

Co-creation and co-destruction of service quality through customer-to-customer interactions

Service quality

Why prior experience matters

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Abstract

Purpose – This study draws on the service-dominant (S-D) logic paradigm to examine value co-creation and co-destruction. As these phenomena are driven by positive and negative “customer-to-customer” (C2C) interactions, this paper aims to examine their influence on tourist perceptions of service quality and how they shape affective responses toward tourism and hospitality services and brand loyalty.

Design/methodology/approach – Following a comprehensive literature review, the authors used convenience sampling to gather a large sample of tourists at Shanghai Disneyland, a recently opened and already popular international tourism attraction. Structural equation modeling was used to test for direct and moderated relationships.

Findings – The findings indicated that positive and negative C2C interactions have significant though differential impacts on customer responses. Furthermore, it was found that visitor arousal mediated the relationship between service quality and brand loyalty. Prior experience was identified as a moderator in the co-creation and co-destruction process during service encounters.

Practical implications – This paper is one of the first to examine the concept of co-destruction in the tourism and hospitality context. It contributes to the literature by demonstrating the merits of proactive service provision by tourism operators, taking account of both the co-creation and co-destruction of value.

Originality/value – The study extends the literature by taking account of both positive and negative C2C interactions when examining co-creation and co-destruction in the context of service encounters. It also contributes to knowledge by assessing the asymmetry of such interactions in the context of the customer experience.

Keywords China, Service quality, Co-creation

Paper type Research paper



Introduction

The existing academic literature has placed considerable emphasis on how customers participate in the service delivery process and co-create value, which leads in turn to service improvements that benefit other customers (Payne *et al.*, 2008). The theoretical underpinning for the present work is provided by the service-dominant (S-D) logic, with consumers being viewed as integral to the process of value creation (Grönroos and Voima, 2013; Vargo and Lusch, 2016). The paradigm of S-D logic posits service as the core purpose of exchange, and it provides a theoretical explanation of how customers, firms and other actors in a market co-create value through interactions (Jin *et al.*, 2017). Tourism and hospitality scholars have shown growing interest in integration (or non-integration) of resources and in service exchange as mediums for value co-creation (Ji *et al.*, 2018; Lin *et al.*, 2018). Interactions between service customers lead to the co-creation of value and researchers have given increasing attention to the nature and implications of customer-to-customer (C2C) interactions (Ekpo *et al.*, 2015; Ji *et al.*, 2018). The thinking has evolved from viewing customers as operant resources that deliver financial benefits to producers whose value extends into the non-financial realm (Merz *et al.*, 2009). This acknowledgement of customer value co-creation views the consumer as an integral part of the service encounter and as interacting with employees and other customers to co-produce higher quality of services (Rosenbaum, 2006). An underlying premise of this stream of research is that customer interactions with others are “co-creative” and “experience-based” (Chathoth *et al.*, 2016) and are harmonious in a way that produces favorable service outcomes (Chathoth *et al.*, 2016; Huang and Hsu, 2010).

However, the existing research on S-D logic focuses primarily on the positive outcomes of the co-creation process, despite the fact that customers may engage in negative public behaviors which lead to a reduction of value through the co-creation process (Quach and Thaichon, 2017; Makkonen and Olkkonen, 2017). For example, empirical evidence has suggested that customers and tourists may ignore commonly accepted norms by being noisy in public, littering, spitting, queue-jumping, smoking in prohibited areas, behaving in a rude manner to others and damaging public property (Yang, 2016). Such behaviors may serve to undermine value creation over the course of C2C interactions. These various destructive behaviors may be considered as a “dark side” in the service encounter, and imply that value co-creation is not always positive; value may even be co-destroyed (Plé and Cáceres, 2010). Collaboration between the various actors who are involved in the service process may also lead to value co-destruction. This outcome may be intentional, or unintentional, depending on the motivations and actions of the service systems (Worthington and Durkin, 2012). Despite such risks, in the hospitality and tourism literature, the co-destruction of value has rarely been studied and the associated empirical evidence has been cursory (Camilleri and Neuhofer, 2017; Echeverri and Skálén, 2011; Makkonen and Olkkonen, 2017).

The co-creation literature has assumed that customers are consistent in their value co-creation/-destruction. This implies common behaviors on the part of different client segments, regardless of experience (Chathoth *et al.*, 2016; Merz *et al.*, 2009; Payne *et al.*, 2008; Yi and Gong, 2013). In the current paper, the researchers argue that positive C2C (PC2C) and negative C2C (NC2C) interactions impact differentially on customer service responses and lead to asymmetries between the contradictory forces. Previous studies have shown that prior customer experiences condition service evaluations and responses (Wong *et al.*, 2016). Their reactions will be shaped by positive and/or negative stimuli (Russell and Mehrabian, 1978) and by their interactions with employees and other customers (Kashif and Zarkada, 2015).

The present study addresses deficiencies in the current literature by assessing the impact of both PC2C and NC2C interactions on customer service quality perceptions, leading in turn to brand loyalty through the mediating role of affective response. The researchers have addressed the following questions: How do PC2C and NC2C interactions influence tourist perceptions of service quality? How do such interactions shape affective responses toward tourism and hospitality services and brand loyalty? How does prior experience work as a boundary condition in the co-creation and co-destruction process? The researchers answered these questions by proposing a dyadic process that combines co-creation and co-destruction. The research sheds light on how these forces in combination can enhance understandings of consumer behavior and service evaluations (Daunt and Harris, 2017). From the S-D logic perspective, the present study is among the first in the tourism and hospitality literature to propose an integrated model that acknowledges the duality of co-creation and co-destruction. The implications of an integrated model are revealed in the context of theme park service encounters, and the symbiotic relationship between the two forces provides a better understanding of the “Janus of value perceptions.” The researchers also examine the moderating effects of customers’ previous service experiences. In summary, this study extends the literature by considering PC2C and NC2C interactions to examine co-creation and co-destruction in the context of service encounters. It contributes to knowledge by assessing the asymmetry of such interactions in the context of the customer experience.

