social media. *Tourism Management, 43*, 46-54.

Muniz, A. M., & O'Guinn, T. (2001). Brand community. *Journal of Consumer Research 27*(4), 412–432.

Murphy, H. C., Centeno Gil, E. A., & Schegg, R. (2010). An Investigation of Motivation to Share Online Content by Young Travelers — Why and Where, In: Gretzel U., Law R., Fuchs M. (eds) *Information and Communication Technologies in Tourism 2010*. Springer, Vienna.

Nadkarni, A., & Hofmann, S. G. (2012). Why do people use Facebook? *Personality and Individual Differences*, *52*(3), 243-249.

Nambisan, S., & Baron, R. A. (2009). Virtual customer environments: testing a model of voluntary participation in value co-creation activities. *Journal of Product Innovation Management, 26*(4), 388-406.

Narangajavana, Y., Fiol, L. J. C., Tena, M. Á. M., Artola, R. M. R., & García, J. S. (2017). The influence of social media in creating expectations. An empirical study for a tourist destination. *Annals of Tourism Research, 65,* 60-70.

Novakovich, J., Miah, S., & Shaw, S. (2017). Designing curriculum to shape professional social media skills and identity in virtual communities of practice. *Computers & Education, 104,* 65-90.

Nusair, K., Butt, I., & Nikhashemi, S. R. (2019). A bibliometric analysis of social media in hospitality and tourism research. *International Journal of Contemporary Hospitality Management, 31* (7), 2691-2719.

Oberlander, J., & Nowson, S. (2006, July). Whose thumb is it anyway? classifying author personality from weblog text. In *Proceedings of the COLING/ACL on Main conference poster sessions*, 627-634. Association for Computational Linguistics.

Oh, J., Susarla, A., & Tan, Y. (2008). Examining the diffusion of user-generated content in online social networks. *Working Paper Series (28 July)*.

Ong Y.X., Ito N. (2019) 'I Want to Go There Too!' Evaluating Social Media Influencer Marketing Effectiveness: A Case Study of Hokkaido's DMO. In: *Pesonen J., Neidhardt J. (eds) Information and Communication Technologies in Tourism 2019*, 132-144. Springer, Cham. https://doi.org/10.1007/978-3-030-05940-8_11

Packard, G., Gershoff, A. D., & Wooten, D. B. (2016). When boastful word of mouth helps versus hurts social perceptions and persuasion. *Journal of Consumer Research, 43*(1), 26-43.

Pires, G. D., Rita, P. and Stanton, J. (2006). The Internet, consumer empowerment and marketing strategies. *European Journal of Marketing 40*(9/10), 936–949.

Prabu, K. (2014).Vast majority of TripAdvisor users read at least 6-12 reviews before choosing hotel. Retrieved 20.03.2020. from: <http://www.tnooz.com/article/tripadvisor-online-review-insights-phocuswright-study/>

Prahalad, C. K., & Ramaswamy, V. (2002). The co-creation connection. *Strategy and Business*, *27*, 50-61.

Prendergast, G., and Ko, D. (2010). Online word of mouth and consumer purchase intentions. *International Journal of Advertising, 29*(5), 687–708.

Qiu, L., Lin, H., Ramsay, J., & Yang, F. (2012). You are what you tweet: Personality expression and perception on Twitter. *Journal of Research in Personality, 46*(6), 710-718.

Qu, H., & Lee, H. (2011). Travelers' social identification and membership behaviors in online travel community. *Tourism Management, 32*(6), 1262-1270.

Quang, T. A., and Trang, D. C. (2016). Re-examining a relationship of e-WOM, perceived risk and trust on online customer purchase intention: A case of technology products in Vietnam. *International Journal of Research in Finance and Marketing, 6*(12): 108-120.

Ramanathan, U., Subramanian, N., & Parrott, G. (2017). Role of social media in retail network operations and marketing to enhance customer satisfaction. *International Journal of Operations & Production Management, 37*(1), 105-123.

Rensink, J. M. (2013). What motivates people to write online reviews and which role does personality play? *University of Twente, Master Thesis.*

Reisinger, Y., & Crotts, J. C. (2010). Applying Hofstede's national culture measures in tourism research: Illuminating issues of divergence and convergence. *Journal of Travel Research*, *49*(2), 153-164.

