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## Customer disposition to social exchange in Co-innovation

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## ABSTRACT

Hospitality research lacks an understanding of customer-driven innovation and the effects of customers' psychological characteristics on the success of co-innovation. This paper aimed to examine the role of social exchange ideology in customers' disposition to social exchange in hospitality co-innovation. The research employed a 2 (co-innovation initiation: customer vs. company) x 2 (disposition to social exchange: strong vs. weak) between-subjects design. Bridging relational aspects of service-dominant logic and social exchange theory, co-innovation contributed to relationship development between a hospitality company and customers through mutually beneficial relational outcomes, operationalized as satisfaction, loyalty and trust. As one of the first studies to examine customers' disposition to social exchange, it established two dimensions: tangible and intangible. Disposition to exchange moderated the effects of co-innovation initiation on satisfaction and partially moderated paths to loyalty and trust. Hospitality providers should focus on customers with strong intangible social exchange disposition and, in most cases, initiate co-innovation to achieve strong relational outcomes of loyalty and trust.

## 1. Introduction

The tourism industry has enjoyed a rapid and uninterrupted growth period. According to UNWTO (2017) international tourist arrivals globally totaled 1235 million in 2016 compared to 278 million in 1980. This rising demand and increasing flexibility of modern travelers are powerful generators of competition in the global hospitality sector forcing firms to adapt and innovate to remain competitive (Chen, 2011; Hjalager, 2010). The shift of power to the consumer, manifested in the sharing economy of collaborative consumption (Heo, 2016) is explained by service-dominant logic (S-D logic) and value co-creation (Vargo and Lusch, 2016). S-D logic focused hospitality practitioners' attention on the critical aspects of customer involvement in collaborative innovation or co-innovation (Li and Hsu, 2016; Morosan and DeFranco, 2016).

According to S-D logic, the value co-creation process is the mutual, concurrent development of new value, both materially and symbolically, through the voluntary contributions of multiple actors resulting in reciprocal well-being (Vargo and Lusch, 2016). Within the broader scope of value co-creation, four types can be distinguished: collaborative innovation or co-innovation, co-creation of experience, co-creation of marketing, and co-creation of recovery or co-recovery (Shulga et al.,

2017). As a type of value co-creation, co-innovation is "a phase of the innovation process resulting from dynamic and on-going interactions among resources, actions, and a group of actors" (Russo-Spena and Mele, 2012, p. 527),

However, not every actor is ready or wants to be involved in co-innovation projects. Customers might be unable to offer new and creative ideas (Christensen, 1997), have difficulty articulating latent needs (Franke et al., 2009), or lack sufficient competence and expertise to be valuable contributors (Payne et al., 2009). Furthermore, companies may experience challenges participating in co-innovation and be discouraged or withdraw from the process leading to undesirable and even value-destructive results (Payne et al., 2009; Plé, 2016). Hence, it is important to improve a firm's collaborative process competency by strategically choosing partners for new service development, through their psychological characteristics or dispositions that might foster positive co-innovation results (Lusch and Vargo, 2014; Plé, 2016).

While the organizational benefits of innovation were examined (Victorino et al., 2005) and the role of customer involvement in tourism-related innovation recognized (Li and Hsu, 2016), researchers noted that the lack of knowledge of factors influencing customer co-innovation involvement (Morosan and DeFranco, 2016). A deeper understanding of collaborative partners is particularly important in

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hospitality co-innovation that typically relies on customers as co-producers and quasi-employees of the firm (Ford and Heaton, 2001). Accordingly, psychological disposition to social exchange (DSE) defined as a personal belief in the pertinence of a social exchange with the company is posited in this study to affect customer's involvement in co-innovation and its outcomes, operationalized as satisfaction, loyalty, and trust.

S-D logic postulates that value co-creation is relational in nature (Vargo and Lusch, 2016). Researchers, however, agree that there is little understanding of how the relational nature of co-creation influences mutual outcomes (Chang and Taylor, 2016). To begin analyzing the relational aspects of co-innovation, this study aims to examine customer-driven innovation during ideation, the initial stage of co-innovation.

Within the co-innovation process ideation, evaluation, design, test, and launch were identified as five stages of new product development (Åkesson et al., 2016). Ideation as the initial stage of co-innovation is devoted to the process of generating ideas and “piling up alternatives” (Osborn, 1957, p. 115) leading directly to the success of innovation and strongly linked to firm performance (Chang and Taylor, 2016). Researchers point to the importance and benefits of customer involvement during the initial stages of co-innovation, such as diverse perspectives, customer-focused market information, shortened time-to-market and improvements in service quality (Carbonell et al., 2009).

The process of idea-exchange starts with the first interaction and is identified as co-innovation *initiation*. Although, successful co-innovation initiation might activate consumer involvement (Etgar, 2008), it is unclear who should lead the initiation. Conceptually, both sides of customer-driven initiation of collaborative organizational processes have been debated (Namasivayam, 2003; Knox and Denison, 1990). While, it is generally believed that co-innovation assumes initiation by the customer (Zwass, 2010), growing evidence suggests that when the company or employee initiates co-creation it may lead to positive outcomes for all involved (Xu et al., 2014). Therefore, to deepen the understanding of what contributes to the success of co-innovation at the ideation stage, this study examines the impact of customer versus company initiation on the relational outcomes of co-innovation.

Thus, this research has three objectives. First, to investigate the role of psychological characteristics of customers involved in co-innovation. Bridging S-D logic with social exchange theory (SET) (Cropanzano and Mitchell, 2005), this is the only study to adapt employees' social exchange ideology, known as sensitivity to social exchange, as customers' DSE in co-innovation and test its moderating effects. Second, to examine the impact of co-innovation initiation (customers versus company) on the relational outcomes of co-creation. Third, to explore how co-innovation factors and customers' DSE contribute to relationship development between a hospitality company and customers through mutually beneficial relational outcomes: satisfaction, loyalty and trust. By introducing the role of customers' DSE to co-innovation and exploring its moderating effects, this study further contributes to the emerging literature on hospitality co-innovation (Chathoth et al., 2016; Morosan and DeFranco, 2016) from S-D logic and SET perspectives. The

paper proceeds with a review of relevant S-D logic and SET concepts, resulting in a conceptual model (Fig. 1). Next, the experimental research design is described, key findings and their theoretical and practical implications are discussed.