The remainder of the article is structured as follows. A theoretical model is proposed that draws on the literature review, followed by presentation of the research methodology and findings. The theoretical and managerial implications of the study conclude the article.

Literature review

The proposed model

As outlined in Figure 1, the proposed research framework presents an integrated model that incorporates three major domains on tourism and hospitality studies. The first two relate to the symmetry of C2C interactions and their effects on customer service responses. The third domain focuses primarily on previous experience as a conditioning state that moderates C2C interactions and customer responses. The researchers start from the premise that C2C interactions contribute to how tourism attractions are experienced, thereby influencing subsequent service evaluations and loyalty. It is proposed that social interactions can fulfill tourists’ social-psychological needs by engendering positive feelings and emotions through social discourse. Such interactions are of central importance to the tourism experience because they stimulate the creation of value during the encounter. This study seeks to refine the apparent contrast and contradiction between co-creation (“positive”) and co-destruction (“negative”) of value. The researchers developed an integrated model that considers this

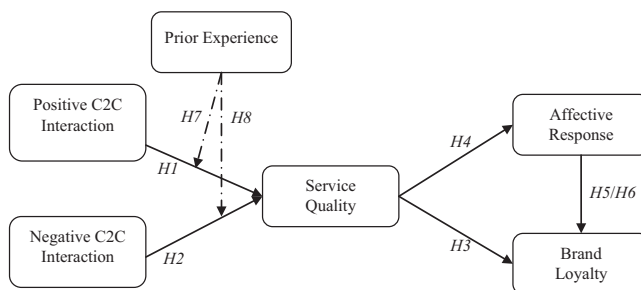


Figure 1.
Research framework

dyadic view toward customer service evaluations and affective responses. The following section outlines the proposed model, the relevant literature, and the proposed hypotheses.

S-D logic is the theoretical underpinning for the present study. As a relatively recent paradigm, S-D logic provides researchers with a medium to explore the co-creation of customers' perceived values in the hospitality context (Shaw *et al.*, 2011). The theory of S-D logic views providers and customers as playing roles in the integration of resources and as operating within networks that are embedded within a service system. The researchers have opted for a process orientation rather than focusing on outputs (i.e. goods and services) to acknowledge customer involvement in value co-creation (Edvardsson *et al.*, 2011). Lin *et al.* (2017) have conceptualized value co-creation as an exchange of resources, with interactions between actors enabling an exchange of resources. As such, the proposed effects of PC2C and NC2C interactions are respective of favorable and unfavorable exchanges of resources. Such interactions align with value co-creation and co-destruction during the service encounter. A favorable exchange will improve service, as a key aspect of value (Rosenbaum and Wong, 2010), as perceived by the various actors. Meanwhile an unfavorable exchange will hamper service provision.

Scholars have observed that though most customers behave rationally, others act thoughtlessly or even abusively (Huang and Wang, 2014). In this paper, it is argued that co-creation and co-destruction constitute equally legitimate outcomes of the service encounter. Unfortunately, this co-creation/co-destruction dichotomy has not yet been adequately explained and empirically tested, notably within the S-D logic literature. The creation of experience and value in the theme park context has been particularly unexplored, notably in the case of value co-destruction. The present research draws upon the S-D logic framework to undertake a holistic exploration of how negative and positive behaviors are co-created or co-destroyed in theme park settings.

Moreover, the pleasure, arousal and dominance (also called P-A-D) paradigm was embraced in the proposed model (Mehrabian and Russell, 1974). This approach contends that three independent bipolar dimensions explain human responses to environments, namely, pleasure-unpleasant (P), arousal-unaroused (A) and dominant-submissive (D). Tourism experiences have an affective dimension and carry emotional and social meanings because of their close connection with tourist needs and motivations toward the pursuit of pleasure when socializing. Arousal is associated with affective responses such as excitement, enjoyment and memorability (Chen and Chen, 2010). Affective responses relate to feelings of excitement, and may mediate the connection between service quality and brand loyalty in the tourism context (Yüksel and Yüksel, 2007). The current authors extend the uses attributable to arousal in environmental psychology to show that loyalty toward tourism products flows from both service quality and affective responses. It has previously been shown that the quality of C2C relationships may influence customers' holistic evaluations of the service providers (Johnson and Grier, 2013); it also affects their hedonic experiences and willingness to return and/or to repurchase (Martin and Martin, 2016).

The authors propose that PC2C and NC2C interactions have an asymmetrical influence on customer perceptions of service quality based on their prior experiences. The co-creation of perceived service quality arises from moderated positive and negative interactions amongst customers. It is suggested that these service evaluations generate brand loyalty toward the service provider through affective responses.

Positive customer interactions

In seeking to deliver high quality service, tourism destinations and service providers should seek cooperation between tourists (Buonincontri *et al.*, 2017). Positive, harmonious and

friendly C2C interactions between previously unacquainted tourists are examples of creative behaviors. They include both physical and psychological participation and constitute a joint, collaborative, concurrent and peer-like process of producing value (Im and Qu, 2017). It is increasingly prevalent for tourists to get along with each other by co-creating their experiences with the providers, thereby producing value.