Reisinger, Y., & Mavondo, F. (2006). Cultural consequences on traveler risk perception and safety. *Tourism Analysis*, *11*(4), 265-284.

Rigdon, E. E. (2016). Choosing PLS path modeling as analytical method in European management research: A realist perspective. *European Management Journal*, *34*(6), 598-605.

Rigdon, E. E., Sarstedt, M., & Ringle, C. M. (2017). On comparing results from CB-SEM and PLS-SEM: five perspectives and five recommendations. Marketing Zfp, *Journal of Research and Management*, *39*(3), 4-16.

Ringle, C. M., Wende, S., & Becker, J. M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH. Retrieved 03.08.2019. from: <http://www.smartpls.com>

Rui, J., & Stefanone, M. A. (2013). Strategic self-presentation online: A cross-cultural study. *Computers in Human Behavior*, *29*(1), 110-118.

Sanz Blas, S., Carvajal-Trujillo, E. (2014). Cruise passengers' experiences in a Mediterranean port of call. The case study of Valencia. *Ocean & Coastal Management*, *102*, 307-316

Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research*, *69*(10), 3998-4010.

Serra-Cantallops, A., Ramon-Cardona, J., & Salvi, F. (2018). The impact of positive emotional experiences on eWOM generation and loyalty. *Spanish Journal of Marketing-ESIC*, *22*(2), 142-162.

Sia, C. L., Lim, K. H., Leung, K., Lee, M. K., Huang, W. W., & Benbasat, I. (2009). Web strategies to promote internet shopping: is cultural-customization needed? *MIS Quarterly*, 33(3), 491-512.

Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, *32*(6), 1310-1323.

Staiano, J., Lepri, B., Aharony, N., Pianesi, F., Sebe, N., & Pentland, A. (2012, September). Friends don't lie: inferring personality traits from social network structure. In *Proceedings of the 2012 ACM conference on ubiquitous computing*, 321-330. ACM.

TripAdvisor Browser Forum. (2012). Why do people post reviews on TripAdvisor? Retrieved 03.08.2019. from: <https://www.tripadvisor.com/ShowTopic-g1-i12105-k5823322-o40-Why_do_people_post_reviews_on_TripAdvisor-TripAdvisor_Support.html>

TripAdvisor.com. (2019). TripAdvisor Network Effect and the Benefits of Total Engagement. Retrieved 03.08.2019. from: <https://www.tripadvisor.com/TripAdvisorInsights/w828>

Truong, Y. 2013. A Cross-Country Study of Consumer Innovativeness and Technological Service Innovation. *Journal of Retailing and Consumer Services, 20* (1): 130–37.

Valkenburg, P. M. (2017). Understanding self-effects in social media. *Human Communication Research, 43*(4), 477-490.

do Valle, P. O., & Assaker, G. (2016). Using partial least squares structural equation modeling in tourism research: A review of past research and recommendations for future applications. *Journal of Travel Research*, *55*(6), 695-708.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing, 68*(1), 1-17.

Viswanathan, V., Hollebeek, L. D., Malthouse, E. C., Maslowska, E., Jung Kim, S., & Xie, W. (2017). The dynamics of consumer engagement with mobile technologies. *Service Science, 9*(1), 36-49.

Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice, 20*(2), 122-146.

Wang, J. L., Jackson, L. A. Zhang, D. J., & Su, Z. Q. (2012). The relationships among the Big Five Personality factors, self-esteem, narcissism, and sensation-seeking to Chinese University students' uses of social networking sites (SNSs). *Computers in Human Behavior, 28*(6), 2313–2319.

Wang, Y., So, K.K.F., Sparks, B.A. (2017). Technology Readiness and Customer Satisfaction with Travel Technologies: A Cross-Country Investigation. *Journal of Travel Research, 56*(5), 563-577.

Yen, C.L., & Tang, C.H. (2015). Hotel attribute performance, eWOM motivations, and media choice. *International Journal of Hospitality Management, 46*, 79-88.

Yoo, K.H., Sigala, M., & Gretzel, U. (2016). Exploring TripAdvisor. In *Open Tourism*, 239-255.

Zaichkowsky, J. L. (1994). The personal involvement inventory: Reduction, revision, and application to advertising. *Journal of Advertising, 23*(4), 59-70.