## 2. Literature review

### 2.1. Customer involvement in co-innovation

In the process of innovation, collaboration is the active involvement of two or more actors in the process of working together, integrating resources, and achieving mutual goals to develop new products and services (Lusch and Vargo, 2014). Researchers argued that direct involvement of hotel employees and travelers led to better co-innovation and service designs (Victorino et al., 2005). Direct involvement of front-line employees in sharing information, internal organization, and technology are factors affecting co-innovation success (Gebauer et al., 2008). For example, collaboration among Marriott customers, employees, and vendors on travelbrilliantly.com led to the creation of a new vending machine offering fresh farmers market style salads installed in the hotel lobby, always available to guests.

However, not all customers are motivated to be involved similarly in a co-creative exchange (Yi and Gong, 2013). Some customers prefer just to be involved with the company by seeking and sharing information. Others may desire more involvement by offering constructive feedback, ideas for service improvement, and helping other customers benefit from the service (Yi and Gong, 2013). The company may encourage or discourage customer involvement in collaboration depending on the value propositions, activities, and resources provided via direct and indirect interactions (Payne et al., 2009; Vargo and Lusch, 2016). For example, by providing opportunities and opening access to interactive platforms for collaboration, Starbucks encouraged customer involvement in new service and product development (e.g. [www.mystarbucksidea.com](http://www.mystarbucksidea.com)) (Sigala, 2012). However, when a company removes negative but constructive comments from Yelp.com (Handy, 2012), ignores critical reviews on TripAdvisor.com, or controls customer comments on Facebook (Smith, 2016), active customer involvement in co-innovation is discouraged.

Thus, the effectiveness of collaboration may also depend on the organization (Tuli et al., 2007). In fact, Lusch and Vargo (2014) recommended managing collaboration, choosing suitable partners to cooperate, and develop mutually beneficial collaborative relationships. Appropriate collaborative partners should have the required resources, be open to jointly solving problems, interested in pursuing shared opportunities (Lusch and Vargo, 2014), and, therefore, open to social exchange (Cropanzano and Mitchell, 2005).

SET traditionally is used to understand the mechanism and motivation behind social exchange relationships in the workplace (Cropanzano and Mitchell, 2005). Specific to hospitality, customers are often viewed as quasi-employees of the firm (Chathoth et al., 2013; Ford and Heaton, 2001), who are in a strategically advantageous position to perform the roles of managers, consultants, marketers,

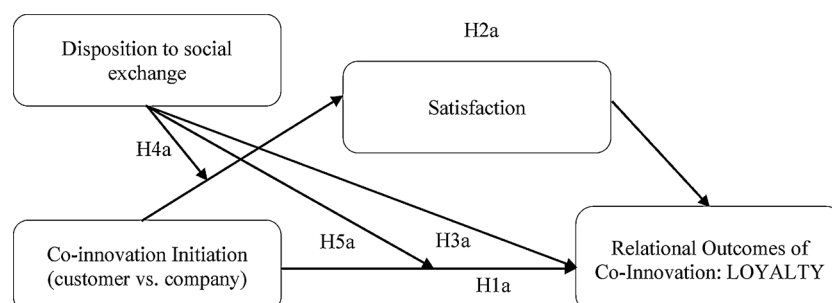


Fig. 1. Conceptual model A of the effect of customer disposition to social exchange for co-innovation on loyalty.

promoters, and co-producers (Ford and Heaton, 2001). Previously, when organizational behavior concepts were applied to customers as quasi-employees of the firm, a deeper understanding of customers as co-creators emerged, such as consumer citizenship behavior toward the company as a collaborative partner (e.g., Yi and Gong, 2013). Therefore, bridging S-D logic and SET offers a new perspective into consumers' psychological characteristics, assisting a firm to choose successful collaborative partners in co-innovation.

Conceptually, SET assumes that social behavior is the outcome of a social exchange, where individuals weigh the potential costs and benefits, decide when to start, continue, and stop social and contractual relationships (Cropanzano and Mitchell, 2005). Within SET, social exchange ideology is an individual's disposition to what is appropriate to give and receive in return from an organization (Witt, 1992). An exchange ideology is an individual's expectations, derived from personal past experiences, observations, appraisals, and encouragement from others, of value reciprocity (Eisenberger et al., 2001). Employees with strong social exchange ideology feel a stronger obligation toward the organization, as well as increased commitment, dedication, effort, performance, and support (Eisenberger et al., 2001; Witt, 1992).

When adapting social exchange ideology from an employee to a customer as a quasi-employee and partner in the collaborative co-innovation process, customers' disposition to social exchange can be defined as a personal belief in the pertinence of an exchange with the organization in the process of co-innovation. Therefore, it can be argued that when customers have stronger DSE, they are more involved in co-innovation. As a result they may display greater effort, commitment and support throughout the co-innovation process leading to improved relational outcomes with the service provider.

## 2.2. Relational outcomes of co-innovation

S-D logic postulates that co-creation is relational in nature (Vargo and Lusch, 2017). Within S-D logic collaboration as a "co-" aspect of the co-innovation process, leads to competitive advantage, enhances value network viability, fosters joint company-customer benefits, and results in positive sum relationships, (Lusch and Vargo, 2014). Therefore, through the process of co-innovation, collaborative relational outcomes should emerge as mutual benefits positively affecting the well-being of all actors involved (Vargo and Lusch, 2016). In tourism and hospitality, customer-company relationships play a key role in maintaining strong loyalty, especially through satisfaction, emotional commitment, trust (Tanford, 2016) and co-creation processes (Grissemann and Stokburger-Sauer, 2012).