Studies dealing with experiential products or hedonic settings have provided empirical evidence that customers are involved in contributing to the enjoyment of experiences by other customers. Tourists with a higher level of motivation, knowledge and self-efficacy are more likely to take part in co-creation (Im and Qu, 2017). Customers' positive emotions toward a firm may result in enthusiasm and attention toward products or settings (Tonder and Petzer, 2018). Closer and friendly interactions with other tourists evidently lead to positive experiences and to satisfaction (Millán *et al.*, 2016). Mathis *et al.* (2016) have argued that the co-creation of experiences arises from opportunities for greater social interaction.

In the case of participants in guided tours, cruise holidays or events and festivals, the quality of C2C interactions impacts positively on satisfaction levels through the actions of coming together and spending time with significant others (Huang and Hsu, 2010). Positive tourist citizenship behaviors may facilitate communications and coordination, thereby bringing harmony and conviviality to the tour, encouraging benevolent acts and motivating and supporting service providers (Liu and Shenghshung, 2014). NC2C interactions lead to satisfaction with service quality in hedonic contexts, particularly in the case of leisure (Levy, 2010).

Prebensen and Xie (2017) have identified the importance of co-creation as a crucial variable that influences tourists' perceived value and satisfaction. PC2C interactions drive value to customers by enhancing individual hedonic perceptions, thereby influencing their perceptions of quality (Yoo *et al.*, 2012). Tourists who participate and interact proactively often evaluate their travel and vocation experience more positively than others (Campos *et al.*, 2017). On the basis of the foregoing discussion, the researchers proposed the following hypothesis:

H1. PC2C interactions are positively related to service quality.

Negative customer interactions

The literature has documented that a combination of careful service design and employee training can mitigate the prospect of service failure. Value co-destruction happens when consumers behave improperly in service settings (Kashif and Zarkada, 2015; Järvi *et al.*, 2018). In the current paper, the authors view value co-creation as a process through which customers become either better or worse off through the course of the service encounter (Grönroos, 2012). The term *co-destruction*, however, implies that a customer's co-created experience may also have negative consequences (Echeverri and Skålén, 2011). We have extended Ple and Caceres's (2010) conceptual definition by referring to co-destruction as an interactional process by which service experiences are impacted adversely by the misbehaviors of other customers, leading to depletion of value.

Smith (2013) has suggested that value co-destruction even occurs where the potential enhancement of well-being has not been met and the desired value has not been created. We argue that NC2C interactions are co-destructive behaviors because they diminish well-being.

The researchers view theme parks as places where a variety of resource integrators come together. We do not view Disneyland, for example, as a dyad where two actors come together. Rather, the park is a platform where a multiplicity of actors integrate their resources. Resources may be categorized as social (e.g. support), material (e.g. food,

transportation), self (e.g. self-efficacy, self-esteem) and condition (e.g. social status) (Smith, 2013). Inappropriate or unexpected behaviors may lead to misuse of resources, resulting in discrepancies between the expected and real states, and ultimately value co-destruction (Chowdhury *et al.*, 2016). In fact, available resources may be misused when one service system fails to integrate and use operand and operant resources of the service systems to handle negative interactions, which could ultimately affect a firm's financial bottom line (Park and Ha, 2016). Thus, it is important that a service recovery approach remediates any delivery-related problems.

Poor C2C interactions refer to the disruption of common consuming during service encounters and the disobedience of tolerable behavioral norms (Tsang *et al.*, 2016). These may hamper the quality of service, even where the provider has exercised care in crafting and delivering the service. Previous studies have shown that the failures of other customers reflect negatively on how patrons evaluate service quality (Huang *et al.*, 2010). Customer perceptions of C2C interaction incidents in retail settings may influence evaluations of their fellow customers and holistic service evaluations. Customers who view service failures as being avoidable are likely to react negatively (Choi and Mattila, 2008). Such negative feelings may not be mitigated in cases where the cause of the failure is ambiguous (Quach and Thaichon, 2017). Understanding of co-destruction of the brand experience extends to conversations and sophisticated interactions between multiple parties, including the brand, the staff, customers, and other related groups. Daunt and Harris (2017) have identified that co-destructive and co-creative behaviors may occur simultaneously, concurrently, and iteratively. Moreover, conceptualizations of value creation should not be confined to the creative process, but also to acts of creative destruction.

Vargo and Lusch (2008) have embraced the premise that customers are always co-creators of value. However, subsequent scholarly contributions have shown that faulty interactions may lead to the co-destruction of value (Echeverri and Skålén, 2011; Plé and Cáceres, 2010). The tourist value chain is applicable to the discussion. This chain encompasses the psychological processes that underlie relationships between NC2C interactions and service evaluations (Huang, 2010). It is notable, for example, that tourist enjoyment may be impeded by the annoying behaviors of others. In a study of group package tourists, Tai (2012) identified significant correlations between many questionable behaviors and tourist statements about their attitudes. According to Neuhofer (2016), though technology can create value during the travel experience, it may also be a barrier to escaping from everyday life, interrupt the lived experience, be addictive and create pressures, thereby diminishing value for tourists. Across many service contexts (e.g. restaurants and accommodations), the actions and/or behaviors of problem customers could have a detrimental effect on satisfaction with the service provider by others and lead to diminished value, thereby increasing negative word-of-mouth reputation (WoM), and discouraging potential patrons (Camilleri and Neuhofer, 2017). In the most serious cases, customers may destroy the relationship, brand image, clientele, and even the whole service delivery process (Krishna *et al.*, 2013). On the basis of the foregoing discussion, the following hypothesis was proposed:

H2. NC2C interactions are negatively related to service quality.