Table 1. Respondent Demographics

	China	Spain
	Percentage	
Screening question	(N=765)	(N=725)
Have you ever posted online reviews about a tourist destination already visited?		
Yes	75%	77%
No at the moment but yes in a near future	25%	23%
Gender	(N=574)	(N=558)
Male	47.52%	43.35%
Female	52.48%	56.65%
Age		
18-25	39.72%	29.19%
26-35	43.32%	49.61%
36-45	12.52%	15.75%
>46	4.52%	5.45%
Weekly hours spent on networking sites		
Less than an hour	26.77%	37.65%
From 1-3 hours	73.23%	62.35%

Table 2. Measurement model: Weights Loadings, Construct reliability and Convergent validity

	Spain				China			
	Weights	**Loadings**	**CR**	**AVE**	**Weights**	**Loadings**	**CR**	**AVE**
Co-creation			0.888	0.725			0.856	0.665
Co1: I enjoy creating online content about the tourist destination	0.444	0.852			0.444	0.823		
Co2: I want to be able to have online dialogue about a destination	0.359	0.880			0.453	0.861		
Co3: I find trustworthy online information on a destination from others	0.372	0.822			0.323	0.758		
Co4: I feel more confident creating content about the destination	0.285	0.887			0.301	0.821		
Empowerment			0.924	0.801			0.910	0.771
Emp1: I expect to create what I want on a destination through online content	0.391	0.907			0.430	0.902		
Emp2: Owning what I create online about a destination is important for me	0.357	0.908			0.389	0.916		
Emp3: I produce online content on a destination because I want to be heard.	0.369	0.869			0.314	0.812		
Community			0.828	0.630			0.811	0.683
Comu1: I feel a sense of community from posting online content on a destination	0.460	0.896			0.428	0.885		
Comu2: I engage with others online to share any interest in a destination	0.484	0.907			0.480	0.912		
Comu3: My membership in a social network encourages me to create online content	0.413	0.806			0.423	0.799		
Self-concept			0.732	0.518			0.774	0.562
Self1: I use the online content on a destination to express myself	0.256	0.606			0.611	0.847		
Self2: My link with the online content on a destination says a lot about me.	0.494	0.726			0.258	0.731		

Self3: I make my point of view known by creating online content on a destination	0.625	0.820			0.504	0.792		
Involvement			0.824	0.541			0.844	0.652
Involv1: Unimportant-Important	0.306	0.649			0.377	0.715		
Involv2: Irrelevant-Relevant	0.338	0.762			0.365	0.787		
Involv3: Means nothing to me-Means a lot to me	0.352	0.769			0.303	0.717		
Involv4: Unexciting-Exciting	0.361	0.755			0.420	0.796		
Involv5: Dull-Neat	0.298	0.851			0.356	0.784		
Involv6: Doesn’t matter-Matters to me	0.301	0.786			0.432	0.867		
Involv7: Boring-Interesting	0.265	0.724			0.347	0.801		
Involv8: Not fun-Fun	0.287	0.704			0.278	0.831		
Involv9: Unappealing-Appealing	0.365	0.697			0.353	0.743		
Involv10: Of no concern-Of concern to me	0.769	0.705			0.342	0.840		

Note:*p<0.05;**p<0.01;***p<0.001

Table 3. Discriminant validity for Composites Mode A

China									
	Fornell-Lacker criterion					Hetrotrait-monotrait ratio criterion			
	Co-creation	**Empowerment**	**Involvement**	**Self-concept**	**Community**	**Co-creation**	**Empowerment**	**Involvement**	**Self-concept**
Co-creation	**0.714**								
Empowerment	0.458	**0.787**				0.794			
Involvement	0.573	0.601	**0.901**			0.597	0.348		
Self-concept	0.434	0.502	0.647	**0.836**		0.547	0.430	0.467	
Community	0.402	0.387	0.635	0.578	0.912	0.823	0.650	0.555	0.635

Note: The square root of AVEs are shown diagonally in bold.

Spain									
	Fornell-Lacker criterion					Hetrotrait-monotrait ratio criterion			
	Co-creation	**Empowerment**	**Involvement**	**Self-concept**	**Community**	**Co-creation**	**Empowerment**	**Involvement**	**Self-concept**
Co-creation	**0.833**								
Empowerment	0.551	**0.835**				0.710			
Involvement	0.578	0.628	**0.923**			0.678	0.552		
Self-concept	0.497	0.482	0.676	**0.809**		0.304	0.332	0.592	
Community	0.432	0.435	0.621	0.586	**0.937**	0.658	0.707	0.806	0.657

Notes: The square root of AVEs are shown diagonally in bold.