Satisfaction and loyalty are recognized as significant outcomes of the service delivery process (Wong, 2016). Customer satisfaction often leads to loyalty toward the company (Tanford, 2016). Satisfaction is an overall appraisal of how one's experience exceeds expectations, which are variable internal standards-based intrinsic and extrinsic factors (Pizam et al., 2016). Loyalty is the likelihood to return or recommend the company to others and the willingness to pay more for the service (Zeithaml et al., 1996). Loyal customers develop communal hospitality company relationships; however, satisfaction is an important factor in obtaining and maintaining loyalty between customers and a company (Tanford, 2016). Loyal customers allocate a higher share of wallet to the company, tend to be more satisfied upon return, and are more likely to be retained (Aksoy, 2013; Oliver, 1999).

Trust is one of the most influential conditions in building relationships based on communication, social bonds, and commitment (Morgan and Hunt, 1994). Trust is a customer's confidence that the company is dependable, reliable, and competent to deliver the services and obligations promised (Morgan and Hunt, 1994). Reciprocal social exchange, measured by mutual disclosure between service providers and customers, improves trust in a company (Hwang et al., 2013). Trust increases the effectiveness of relational exchanges (Hyun, 2010), improves customer decision-making and decreases marketing and

transactional costs for the organization (Han and Hwang, 2014). Therefore, the positive relational outcomes achieved through co-innovation could improve satisfaction, loyalty, and trust at the customer-company level.

## 2.3. Co-innovation initiation

One of the fundamental propositions of S-D logic is the reciprocity of service exchanges (Vargo and Lusch, 2016). SET explains the mechanisms of successful social exchanges between partners (Cropanzano and Mitchell, 2005). SET suggests that the process begins when an individual initiates the interaction, and if another reciprocates, a new round of exchange occurs (Cropanzano and Mitchell, 2005). Initiation is defined as a clear and distinct verbal or non-verbal attempt to start an interaction with another exchange partner (Rice, 1993). Accordingly, it was argued that exchange procedures, such as initiation, can moderate the relationship between participative decision-making and satisfaction with an activity (Witt, 1992).

Based on S-D logic, the critical role of the service provider in the process of collaboration is to enable certain conditions for successful interactions and engage in a dialogue with and learn from customers and their social networks (Grönroos, 2012; Vargo and Lusch, 2016). To fulfill this role, companies traditionally choose to initiate the exchange process; however, consumers may also take an active role in initiating service co-innovation (Chathoth et al., 2013; Etgar, 2008). Successful initiation can lead to consumers' active involvement in other phases of the collaborative activity chain (Etgar, 2008). Consumer empowerment is one of the major determinants of customer-initiated co-innovation activities (Morosan and DeFranco, 2016). Indeed, some authors argue that co-innovation was originally understood as a customer-initiated activity (Zwass, 2010).

However, initiation research in co-innovation reveals mixed findings. Although deemed beneficial, in company-initiated co-innovation, participants may never see the results of their contribution (Füller, 2010). For some service providers it might be extremely difficult to initiate co-innovation and understand the latent or even expressed needs of customers (Kristensson et al., 2008). However, initiation by hotel employees can lead to greater satisfaction with the collaborative process (Xu et al., 2014). Overall, researchers point to a lack of understanding of how to initiate a co-innovation process, especially the conditions under which customers are willing to share information and participate in other phases of co-innovation (Kristensson et al., 2008). Thus, co-innovation initiation by customers or a company may lead to distinctly different relational outcomes. One can argue that in hospitality co-innovation, the company should take the role of initiator. Therefore, the following hypothesis is proposed:

**H1.** Co-innovation interaction initiated by the company leads to stronger relational outcomes of (a) loyalty and (b) trust.

Furthermore, based on the theoretical development of collaborative interactions between customers and a company in the hospitality co-innovation process, and known relationships between relational outcomes of satisfaction, loyalty and trust, it is hypothesized that satisfaction should be achieved first. Thus:

**H2.** In the process of co-innovation, customer satisfaction serves as a mediator between the initiation and (a) loyalty and (b) trust.

## 2.4. Moderating role of customers' disposition to social exchange

Although initiating co-innovation may influence customers' involvement in co-creation at first, it might not be enough to sustain a high degree of involvement in the process. Kristensson et al. (2008) suggested that customers' personal situation and intrinsic motivation may affect the degree of their involvement in new service co-innovation. Therefore, DSE could serve as a moderator strengthening co-

innovation outcomes. However, the moderating effects of customers' DSE in collaborative customer-company interactions on the outcomes of collaboration have not been examined. This moderating effect has particular importance because hospitality social exchange relationships, fundamentally account for customers' willingness to co-create (Grissemann and Stokburger-Sauer, 2012).

Within SET, the moderating role of social exchange ideology is supported in the relationship between decision-making and satisfaction (Witt and Broach, 1993). Ideology moderation was researched in the relationship among equal opportunity, job satisfaction, and procedural justice (Rupp and Cropanzano, 2002), and among participative decision-making, helping behaviors, knowledge sharing and indicators that display employees caring about the organization's welfare (Eisenberger et al., 2001; Lin, 2007).

Furthermore, individuals' exchange ideology has been characterized by weak and strong conditions (Lin 2007). For example, employees with weak exchange ideology may be less concerned about the effects of cooperation than those with strong exchange ideology (Witt et al., 2001). Alternatively, workers with strong exchange ideology might be very concerned with what and when to share with others (Eisenberger et al., 2001), less involved in cooperation, or more careful about active involvement in co-innovation. Therefore:

**H3.** Customers with strong disposition to social exchange develop stronger relational outcomes: (a) loyalty and (b) trust through co-innovation interactions with a company.