Service quality, customer response and their relation to brand loyalty

The early research on service quality dates back to the 1980s and 90s, with the seminal work by Parasuraman *et al.* (1988) proposing the SERVQUAL model and the technical vs.

functional domains of services, respectively. A critique by Cronin *et al.* (2000) recommends refinements to the service quality measures by summarizing the construct into an overall scale as a general measure of how customers perceive service quality. In this study, we adopt this definition to define service quality as an overall evaluation of customer perception on a service provider's quality.

Service quality has been widely accepted as a critical evaluative metric for the tourism and hospitality industry because service oases are indicative of the provider's market positioning and excellent customer value (Wong and Wu, 2013). Service providers have endeavored to harness brand equity and loyalty by improving the design of services and of the customer experience (Prentice and Wong, 2016). Brand loyalty represents a customer's deeply held commitment to repurchase a preferred brand or to patronize repeatedly (Oliver, 1999). Loyalty is behavioral when it is associated with repeat purchases, and attitudinal when it involves an intention to repeat and to recommend (Antón *et al.*, 2017). Empirical evidence has provided extensive support for the link between service quality and customer loyalty to a specific brand. An elevated level of service often leads to future patronage intentions and to actual behaviors across service contexts including tourism and hospitality settings. Kayaman and Arasli (2007) found that perceptions of quality amongst hotel customers has a significant effect on brand loyalty. Following the preceding discussion, the following hypothesis was proposed:

H3. Service quality is positively related to brand loyalty.

Although the literature has substantiated the relation between service quality and brand loyalty, the present researchers argue that there is an alternative approach to understanding this relationship through the mediation of customers' affective responses. The assertion is supported by the fact that perceptions of service quality often lead to arousal and affective responses (Hellén and Sääksjärvi, 2011). This means the extent to which a person is stimulated and activated through positive feelings such as joy, excitement and pleasure. Consistent with the behaviors that are characterized by the stimulus response paradigm, customers react to a favorable service experience by evoking their emotions with short-run arousal and affective spirit.

As such affective responses are tied to specific cues and environmental stimuli, it follows that customer cognition of the services that are delivered could strongly affect their emotional valence through affective behavioral outcomes (Russell and Mehrabian, 1978). As is manifest through a commitment to and patronage of a brand, these outcomes are often linked with behavioral intentions and actual approach behaviors (Tanford *et al.*, 2010). The current authors view this linkage as particularly acute within the entertainment business, notably in the case of theme parks such as Disneyland and Universal Studios. Such hospitality providers have been tireless in their evocation of customer senses and emotional valence through the provision of games, "streetmosphere," aesthetics, and a stream of surprises. These allow guests to participate actively and to immerse themselves within magical wonderlands. According to the foregoing discussion, we proposed the following hypotheses:

H4. Service quality is positively related to affective response.

H5. Affective response is positively related to brand loyalty.

H6. Affective response plays a mediating role between service quality and brand loyalty.

The moderating effect of customer experience

Customers' brand and destination images may be affected by their prior experiences (Hong *et al.*, 2009), perceived service quality (Palmer, 2010) satisfaction (Prayag *et al.*, 2013; Brakus *et al.*, 2009) and loyalty (Ryu and Han, 2011). Prior experiences are also an important determinant of customers' tripographic characteristics (e.g. prior visitation, accommodation type, party size and length of stay), and of factors such as post-experience evaluations and planning behaviors (Li *et al.*, 2008). According to Kerstetter and Cho (2004), repeat visits to a destination or attraction may refer back to previous experiences. It has been found that repeat visitors are more likely to choose the same destination in future than first-timers, in a study about the direct relationship between past experiences and further behavioral intentions (Hong *et al.*, 2009). Compared with first-timers, repeaters had higher levels of satisfaction and were more strongly disposed to returning and more likely to give active word-of-mouth communications (Li *et al.*, 2008). Lim *et al.* (2015) found that there were discrepancies between the desired outcomes of first-timers and repeat tourists that were responsible for their different visitation and satisfaction levels.

Prior experience with an attraction or destination has previously been used as a boundary condition that provides an enhanced understanding of the link between relationship quality (i.e. relationship with providers, other customers, and companions) and customer satisfaction (Choo and Petrick, 2012). Though much effort has been devoted to investigating the role of prior experience, the findings have been inconclusive. For example, while some studies have shown that it is easier for tourism service providers to satisfy first-timers (Mckercher and Wong, 2004), others have reached different conclusions (Wong *et al.*, 2016). In particular, it has been noted that repeaters are less tolerant of poor service and travel inhibitors, leading to lower satisfaction than is prevalent amongst first-timers.

In tourism and hospitality service settings, the customer experience is related closely to the cues that consumers use to assess service quality (Wong and Wu, 2013; Palmer, 2010). Repeat patrons are better placed to make accurate evaluations of the gap between expectations and performance (Ryu and Han, 2011). The so-called customer contact model provides theoretical guidance for the development of the propositions. The model asserts that customer service evaluations are determined by their level of contact and involvement in the delivery process, including interactions with providers and with other customers (Kellogg and Chase, 1995). In particular, a higher level of customer service contact often results in alleviated service quality evaluations. This is largely attributable to the involvement of customers in service provision. This premise suggests that more experienced and involved customers who experience positive interactions during the course of encounters would evaluate services most favorably, but would evaluate services less favorably in cases where they experienced negative interactions. These assertions lead to the following hypotheses:

- H7. Prior experience moderates the relationship between PC2C interactions and service quality in that the relationship is stronger amongst repeat customers.
- H8. Prior experience moderates the relationship between NC2C interactions and service quality in that the relationship is stronger amongst repeat customers.