Table 4. Hypotheses testing, Path and confidence interval

	Spain		China	
	R^2 0.5687/ Q^2= 0.156	Boostrapping 95% confidence interval Bca	R^2 0.676 Q2= 0.153	Boostrapping 95% confidence interval Bca
	Path coefficients	BCa	**Path coefficients**	BCa
H1: Co-creation→Involvement	**0.376***(t=6.956)**	**[0.2686;0.4800]**	**0.206***(t=2.566)**	**[0.0501;0.4252]**
H5a: P1*Co-creation→Involvement	0.056ns(t=0.7597)	[-0.1025;0.1792]	-0.007ns(t=0.1564)	[-0.0921;0.2076]
H5b: P2* Co-creation→Involvement	-0.052ns(t=0.803)	[-0.1859;0.05070]	0.0016ns(t=0.115)	[-0.258;0.0692]
H5c: P3* Co-creation→Involvement	0.013ns(t=0.231)	[-0.0932;0.1229]	0.007ns(t=0.1145)	[-0.1367;0.1422]
H5d: p4* Co-creation→Involvement	**0.1502 ***(t=2.146)**	**[0.1251;0.081]**	**0.081**(t=1.993)**	**[0.0215;0.1708]**
H5e: P5* Co-creation→Involvement	0.021ns(t=0.4161)	[-0.0361;0.059]	0.059ns(t=1.149)	[-0.0380;0.1585]
H2: Empowerment→Involvement	**0.1073**(t=2.254)**	**[0.0911;0.347]**	**0.347***(t=2.565)**	**[0.0277;0.3795]**
H5a: P1*Empowerment→Involvement	0.087ns(t=1.576)	[-0.0135;0.113]	0.113s(t=1.738)	[-0.0104;0.2460]

	Spain		China	
	R^2 0.5687/ Q^2= 0.156	Boostrapping 95% confidence interval Bca	R^2 0.676 Q2= 0.153	Boostrapping 95% confidence interval Bca
	Path coefficients	BCa	**Path coefficients**	BCa
H5b:P2*Empowerment→Involvement	-0.0518ns(t=0.998)	[-0.1591;0.427]	-0.451***(t=7.311)	[-0.5898;-0.3495]
H5c: P3*Empowerment→Involvement	-0.005ns(t=0.1136)	[-0.0915;0.0763]	**0.321***(t=4.103)**	**[0.1876;0.4922]**
H5d: P4*Empowerment→Involvement	-0.013ns(t=0.2834)	[-0.050;0.0819]	-0.135ns(t=1.551)	[-0.3060;0.0172]
H5e: P5*Empowerment→Involvement	-0.040ns(t=0.776)	[-0.1457;0.0544]	0.0087ns(t=0.337)	[-0.0769;0.2872]
H3: Community →Involvement	**0.156***(t=3.307)**	**[0.0611;0.2448]**	**0.1145**(t=2.641)**	**[0.0843;0.5286]**
H5a: P1*Community→Involvement	**.079**(t=1.967))**	**[0.0041;0.0019]**	0.0019(t=0.154)	[-0.0221;0.0620]
H5b: P2*Community→Involvement	**0.1034**(t=2.736)**	**[0.0147;0.2332]**	**0.2286***(t=3.903)**	**[0.1282;0.3572]**
H5c: P3*Community→Involvement	0.038ns(t=0.784)	[-0.0470;0.1328]	0.0138***(t=0.232)	[-0.2610;0.329]