Existing research on employee social exchange ideology's influence at work suggests a moderating role between individuals' perceptions of the situation and their behavior (Witt et al., 2001). Moreover, social exchange ideology refers to a certain reciprocal expectation that an individual holds regarding the social exchange relationship. Accordingly, customers' normative expectation of who initiates the exchange may be strengthened by DSE and influence co-innovation outcomes. Therefore:

**H4.** Customers' disposition to social exchange serves as a moderator in the relationship between initiation of co-innovation and relational outcomes of (a) loyalty and (b) trust.

**H5.** Customers with strong disposition to social exchange develop stronger relational outcomes of (a) loyalty and (b) trust with the company, when the company initiates co-innovation.

The conceptual framework is based on S-D logic and SET. The initiation process of co-innovation affects: satisfaction and loyalty (Fig. 1); satisfaction and trust (Fig. 2). However, the process is potentially moderated by customer disposition to exchange in co-innovation. It is proposed that satisfaction serves as a mediator not only to loyalty, but also to trust.

**Table 1**  
Demographic profile of respondents.

Characteristics		Total (N = 245)	
		N	%
Gender	Male	63	25.41%
	Female	182	73.39%
Children	Yes	162	65.33%
	No	83	33.47%
Marital Status	Married	123	49.60%
	Living w/partner	31	12.50%
	Single/divorced/separated	91	37.90%
Ethnicity	White	186	75.00%
	African American	26	10.50%
	Other	33	14.50%
Income	Less than \$30,000	54	22.04%
	\$30,000 to less than \$60,000	103	42.04%
	\$60,000 to less than \$90,000	51	20.82%
	\$90,000 +	37	15.10%

**3. Methodology**

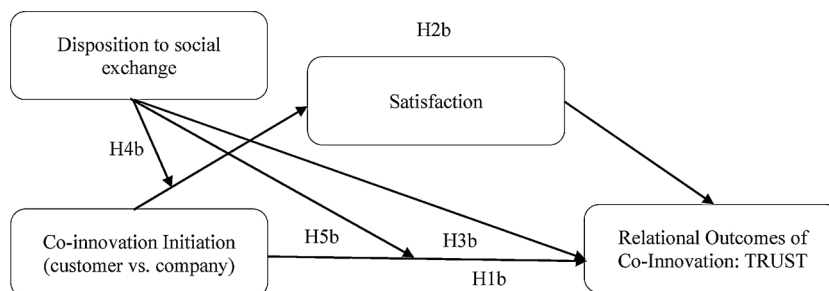
**3.1. Study design and sample**

This study used a 2 (initiation: customer vs. company) x 2 (disposition to social exchange: strong vs. weak) between-subjects design. A total of 248 customers 18 years or older participated in the study, conducted by Qualtrics, Inc. To enhance the validity of the study sample, only those US residents who had traveled and stayed at a hotel at least one night within the past 12 months were invited (N = 248) and answered demographics (N = 245) (Table 1).

**3.2. Procedures and measures**

Respondents were randomly and equally assigned to one of two conditions based on initiation of co-innovation: company or customer. Participants were asked to envision being engaged in co-innovation activities while at the destination resort. Co-innovation depicted the development of a new menu item for the resort's main buffet service, which integrated the introduction of a new product and support for a new service (Table 2). Co-initiation, in the customer-initiated scenario, was driven by the customer voluntarily offering an improvement to the resort's buffet. In the company-initiated scenario, co-innovation was driven by internal resort factors, resulting in a necessity to seek customer recommendations to improve the buffet. Both scenarios represented necessity-driven innovation (Williams, 2008) and only the first stage of social exchange, initiation.

The experimental design and scenario approach in a destination hotel resort context is consistent with co-creation studies (Xu et al., 2014) as well as consumer behavior research (Ku et al., 2013). This approach ensures that respondents have a clear understanding of value co-creating instances in a familiar setting. Customer co-creation is notoriously difficult to measure in recall-based studies. The scenario-based approach enables operationalizing difficult manipulations, such



**Fig. 2.** Conceptual model B of the effect of customer disposition to social exchange for co-innovation on trust.

**Table 2**  
Co-innovation scenario.

Co-Innovation
<p><b>Co-Innovation: Company Initiated</b></p> <p>The resort communications manager just emailed you an announcement about a contest to find the best new menu item for their Grand Buffet. She was very personable in her email to you and explained, that this contest was only open to special guests of the Resort and you are one of them. She described, that the winners will have their menu item listed in the Grand Buffet Menu for 5 years along with their name and 10 complimentary meals at the buffet. A couple days later, you also received a special invitation in the mail signed by the employees of the Resort and the Resort Communications Manager personally asking you to participate in this contest. You submitted your Menu suggestions. The Resort contest organizers emailed you back “thanking you for your submission”.</p>
<p><b>Customer Initiated</b></p> <p>While staying at the Resort you ate at the Grand Buffet and your food did not meet your expectations. After thinking about your disappointment with the food, you came up with new menu items. You emailed your suggestions to the Resort Food &amp; Beverage Manager. The manager emailed you back thanking you for your suggestions. The manager also mentioned that they were developing new seasonal menus for the Grand Buffet and included your suggestions for further consideration.</p>

as co-creation interactions, and eliminating biases often associated with memory recall and self-reports of actual experiences (Smith et al., 1999). At the conclusion of each scenario, respondents completed the measures of social exchange ideology: satisfaction, loyalty, and trust.