Methods*Sample*

The researchers deployed a quantitative approach in this study to examine the hypothesized relationships. As a venue to administer the survey they chose mainland China's first Disney park resort – Shanghai Disney Resort. Shanghai Disneyland was considered to be suitable

as a tourism and hospitality example for testing the proposed model because it offers hedonic experiences to patrons, and seeks to generate heightened emotions amongst them. It is commonplace in the case of tourism and hospitality services that social companions are integral to the consumption experience. Visitors experience venues that range from restaurants and theme parks to movie theaters, with companions in social settings.

Shanghai Disneyland attracted four million visitors in its first four months after opening in mid-2016. There have, however, been widespread reports in the Chinese media about discourteous and undesirable behaviors on the part of visitors to the attraction (China Daily, 2016). This issue is endemic in larger scale theme parks such as Shanghai Disneyland, where some customers may displease other customers, thereby diminishing their enjoyment. Lengthy waiting times may exacerbate unsatisfactory visitor experiences at theme parks. Tensions are particularly prevalent during peak periods around the most popular rides.

The current research team administered questionnaires around peripheral areas of Shanghai Disneyland and at the exit and entrance of the nearest subway station because many visitors reach and depart from the theme park by metro. The data were collected using convenience sampling. Field investigators approached prospective respondents to solicit their voluntary participation in the survey. Filter questions were used to confine the coverage to adult tourists who had just experienced the theme park. Once the English language version of the questionnaire was completed, it was professionally translated into Chinese, and then reviewed by four bilingual (Chinese and English) experts. Any discrepancies emerging through the back-translation process were identified and remedied. The researchers assessed the quality of the translation by comparing the materials in the original language to minimize any language-related nuances (Dimanche, 1994). Following finalization of the Chinese questionnaire and prior to data collection, two rounds of pilot testing were conducted. A total of 765 usable questionnaires were collected, coded, and analyzed for this study, amounting to a response rate of 80.5 per cent. Appendix 2 presents a demographic summary of the study sample.

Measures

The survey questionnaire incorporated several multi-item scales that were adopted from the relevant literature (see Appendix 1 for details). Except where otherwise specified, each item was assessed using a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

PC2C interactions were assessed using a three-item scale that was adopted from (Huang and Hsu, 2010). The following is an example of one of the questions: "My interaction with other tourists was harmonious." The scale was fairly reliable with a Cronbach's alpha (α) of 0.91. NC2C interactions were assessed using a four-item scale that was adopted from. An example of a question is: "I do not like other customers interrupting the services I received." The scale exhibited a scale reliability of 0.81. *Service quality* was operationalized by an overall measure of the service quality that customers received. It was assessed by a three-item measure adopted from (Cronin et al., 2000). Each item was evaluated using an 11-point semantic differential scale ranging from 1 (poor/inferior/low standards) to 11 (excellent/superior/high standards) with the statement "Please evaluate the overall services provided by the theme park." The scale reliability was high with $\alpha = 0.90$.

Affective response was operationalized to assess customers' affection and arousal on the theme park's experience. The construct was adopted from (Babin and Darden, 1995) with three nine-point semantic differential scale items – aroused, simulated, and excited – ranging from 1 (not at all) to 9 (very much). The scale was fairly reliable with

$\alpha = 0.92$. *Brand loyalty* was assessed by three items adopted from Yoo, Donthu and Lee (2000). An example question included "Shanghai Disneyland would be my first choice." The scale had an α of 0.76, indicating adequate liability. *Prior experience* was measured using a ratio scale, with a question asking respondents to specify the number of times that they had visited the park. The variable was recoded into a dichotomy with 0 = first time visitor and 1 = repeat visitor.

Prior to undertaking the data analysis, the researchers proceeded to diagnose common method bias (CMB) and multicollinearity. For the purposes of the CMB evaluation, the approach of Podsakoff *et al.* (2003) was adopted using a three-item marker variable – brand extension fit that drawn from John *et al.* (1998) – to offset its effect on the endogenous factors (affective response and brand loyalty). No differences were identified concerning the postulated relationships on these two factors, which indicates that the study is not limited by CMB. Variance inflation factor (VIF) was used as a diagnosis for the presence of multicollinearity. The results revealed that that no VIF exceeded 2.0, an indication that multicollinearity was not an issue.

Findings

Most of the respondents were female (58.4 per cent); 58.8 per cent were 20-40 years old; and over half (52 per cent) of the participants held a bachelor's degree or higher. For place of residence, 32.9 per cent of the participants were from the neighboring regions such as Zhejiang and Jiangsu Provinces, while 65.5 per cent originated from less proximate regions across mainland China. Most participants were frequent visitors, having visited Shanghai on three or more occasions. Respondents reported an average expenditure at Disneyland of RMB 1,187 (or US\$177) including entrance fees. The characteristics of the sample population are generally consistent with actual visitors to Shanghai Disneyland in terms of distribution around gender, age, and origin (Talking Data, 2016).

A confirmatory factor analysis was performed for the five scales of interest. Each of the multi-item measures exhibited adequate scale reliability and validity, with average variance extracted (AVE) ≥ 0.50 and Cronbach's alphas ≥ 0.70 . Discriminant validity was demonstrated as AVEs are greater than square of each pair of inter-factor correlation. Overall, the measurement model fitted the data fairly well with a comparative fit index (CFI) = 0.99, normed fit index (NFI) = 0.98 and root mean square error of approximation (RMSEA) = 0.04.