	Spain		China	
	R^2 0.5687/ Q^2= 0.156	Boostrapping 95% confidence interval Bca	R^2 0.676 Q2= 0.153	Boostrapping 95% confidence interval Bca
	Path coefficients	BCa	**Path coefficients**	BCa
H5d:P4*Community→Involvement	0.023ns(t=0.485)	[-0.0651;0.1163]	**0.3281(t=4.451)**	**[0.287;0.387]**
H5e:P5*Community→Involvement	0.073ns(t=1.204)	[-0.0041; 0.1821]	-0.069ns)(t=1.037)	[-0.1756;0.0640]
H4:Self-concept→Involvement	**0.138***(t=3.425)**	**[0.0524; 0.2108]**	**0.078**(t=2.5647)**	**[0.0674;0.3603]**
H5a:P1*Self-concept→Involvement	-0.031ns(t=0.668)	[-0.1189; 0.0682]	-0.059ns(t=1.269)	[-0.1570;0.0243]
H5b:P2*Self-concept→Involvement	-0.025ns(t=0.548)	[-0.1230;0.0583]	-0.005ns(t=0.1504)	[-0.0770;0.0603]
H5c:P3*Self-concept→Involvement	0.048ns(t=1.169)	[-0.0203;0.1399]	-0.036ns(t=0.609)	[-0.1530;0.1032]
H5d:P4*Self-concept→Involvement	-0.018ns(t=0.448)	[-0.0834;0.0655]	-0.01ns(t=0.165)	[-0.0769;0.2876]
H5e:P5*Self-concept→Involvement	**0.1054**(t=2.576)**	**[0.0372;0.1830]**	**0.342(***t=5.043)**	**[0.2172;0.4682]**

Notes: BCa, Bias, Corrected and accelerated 5,000 bootstrap samples. **p<0.05; ***p<0.01, one-tailed test .
P1: Extraversion; P2: Openness to new experience; P3; Neuroticism; P4; Contentiousness; P5: Agreeableness

Table 5. Results of Invariance Measurement

	Compositional Invariance (Correlation=1)				Equal Mean Assessment			Equal Variance Assessment			
	Configural invariance (Both groups)	C=1	Confidence Interval	Partial Measurement Invariance Established	Differences	Confidence Interval	Equal	Differences	Confidence Interval	Equal	Full Measurement Invariance
Co-creation	Yes	0.987	[0.938;1]	Yes	0.04	[-0.187;0.129]	Yes	0.001	[-0.224;0.273]	Yes	Yes
Empowerment	Yes	0.991	[0.898;1]	Yes	-0.02	[-0.156;0.147]	Yes	0.006	[-0.274;0.139]	Yes	Yes
Involvement	Yes	0.968	[0.947;1]	Yes	0.000	[-0.162;0.158]	Yes	0.008	[-0.321;0.305]	Yes	Yes
Self-concept	Yes	0.979	[0,921;1]	Yes	0.002	[-0.173;0.163]	Yes	0.002	[-0.297;0.331]	Yes	Yes
Community	Yes	0.998	[0,995;1]	Yes	0.02	[-0.168;0.142]	Yes	0.008	[-0.361;0.357]	Yes	Yes

Table 6. Multigroup Analysis. The effect of Culture. Test results

	β^{Spain}	t-value	β^{China}	t-value	β^{Spain}-β^{China}	P-value difference (one-tailed) Heneseler's MGA	P-value difference (one-tailed) Permutation test	Differences across countries
H1: Co-creation→Involvement	0.376	6.956	0.206	2.566	0.1700	0.018*	0.045	Yes
H5d: P4*Co-creation→Involvement	0.1502	2.146	0.081	1.993	0.0692	0.391	0.547	No
H2: Empowerment→Involvement	0.1073	2.254	0.347	2.565	-0.2397	0.9602*	0.005	Yes
H5c: P3*Empowerment	-0.005	0.1136	0.321	4.103	-0.271	0.9703*	0.035	Yes
H3: Community→Involvement	0.156	3.307	0.1145	2.641	0.0415	0.311	0.502	No
H5a: P1*Community→Involvement	0.079	1.967	0.0019	0.154	0.0771	0.458	0.398	No
H5b: P2*Community→Involvement	0.1034	2.736	0.2286	3.903	-0.1252	0.032*	0.018	Yes
H5d: P4*Community->Involvement	0.023	0.485	0.3281	4.451	-0.3051	0.997*	0.002	Yes
H4: Self-Concept→Involvement	0.138	3.425	0.078	2.565	0.0600	0.401	0.224	No
H5e: P5*Self-Concept→Involvement	0.1054	2.576	0.342	5.043	-0.2366	0.9674*	0.003	Yes

Note: P1: extraversion; P2: Openness to new experience; P3; neuroticism; P4; Contentiousness; P5: Agreeableness