The most widely accepted scales to measure satisfaction, loyalty, and trust in tourism and hospitality were utilized. The five-item customer satisfaction scale was adapted from Oliver (1999). Customer loyalty was based on the seven-item scale from Zeithaml et al. (1996). Trust was measured using the four-item scale modified from Morgan and Hunt (1994) to include the destination resort context. All constructs used a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Reliability and convergent validity of the constructs was verified using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) as follows: satisfaction ( $\alpha = 0.96$ , CR = 0.96, AVE = 0.85), loyalty ( $\alpha = 0.95$ , CR = 0.96, AVE = 0.79), trust ( $\alpha = 0.95$ , CR = 0.96, AVE = 0.87), meeting the criteria established by Hair et al. (2010).

DSE was adapted from the seven-item scale of social exchange ideology developed by Eisenberger et al. (2001). Grounded in SET and the conceptualization of customers as quasi-employees of the firm who are capable of performing multiple roles, (e.g., co-producers, marketers) (Ford and Heaton, 2001), this study applied the exchange ideology construct to the social context of collaboration between customers and a company. To ensure ecological validity of the scale to the co-innovation context, the items were carefully reworded to reflect customers' DSE in collaboration with the company (Table 3).

## 4. Results

### 4.1. Manipulation checks

To check the manipulation of company vs. customer initiation and the perception of collaboration in each scenario, the scenarios and

measurement scales were pre-tested in two pilot studies using an Amazon Mechanical Turk sample (Pilot 1:  $n = 75$ ; Pilot 2:  $n = 83$ ). These manipulation checks were also performed in the main study ( $n = 248$ ). First, respondents were asked on a scale ranging from 1 (to no extent) to 10 (to a great extent) whether they agreed that the scenario is an example of collaboration between customers and a company: customer-initiated scenarios ( $M = 8.22$ ) and company-initiated scenarios ( $M = 8.27$ ). Moreover, using the same scale, respondents were asked to verify customer-initiated co-innovation, followed by verification of the extent the same scenario was perceived as a company-initiated co-innovation. Based on paired sample  $t$ -test results, the manipulation was appropriate, significantly different, and in the right direction: customer-initiated scenarios ( $M_{customer} = 8.38$ ;  $M_{company} = 7.89$ ;  $t = 5.26$ ,  $p$ -value < 0.001); company-initiated scenarios ( $M_{customer} = 7.20$ ;  $M_{company} = 8.71$ ;  $t = -11.38$ ,  $p$ -value < 0.001). Overall, all scenarios successfully manipulated customer vs. company initiation and all scenarios were perceived as collaboration.

### 4.2. Disposition to social exchange

Exploratory factor analysis (EFA) of customers' DSE was performed to evaluate its dimensionality in the co-innovation context and account for the most variability in the pattern of correlations, especially important when adapting an existing scale to new models (Tabachnick and Fidell, 2012). Interestingly, and different from the original measure, the EFA revealed two components with eigenvalues greater than 1, explaining 47.47% and 24.13% of the variance. The scree plot was reviewed for a visible elbow and also supported two factors (Cattell, 1966). The Kaiser-Meyer-Olkin (KMO) value was 0.703, exceeded the recommended value of 0.6 (Kaiser, 1974) and Bartlett's test of sphericity reached statistical significance, supporting the factorability of the correlation matrix (Bartlett, 1954) (see Table 3). One of the items was excluded based on high cross-loadings among the factors. Overall, six items, three for each factor, were retained based on factor loadings of 0.4 and above as well as the absence of cross loadings (Hair et al., 2010).

Consistent with SET, extrinsic motivations for sharing activities have been explored by means of social exchange ideology, task interdependence, and participative decision-making (Lin, 2007). However, collaborative behaviors, beyond those considered contractual, are voluntary in nature, and thus intangible, and cannot be extrinsically rewarded (Grant, 1996). Consequently, in S-D logic conceptualization of resources available for co-creation, Peters et al. (2014) and Plé (2016) utilized tangible and intangible characteristics. Tangible characteristics are often associated with direct, concrete rewards or benefits, easily convertible into physical objects or operand resources (Foa and Foa, 1980; Plé, 2016). Intangible characteristics are associated with indirect social aspects, often attached to beneficiary-specific or particular meanings such as care, assistantship, and appreciation. From S-D logic's perspective invisible intangible resources, called operand resources, produce the effects and create value (Plé, 2016). Therefore, this dispositional categorization (Groff, 2013; Peters et al., 2014) is relevant to represent factor 1 as tangible DSE ( $\alpha = 0.79$ , CR = 0.88, AVE = 0.71) and factor 2 as intangible DSE ( $\alpha = 0.77$ , CR = 0.86, AVE = 0.68). Overall, the reliability and convergent validity of tangible and intangible DSE was verified and deemed satisfactory.

**Table 3**  
EFA results for customers' disposition to social exchange.

	Factor 1: Tangible	Factor 2: Intangible
I care about a tourism company only when that company shows that it cares about me.		0.798
I only go out of my way to help a tourism company if that company goes out of its way to help me.		0.772
If a tourism company appreciates my efforts to help, I should make an effort and help that company as best as I can.		0.879
If I am treated badly by a tourism company, I should stop helping that company to improve.	0.559	
I only collaborate with a tourism company if my efforts lead to awards, prizes, free giveaways, refunds, or other benefits.	0.959	
My effort to collaborate with a tourism company depends on how well I am rewarded by that company.	0.945	

Furthermore, the two groups based on strong or weak DSE were created using the sample median and removing approximately the middle 20% of respondents (Iacobucci et al., 2015; Lin, 2007; Preacher et al., 2005). Specifically, 41.58% (M = 6.40, SD = 0.36) constituted intangible DSE and 41.68% (M = 5.75, SD = 0.62) tangible DSE was assigned to the strong DSE condition. Similarly, 35.71% (M = 4.36, SD = 0.67) comprised intangible DSE and 35.29% (M = 2.92, SD = 0.70) tangible DSE was the weak condition.