Table I presents descriptive statistics and zero-order correlations of the variances that are of interest. It is notable that no correlation exceeds 0.54, and that as expected, NC2C interaction is negatively correlated with PC2C interaction, service quality, affective response and brand loyalty. The researchers proceeded to control for the effect of demographics such as education, gender and age on brand loyalty as previous researchers have noted different travel behaviors across these characteristics (Li, 2010). Structural equation modeling (SEM) in LISREL 8.80 was used to test the proposed framework in Figure 1 using two models: baseline and invariance.

As presented in Table II, the results reveal that PC2C interaction is directly, positively, and significantly related to service quality ($\beta = 0.51, p < 0.05$); thus, *H1* is supported. As expected, the NC2C interaction is directly, negatively, and significantly related to service quality ($\beta = -0.20, p < 0.001$); thus, *H2* is also supported. These findings support the proposition that customer interactions draw upon both congruent (in the case of co-creation) and incongruent (in the case of co-destruction) elements of C2C interaction practices (Echeverri and Skálén, 2011). The study also confirms that service quality is positively related to brand loyalty ($\beta = 0.14, p < 0.001$), thereby supporting *H3*. The results that are

presented in Table II further show that the relationships between service quality and affective response ($\beta = 0.59, p < 0.001$) and between affective response and brand loyalty ($\beta = 0.30, p < 0.001$) are positive and significant, thereby supporting H4 and H5.

The researchers drew upon Baron and Kenny's (1986) procedure to test the mediating effect of affective response. The results reveal that affective response partially mediates the service quality–brand loyalty relationship, thus H6 is supported. The significance of the mediation was then assessed using the Sobel test. The results indicate that the effect is significant ($Z = 7.95$) at the 0.001 level. The LISREL based results reveal a significant indirect effect of service quality on brand loyalty ($\beta = 0.27, p < 0.001$). They further reveal a positive significant effect of PC2C interaction on affective response ($\beta = 0.21, p < 0.001$) and brand loyalty ($\beta = 0.16, p < 0.001$). However, there is a NC2C interaction indirect effect on affective response ($\beta = -0.06, p < 0.05$) and brand loyalty ($\beta = -0.04, p < 0.05$).

H7 to H8 propose a moderating effect of past experience at Shanghai Disney, which was measured using a dichotomy – prior visitation to the park (i.e. repeat visitor [N = 219] vs first-time visitor [N = 546]) – on the relationship leading from PC2CI and NC2CI to service quality. We examined the moderating effect using group invariance testing (Hair et al., 2006). As is shown in Table III, past visitation experience exerts a significant moderating effect on the relationship between PC2CI and service quality, in that repeat visitors evaluate the service quality more strongly if they perceived harmony and positive interactions with other customers ($\beta_{First-time} = 0.47, p < 0.001$ vs $\beta_{Repeat} = 0.66, p < 0.001$; $\Delta\chi^2_{(1)} = 3.50, p < 0.10$). The results further indicate that past experience has a significant moderating effect on

	Mean	SD	AVE	1	2	3	4	5	6
1. Prior experience	1.19	0.39	–	–					
2. PC2C interaction	5.49	1.18	0.75	0.03	(0.91)				
3. NC2C interaction	2.33	1.04	0.51	–0.02	–0.35***	(0.81)			
4. Service quality	9.03	1.78	0.75	–0.11	0.34***	–0.19***	(0.90)		
5. Affective response	6.88	1.75	0.79	0.03	0.33***	–0.13***	0.54***	(0.92)	
6. Brand loyalty	4.44	1.42	0.56	0.01	0.35***	–0.14***	0.38***	0.48***	(0.76)

Notes: *** $p < 0.001$. SD = standard deviation; AVE = average variance extracted; Cronbach's alphas are reported on the diagonals

Table I. Descriptive statistics, correlations, AVE and reliabilities

	Service quality	Affective response	Brand loyalty
<i>Control variables</i>			
Gender			0.17*
Age			0.06
Education			–0.02
<i>Main Effects</i>			
PC2C interaction	0.51***		
NC2C interaction	–0.20*		
Service quality		0.59***	0.14***
Affective response			0.30***
R ²	0.16	0.36	0.35

Notes: * $p < 0.05$; *** $p < 0.001$. Parameters are unstandardized. The fit statistics: CFI = 0.98; NFI = 0.97; RMSEA = 0.05

Table II. Parameter estimation of the baseline model

Table III.
Parameter estimation
of the invariance
model

	Service Quality		Affective Response		Brand Loyalty		$\Delta \chi^2_{(1)}$
	First Time	Repeat	First Time	Repeat	First Time	Repeat	
<i>Control Variables</i>							
Gender					0.08†	0.57**	9.48**
Age					0.09***	0.00	3.18†
Education					-0.02	-0.02	0.01
<i>Main Effects</i>							
PC2C interaction	0.47***	0.66***					3.50†
NC2C interaction	-0.15**	-0.39*					2.77†
Service quality			0.61***	0.55***	0.13***	0.14*	1.18 ^a (0.11) ^b
Affective response					0.30***	0.33***	0.14
R^2	0.14	0.28	0.35	0.34	0.35	0.42	0.05

Notes: † $p < 0.10$, * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; Parameters are unstandardized. The fit statistics; CFI = 0.96; NFI = 0.95; RMSEA = 0.06; ^a $\Delta \chi^2_{(1)}$ for the service quality – affective response relationship. ^b $\Delta \chi^2_{(1)}$ for the affective response – brand loyalty relationship

the relationship between NC2CI and service quality, in that repeat patrons were also more sensitive about unfavorable interactions, and hence possess stronger negative evaluations of the services due to such negative interactions with other patrons ($\beta_{First-time} = -0.15, p < 0.01$ vs $\beta_{Repeat} = -0.39, p < 0.05$; $\Delta \chi^2_{(1)} = 2.77, p < 0.10$). Thus, *H7* and *H8* are supported.

With respect to the control variables, the results suggest that women were more brand loyal than men ($\beta = 0.17, p < 0.05$). However, the gender effect on brand loyalty is also moderated by prior experience, in that the effect is strong for both repeat and for first-time female guests ($\beta_{First-time} = 0.08, p < 0.10$ vs $\beta_{Repeat} = 0.57, p < 0.001$; $\Delta \chi^2_{(1)} = 9.48, p < 0.01$). In addition, the age effect on brand loyalty is contingent on prior experience, in that the effect is only significant for first-timers ($\beta_{First-time} = 0.09, p < 0.10$ vs $\beta_{Repeat} = 0.00, n.s.$; $\Delta \chi^2_{(1)} = 3.18, p < 0.10$).

Discussion

Theoretical implications

The findings of the study offer some key contributions for the literature. Despite increasing attention in the tourism literature to the notion that active customer engagements in the service encounter can be fostered through co-creation of value (Chathoth *et al.*, 2016, Rihova *et al.*, 2015, Binkhorst and Den Dekker, 2009), little is known about the effect of NC2C interactions on value co-creation. The researchers have addressed this gap by proposing the conceptual framework to examine potential asymmetries of service quality co-creation and co-destruction, with another focus on the moderation effect of prior experience. Based on empirical research, the paper has focused on the concept of value-in-use, namely the value that is co-created and co-destroyed concurrently through interactions associated with service encounters (Smith, 2013). The present research is consistent with the increased scholarly interest in the influence of value co-destruction on services (Worthington and Durkin, 2012). It heeds calls from Vargo and Lusch (2016) to generate more empirical evidence that is germane to the S-D logic research domain in a variety of service contexts.

Understanding consumer experiences is critical because such interactions between customers and providers are at the heart of the tourism industry (Shaw *et al.*, 2011). The study has shown that visitors to a prominent theme park are valuable resources and that

they experience value creation and destruction through interactive exchanges with other visitors. This integrated process of “co-crestruction” (i.e. co-creation and co-destruction), which is manifest through C2C interactions, helps to explain why C2C exchanges improve or hamper the customer experience. This view of double-edged value perceptions and the proposed symbiotic relationship between two forces offers an innovative contribution to the literature about the pros and cons of C2C exchange in the service creation process.

The present research has gone beyond goods-dominant (G-D) logic, which has conceptualized value in terms of a two-stage procedure (Grönroos, 2006) where firms create value during the production process but that value is successively destroyed by customers when consuming. This investigation has demonstrated that co-creation of value and co-destruction of value in tourism and hospitality are interactional, asymmetrical and symbiotic. Prior research has largely conceptualized perceived service quality as a consequence of business propositions whereby customers act passively (Merz *et al.*, 2009). It has only recently been recognized that in their role as operand resources, customers co-create value such as better services and customer experience through active engagement in the service encounter and interactions with other clients (Grönroos and Voima, 2013; Chathoth *et al.*, 2014). Previous researchers have focused on the positive role of the antecedents of service quality, but have largely ignored the negatives of C2C interactions (Yang, 2016; Plé and Cáceres, 2010). Hence, this study has offered a timely update to the literature by delving into the dyadic view of positive and negative interactions among customers in co-creating service quality as perceived by customers. This symbiotic impact of service quality through co-creation and co-destruction amongst customers further influences their brand affections and allegiance through indirect C2C interactions.

An important study finding concerns the asymmetric effect of positive and NC2C interactions through the moderating effect of past experience. As demonstrated in Table III, the effect of PC2C interactions is more salient for repeat patrons, while the negative effect of C2C interactions is also more acute for this client group. That is, the intensity of C2C interactions is not solely dependent on the favorability or unfavorability of such interactions, but is also influenced by guests' prior service experiences. Such a collation of evidence advances the literature in three primary ways.

First, it enriches the co-creation literature by providing empirical evidence for the role of co-destruction as a delineation of the extent to which NC2C interactions hamper service quality as it is perceived by customers. The inclusion of both positive and NC2C interactions should improve the theoretical understanding of value co-creation in that customers do not always create value, and may work against this goal, thereby starving firms of resources in their service delivery. In essence, these two forces work in tandem with the service providers and create a symbiosis of experience which ultimately enhances or has a deleterious effect on affective and conative responses.

The second major contribution of the study is its bridging of a research gap by presenting an integrated model to better understand perceptions of service quality and customer responses, based on interactional effects amongst customers. Furthermore, it contributes to the literature on customer loyalty by showing how and to what extent NC2C interactions may produce undesirable customer reactions and commitment.

Managerial implications

From a management perspective, the research has several implications for tourism and hospitality practice. First, understanding tourist value and the procedure of value co-creation is an important concern for tourism administrators and is basic to competitiveness. Co-creation of value is dependent on engagements and on the exchange of resources between

parties. This indicates that customer engagements are critical to value creation (Chathoth *et al.*, 2014). However, as has been illustrated in this research, managers should understand and acknowledge the two sides that co-exist: co-creation of value and co-destruction of value. The results suggest that practitioners should consider involving tourists in all stages of the co-creation and co-destruction process and consider alternative approaches to achieving service recovery. As tourism firms seek to engage customers in co-creating strategies for improvement, they should reduce negative interactions and increase perceived quality and hence brand loyalty. Tourist perceptions of co-destruction are particularly valuable as tourism enterprises seek to orient and integrate customers as “partial employees” (Kelley *et al.*, 1990).