4.3. Dependent variables

Multivariate analysis of variance (MANOVA) was utilized to examine the data and test the hypotheses with loyalty and trust as dependent variables. In the first round, a 2 (initiation: company vs. customer) x 2 (DSE: strong and weak) MANOVA was performed. The multivariate normality assumption was examined and 27 individual cases removed based on the Mahalanobis distance critical value (Tabachnick and Fidell, 2012). Box’s test of equality of covariance matrices and Levene’s test of equality of error variance were analyzed, and where appropriate a more stringent alpha level of 0.025 was set (Tabachnick and Fidell, 2012).

MANOVA results revealed a significant main effect of initiation on customer loyalty and trust (Table 4). These results indicate that when a company initiates collaboration, customers experience stronger relational outcomes after participating in co-innovation (M<sub>loyalty</sub> = 5.88 (1.07); M<sub>trust</sub> = 5.99(0.97)), supporting H1a and H1b. MANOVA results also showed a significant main effect of intangible DSE on customer loyalty and trust. These results reveal that when customers have a strong intangible DSE they experience stronger loyalty and trust resulting from collaboration (M<sub>loyalty</sub> = 6.21 (0.87); M<sub>trust</sub> = 6.32 (0.81)). However, the main effects for tangible DSE were non-significant. Therefore, DSE influenced the relational outcomes of co-innovation only partially for the intangible dimension.

The interaction effect between customers with strong and weak intangible DSE and initiation (company vs. customer) was also significant for trust. Fig. 3 shows significantly higher relational outcomes for customers who have stronger intangible DSE for trust. However, for customers with weak intangible DSE, company-initiated collaboration showed better results (M<sub>trust</sub> = 6.26 (0.81)) than customer-initiated co-innovation (M<sub>trust</sub> = 6.38 (0.81)), partially supporting H3(a) and H3(b).

Moreover, the interaction effect between customers with weak and strong tangible DSE and customer vs. company initiation was significant for both loyalty and trust (Fig. 4); it made a significant difference for those with weak tangible DSE when the company initiated collaboration (M<sub>loyalty</sub> = 6.04 (0.97), M<sub>trust</sub> = 6.19 (0.92)), supporting H4.

The combined mediation and moderation model was examined based on Hayes’s (2013) procedures (PROCESS macros, Model 8). First, the moderation effect of intangible DSE and the mediation effect of satisfaction were examined. For company vs. customer initiation of collaboration, the mediation effect of satisfaction was supported for both loyalty (95% CI = [0.8188, 0.9030]) and trust (95% CI = [0.7615, 0.8391]) and the moderation effect of intangible DSE was supported on satisfaction (95% CI = [-0.9001, -0.3278]) for

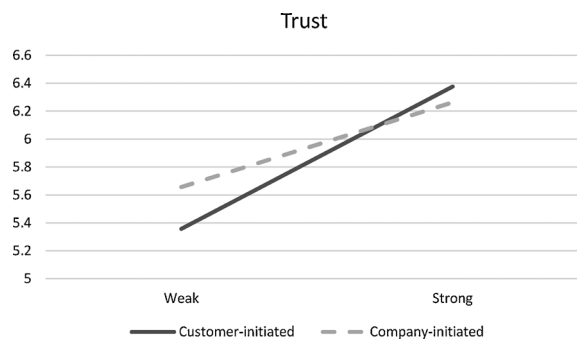


Fig. 3. Interaction effect between strong and weak intangible DSE factor on trust.

loyalty and trust. However, the moderation effect of intangible DSE was supported only for loyalty (95% CI = [0.1331, 0.4670]). For company vs. customer initiation of collaboration, the mediation effect of satisfaction was supported for loyalty (95% CI = [0.8369, 0.9188]) and for trust (95% CI = [0.7740, 0.8524]). Furthermore, the moderation effect of tangible DSE on satisfaction for loyalty and trust was supported (95% CI = [-0.7139, -0.1140]). However, the moderation effect of tangible DSE on loyalty and trust in customer vs. company initiation was not supported. Therefore, H2(a) and H2(b), H4(a) and H4(b), were fully supported. H5a and H5b were partially supported.

5. Discussion and implications

This study aimed to examine the relational aspects of collaboration between customers and a company through co-innovation. Findings showed that customers’ experienced higher loyalty and trust when the tourism and hospitality provider initiated co-innovation. Our research broadens the positive results of collaborative interactions between customers and a hospitality company beyond co-recovery (Xu et al., 2014) and co-creation of experience (Grissemann and Stokburger-Sauer, 2012) to co-innovation interactions while also revealing the overall role of relational outcomes of co-creation: trust, satisfaction, and loyalty. Overall, the results demonstrated that co-innovations’ initial interaction added to the success of relationship development between customers and a company.

Moreover, this study is the first to examine customers’ disposition to social exchange in co-innovation between customers and a company. Customer’s DSE as a personality trait, explained their involvement in collaboration based on tangible and intangible resource characteristics. Initially, S-D logic proposed integration of operant and operand resources (Plé, 2016; Vargo et al., 2008). Operant resources are invisible and intangible (i.e., skills and knowledge); they produce the effects and create value. Operand resources are tangible resources (i.e., land and other natural resources) on which an operation or act is performed to produce the effect. SET researchers also proposed that generating and sustaining relationships requires exchange of resources (Gropanzano and Mitchell 2005), which can be measured based on particularism and concreteness (Foa and Foa 1980). Particularism as a resource characteristic is responsible for the beneficiary-specific view of resources.

Table 4  
MANOVA results.