More importantly, employees should be trained to handle misbehaving customers and to assist affected tourists, thereby alleviating any dissatisfaction that is associated with badly behaving customers. To identify any emerging problems, it will be necessary to monitor staff. Service recovery may be fulfilled through staff expressions of empathy toward affected visitors, thereby addressing problems expediently or by offering a heartfelt apology. Social media provide travelers with opportunities to connect and interact with other customers in rich and complex ways. This in turn allows for the influence over others within social networks (Sashi, 2012). Social media may also enhance the effectiveness and the efficiency of co-creation by lowering the cost of interactions amongst participants and by allowing a larger number to contribute to particular co-creation initiatives (Piller *et al.*, 2012). On this basis it is recommended that theme park operators should devote greater attention to social networking sites to facilitate value adding through customer participation that arises from connecting and interacting with other customers. Tourism enterprises such as Disneyland should make increasing use of customer co-design that deploys social media and address the various barriers that are associated with co-destruction.

Second, given that affective response is an important predictor of brand loyalty, destinations should manage the holistic experience. The findings of this study have highlighted the importance of experience management to the success of tourism attractions. The results provide an indication to management that their marketing should seek to build emotional connections with customers. Theme park operators may use an array of methods to enhance visitor preferences (e.g. developing attractive amusement items/designs, creating visually appealing décor, and generating a comfortable/warm atmosphere). The identification and manipulation of tourism ambience should elicit positive feelings by modifying stimuli such as music, color/lighting, and scent (Hussain and Ali, 2015). Collectively such cues may alter tourist perceptions of and behaviors within the environment. Efforts should be made to provide more varied experience programs, to introduce new items and to promote what is on offer using appropriate marketing channels. Furthermore, it is suggested that the owners and operators of tourism entertainment businesses such as Disneyland might elicit, stimulate, and promote positive emotions amongst respondents through their advertising activities using refined photography and promotional videos (Wu *et al.*, 2008).

Third, the study demonstrates that repeat visitors are more sensitive than their first-time counterparts to both PC2C and NC2C interactions when evaluating service quality. Additionally, it is suggested that the theme park could provide some compensation services for customers who have been subjected to uncomfortable experiences during their visit. Entertainment business owners might provide discount coupons or other promotions to repeat visitors to enhance recognition that the park management cares about customers.

Such efforts could establish trust and enhance perceived service quality, especially in the case of repeat visitors.

Limitations and further research

Some opportunities for future research arise from the limitations. First, our data were collected in Shanghai, with all the respondents being Chinese; hence, the generalizability of findings is limited to the cultural context of the study. Recent evidence has shown that Asians perceive customer value differently than their Western counterparts (Yi and Gong, 2013). On this basis, it is suggested that future studies might consider the effects of different cultural contexts. For example, the role of culture in C2C interactions could be examined with respondents drawn from both more individualistic and more collectivist cultures. Second, it might be revealing to investigate the long-term and dynamic effects of co-creation and co-destruction on service quality evaluations. It may be useful to undertake studies that adopt a longitudinal framework, with a view to providing information for strategy development. The adoption of a time-series approach and testing the negative behaviors associated with service within a longitudinal framework would also provide more insights into potential causation. Future researchers should also test value co-destruction behaviors within a more comprehensive model that integrates theoretically related constructs. Third, the convenience sampling approach that has been deployed included only tourists who volunteered to participate in the survey. Future researchers are encouraged to adopt more robust sampling methods with a view to eliminating potential response bias, while the deployment of multiple data sources could lead to the reduction of potential common method bias.

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Appendix 1. Scale items

- (1) **Positive customer-to-customer (C2C) interactions**
 - My interaction with other tourists was harmonious.
 - My interaction with other tourists was friendly.
 - My interaction with other tourists was cooperative.
- (2) **Negative customer-to-customer (C2C) interactions**
 - I do not feel good when other customers making loud noise.
 - My experience is affected by the crowding environment of theme park.
 - I do not like other customers interrupting the services I received.
 - My emotion is influenced when other customers do not follow the rules.
- (3) **Service quality**
 - poor/excellent.
 - Inferior/superior.
 - low standards/high standards.
- (4) **Affective response**
 - Aroused.
 - Stimulated.
 - Excited.
- (5) **Brand loyalty**
 - I consider myself to be loyal to Shanghai Disneyland.
 - Shanghai Disneyland would be my first choice.
 - I would not go to other Disney theme park even if they are available.

Note: other tourists or other customers refer to non-significant others theme park visitors.

Demographic characteristics of the respondents	Frequency	(%) of sample
<i>Gender</i>		
Male	395	51.6
Female	370	48.4
<i>Age</i>		
Under 20 years	241	31.5
21-30	270	35.3
31-40	180	23.5
41-50	57	7.5
51-60	11	1.4
60 or above	6	0.8
<i>Education</i>		
Below high school	113	14.8
High school	255	33.3
Bachelor	348	45.5
Master	42	5.5
Ph.D.	7	0.9
<i>Origin</i>		
Surrounding region of Shanghai	292	38.2
Other region in mainland China excluding surrounding region of Shanghai	396	51.7
Other region (Including Hong Kong/Macau/Taiwan)	77	10.1

Table AI.

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