	Wilks’ λ	F	df	p-value	Partial η <sup>2</sup>	F Loyalty	F Trust
Initiation: company vs. customer	0.990	4.594	1	0.010	0.010	9.046***	0.027**
DSE 1 (intangible): weak vs. strong	0.815	81.733	1	0.0001	0.185	153.770***	135.218***
DSE 2 (tangible): weak vs. strong	0.995	1.736	1	0.177			
Initiation x DSE 1 (intangible)	0.986	5.124	1	0.006	0.014	2.291	8.715***
Initiation x DSE 2 (tangible)	0.988	4.265	1	0.014	0.012	8.440***	6.458*

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

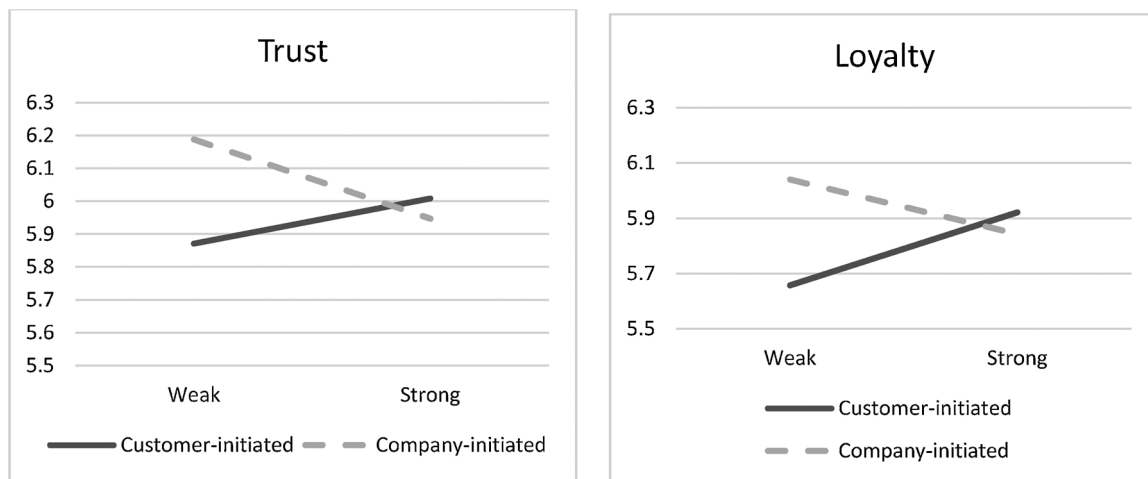


Fig. 4. Interaction effect between strong and weak tangible DSE factor on loyalty and trust.

Concreteness measures the tangible and specific quality of the resource. However, the continuous debate around the nature, quality, and quantity of resources integrated during the process of co-creation indicates the need for further research focused on resource characteristics, resource integration process, actors and their interactions (Plé, 2016). Therefore, this study contributes to the discussion of resource integration within S-D logic (Achrol and Kotler, 2006; Edvardsson et al., 2014), tangible versus intangible nature of resources, which are required for successful outcomes of collaboration in co-innovation (Plé, 2016). The findings deepen the understanding of tangible and intangible inputs that are available from the customer-side during the initial stage of co-innovation interactions and how this may influence further interactions (Plé, 2016; Plé and Cáceres, 2010). Intangible DSE represents openness to social exchange based on expectations of intangible benefits offered and potentially received in return, such as willingness to share with and assist tourism and hospitality providers. Tangible DSE is responsible for customers' readiness to exchange based on expectations of tangible rewards offered by the tourism and hospitality organization.

The results of tangible and intangible DSE extend the findings described in Lusch and Vargo (2014) by identifying how customer dispositions may shape the co-innovation process, inputs and outcomes. In co-innovation, customers' DSE varies in strength and represents strong and weak process inputs. Results revealed that strong intangible DSE leads to stronger relational outcomes. Tangible DSE, whether strong or weak, showed no difference in outcomes, corresponding to SET exchange ideology (Witt, 1992).

Interaction effects between initiation and the two types of DSE were also found. Strong intangible DSE had more positive outcomes when the company initiated collaboration. Therefore, customers who are driven by exchange intangibility (helping, sharing behaviors) derive stronger trust with the company from collaboration when the company starts the process, performs its duties, and drives the process. Surprisingly, results uncovered that the tangible factor of DSE interacted with initiation and influenced both loyalty and trust. Customers with weak tangible DSE (i.e., rewards, prizes, refunds) responded better when the company initiated collaboration. Conversely, customers with strong tangible DSE displayed decreased loyalty and trust when the company initiated collaboration.

The mediation and moderation tests offered insights into customers' evaluation of the co-innovation process. The results support the mediation effect of satisfaction on loyalty (Tanford, 2016). However, the findings also indicate a mediation effect of satisfaction on trust in the co-innovation context. Furthermore, DSE, both tangible and intangible, moderated the relationship between initiation and satisfaction, but not fully and directly from initiation to loyalty or trust. Specifically,

intangible DSE directly moderated the link between customers vs. company initiation to loyalty. Overall, DSE serves the role of moderator from the initiation of collaboration to customer satisfaction and helps in further understanding the role of satisfaction with the collaborative process, leading to reinforcing loyalty and trust. Intangible DSE, based on helping and sharing, moderated the path directly to loyalty. Customers' DSE serves a critical role in the initial ideation stage of collaboration that leads to developing stronger relational outcomes.

### 5.1. Theoretical implications

This study tested the concept of co-innovation between a company and customers through direct interactions in the context of a destination resort. The study aimed to increase the understanding of collaboration between customers and a company under co-innovation conditions. This study further examined the relational nature of co-creation as proposed within S-D Logic by testing how co-innovation results in satisfaction and further develops into loyalty and trust.

From a theoretical standpoint, this study makes the following four significant contributions: (1) connects the social sharing aspect of SET's exchange ideology to S-D logic as customers' disposition to social exchange, a factor significantly influencing the effectiveness of the social collaborative process; (2) identifies two dimensions of customers' disposition to social exchange, intangible and tangible, that lead to differences in relational outcomes; (3) confirms the moderating effect of disposition to social exchange on relational outcomes; and (4) expands the understanding of S-D logic's relational nature by examining the mediating role of satisfaction on trust.

Within S-D logic's discussion on the nature of service, Lusch and Vargo (2014) offered a view of service as an application of competences that might benefit both the service provider and the beneficiary. Results of this study contribute to the understanding of S-D logic's collaborative process competency. Specifically, how the selection of appropriate actors for collaboration, initiation of the collaborative process, and development of collaborative relationships through direct interactions leads to positive relational outcomes of co-innovation: satisfaction, loyalty, and trust. Accordingly, drawing from the SET (Cropanzano and Mitchell, 2005) this study assists with a deeper understanding of S-D logic's notion of resource integration (Edvardsson et al., 2012) by examining the psychological characteristics of customers as collaborative actors, identifying tangible and intangible disposition to social exchange and its moderating role in achieving satisfaction, loyalty and trust. Finally, this study contributes to further recognition of the collaborative nature of exchange and how initial interaction among actors influences further interactions (Plé, 2016).

## 5.2. Practical implications

S-D logic postulates that the service-centered view is relational and inherently beneficiary oriented (Vargo and Lusch, 2016); therefore, fostering relationships with customers ensures the success of collaboration (Chathoth et al., 2016). Accordingly, SET suggests that social exchanges create feelings of personal obligation, repayment, appreciation, and trust (Blau, 1964). Relationships improve when partners share normative expectations and relational outcomes (Houston and Gassenheimer, 1987). As a result, long-term collaborative partners do not break the relationship without a serious failure of service or communication (Saxena, 2006).

Operators should focus on involving customers who have a strong intangible disposition to social exchange in product-service co-innovation projects. Those customers are open to the exchange of resources with the company and reciprocate with stronger loyalty and trust when they participate in collaboration. In addition, when an operator initiates collaboration based on customers' intangible DSE, it boosts their trust in the company, which enables open resource exchange (Cropanzano and Mitchell, 2005). In the process of collaboration, hospitality operators need to support customers by providing pertinent information and essential resources (Payne et al., 2009) to encourage their investment of time, skills, and effort. Also, operators should consider providing customers with a variety of ways to become involved in co-innovation using both virtual and face-to-face platforms (Grönroos and Voima, 2013). Customers actively involved in co-innovation offer operators the opportunity to develop psychological profiles identifying those who are open to social exchange based on intangible rewards. By engaging customers with similar intangible DSE profiles in co-innovation, hospitality operators can increase their collaborative process competence and expand the pool of customers open to co-innovation, leading to stronger outcomes.

Interestingly, for individuals strong on tangible DSE, involvement in collaboration by itself does not increase relational outcomes. However, when the operator initiates collaboration, it gives a substantial boost to those who are low on tangible openness to exchange by significantly improving their loyalty and trust toward the company. Since it is inferred that social exchange ideology is built on previous experiences, observations, appraisals, and encouragement from others (Eisenberger et al., 2001), operators should attempt to influence customers' DSE by providing more opportunities for collaboration, showcasing results, recognizing customer involvement, and encouraging customers to share their experiences on both company-related internet platforms and social media.

Furthermore, the findings of the study support the proposition that satisfaction serves as a mediator to loyalty and trust in the process of collaborative value creation. Thus, operators must first focus on achieving customer satisfaction with the co-innovation process. However, taking into consideration the importance of previous experiences with the service provider, especially for customers with strong tangible DSE, operators should focus on achieving high levels of satisfaction and service quality perceptions prior to co-innovation initiation. Invite customers to participate in co-innovation only if high levels of satisfaction with services in general were achieved. Moreover, employees' perception of service-oriented culture influences their attitudes and behavior, which may influence interactions with customers. Employee training on the importance of creating positive customer experiences and value creation that results from such experiences is important. In other words, creating an overall climate of co-creation in the company is essential (Chathoth et al., 2016) and will contribute to maximizing customer satisfaction in return. DSE serves as a moderator in the process of achieving satisfaction. However, only intangible DSE serves as a direct moderator between initiation and loyalty toward the organization. Therefore, operators should encourage helping and sharing behaviors from customers ready to exchange their expertise, but also offer intangible recognition in return to convert them into long-term true loyal patrons of the company.

## 5.3. Limitations and direction for future research

As with any experimental design based on scenarios, depicting real-life situations, this study lacks external validity (Zikmund et al., 2010). Only menu co-innovation at the destination resort was tested. Researching other instances of collaboration in different service contexts may increase the validity and generalizability of the results. Akaka et al. (2013) proposed that cultural context may influence the value creation as this process includes multiple actors (i.e., customer and other stakeholders) and their perceptions. Thus, the study results could be different for other cultures. Furthermore, DSE was measured following the manipulation checks, using a Likert-type response scale. Future research can be designed to incorporate DSE within the scenario. The frequency of customer-company interactions could be tested to examine whether the outcomes further improve and customers acquire a higher level of company-related DSE. In addition to a few initial interactions, information sharing, providing feedback, and rapport building, other more involved knowledge sharing, advocacy, responsible behavior, and tolerance interactions during more advanced stages of co-innovation can be investigated (Yi and Gong, 2013).

The full scope of resource integration within co-innovation should be examined and the role of tangible and intangible resource integration clarified at each stage of the process (Plé, 2016; Åkesson et al., 2016). Following the calls for better understanding of the diverse outcomes of value co-creation (Ostrom et al., 2015), the role of tangible and intangible DSE may be tested in value co-destruction versus co-creation (Plé, 2016). The lack of congruency between customers DSE and a company's intent in resource integration may result in value co-destruction rather than co-creation (Plé and Cáceres, 2010).

Moreover, this study focused on customer-company interactions. Within S-D logic, multiple actors are involved and contributing to co-innovation processes (Edvardsson et al., 2012). Future research can investigate the role of social exchange in collaborative interactions among customers, brand communities, and companies under sharing economy conditions. Necessity-driven co-innovation was examined in this study. With increased interest in innovation within hospitality and tourism, attention should also be given to market-driven, opportunity-driven, and disruptive co-innovation.

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