



Understanding the dimensions of customer relationships in the hotel and restaurant industries



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ABSTRACT

The purposes of this research were, first, to examine the dimensionality of hospitality customer relationships and, second, to develop a multi-dimensional customer relationship scale validated with both antecedent measures of marketing effectiveness and effect measures of financial performance. While hospitality marketing research has frequently focused on the relationships between various marketing actions and different dimensions of customer relationships, there is a lack of research examining customer relationships as a multi-dimensional construct. For both the hotel and restaurant industries, scale development procedures with confirmatory factor analyses were used to identify the dimensions of customer relationships: engagement, motivation, commitment, cross-buying, word of mouth, and defection. The nomological validity of these dimensions was tested using the antecedent of service quality and the effect of customer lifetime financial value. The paper concludes by articulating, first, the theoretical and practical applications of the proposed scale and, second, an agenda for future research.

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1. Introduction

Two key forces impacting hospitality marketing strategy and research underlie this research. First, over the last 25 years, the central paradigm of marketing theory has shifted from transactions to relationships (Bolton, 2016; Rust et al., 2004b; Vogt, 2011). Long-term customer-firm relationships are recognized as a key determinant of marketing success (Josiassen et al., 2014; Palmatier et al., 2009; Payne and Frow, 2005). Transaction-oriented marketing measured success purely on the basis of short-term transaction volume and revenue (Zineldin and Philipson, 2007). In contrast, relationship marketing adopts a longer term focus across four customer relationship dimensions: (1) customer acquisition, (2) customer retention, (3) relationship expansion, and (4) defection (Fakih et al., 2016; Kang and Hyun, 2012; Kim et al., 2010; Yoo and Bai, 2013).

Second, understanding the return on investment from hospitality marketing is widely recognized as a key hospitality and tourism research priority (Barros and Assaf, 2012; Berezen et al., 2013; Dwyer et al., 2014; Hanssens and Pauwels, 2016; Kim et al., 2006; Line and Runyan, 2012). For the past decade, the Marketing Science

Institute (MSI) has consistently ranked marketing return on investment as a first or second tier research priority (Marketing Science Institute, 2016a,b). Initially, the response to this call to action was the creation of aggregate, uni-dimensional measures of “customer lifetime financial value” and “customer equity” (Bolton et al., 2004; Gupta et al., 2006; Rust et al., 2004b). More recently, (MSI, 2016) has emphasized the importance of understanding the correlations between “soft” (attitudinal) measures such as relationship quality and “hard” (behavioral) metrics such as customer lifetime financial value and customer equity (Farris et al., 2015; Hanssens and Pauwels, 2016).

Most hospitality firms invest marketing resources (e.g., customer database management, customized service quality, loyalty programs) into customer relationships. The depth and strength of those relationships are, consequently, a key measure of long-term marketing success (Han et al., 2015; Josiassen et al., 2014). Existing hospitality research has separately examined various issues of customer acquisition (Cantalalops and Salvi, 2014; Jin et al., 2016; Kim and Perdue, 2013), customer retention (Dolnicar et al., 2015; Line and Runyan, 2012; So et al., 2016), customer defection or switching (Line et al., 2016; Qiu et al., 2015; Park and Jang, 2014) and, to a lesser extent, customer expansion (Perdue, 2002; Šerić et al., 2014). However, as noted, the existing research has tended to study these relationship dimensions separately. The existing research has not examined the multi-dimensional interactions between these

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relationship dimensions or how they conjointly impact a firm's success. Collectively, this represents a substantive gap in our ability to both understand the complexity of hospitality customer relationships and to evaluate the effectiveness of hospitality marketing strategies.

An extensive search of both the marketing and the hospitality scholarly literatures did not identify any existing, parsimonious, multi-dimensional measures of the relationships between hospitality firms and their customers. Such a measure will contribute theoretical value to the understanding of hospitality consumer relationships and provide a framework for better understanding the complex and mixed effects of marketing strategy (Kim et al., 2015; Vogt, 2011). Accordingly, the purposes of this research were, first, to examine the dimensionality of customer relationships for hospitality firms and, second, to develop a multi-dimensional customer relationship scale validated with both antecedent measures of hospitality marketing effectiveness and effect measures of financial performance.

2. Literature review

2.1. Customer relationship management and marketing performance

Customer relationship management (CRM) focuses on creating, managing and expanding the relationships between a firm and its customers (Bolton, 2016; Vogt, 2011). The creation and management of customer relationships is a core focus of marketing theory and practice both in general and, more specifically, in the hospitality industry (Kotler et al., 2010; Ryu and Lee, 2013). As proposed by Rust et al. (2004b), the marketing actions of a firm (1) contribute to improved customer attitudes and preferences, which, in turn, (2) impact the depth and strength of the relationships between the firm and its customers, thereby (3) increasing a customer's lifetime financial value which, in aggregate, (4) contributes to customer equity and return on marketing investments.

Customer lifetime financial value is defined as the net present value of the future cash flows derived from a customer during her/his relationship with the firm (Rust and Chung, 2006). Building on the work by Berger et al. (2006), Gupta and Lehmann (2005), Kumar and Petersen (2005), and Rust et al. (2004c), customer lifetime financial value is derived from four components of the relationships between a firm and its customers: (1) customer acquisition, (2) customer retention, (3) relationship expansion, and (4) defection. According to Rust et al. (2000), customer equity is the aggregate discounted value of a firm's customers as determined by the time period (customer acquisition minus customer defection), the length of the planning horizon (customer retention), expected frequency of the customer's purchases per time period (relationship expansion), the customer's average spending per visit (relationship expansion), and the probability of return (customer retention) (Gupta et al., 2006). Substantial consumer research, both generically in marketing (Bolton, 2016; Rust and Chung, 2006) and specifically in hospitality (Line and Runyan, 2012), focuses on understanding the effects of marketing actions on these four relationship constructs. The following paragraphs review the literature on each of these relationship dimensions.

2.1.1. Customer acquisition

Customer acquisition is defined as that part of the customer relationship that begins with her/his initial engagement with the firm and proceeds through the first purchase until the first repeat purchase (Thomas, 2001). Customer acquisition research has focused primarily on the impact of marketing variables (e.g., price, promotion, discounts) on the attraction of new customers (Stahl et al.,

2012). Additionally, several studies have examined how customer acquisition strategies influence customer lifetime financial value.

For example, Lewis (2006) examined the relationships between a firm's customer acquisition promotional strategies and customer lifetime financial value, demonstrating that customers acquired through sales promotional efforts tended to have lower repurchase rates and lower lifetime values. Similarly, Thomas et al. (2004) examined the impact of product and service pricing on customer lifetime financial value, concluding that discounted pricing can help firms acquire new customers; but these customers tend to have shorter lifetimes with the firm and, consequently, lower lifetime financial value. A study by Anderson and Simester (2004) found that a discounting strategy can be a positive factor for first-time buyers but a negative factor for customer retention. Lewis (2005) explained that first-time buyers are more price sensitive; however, that sensitivity decreases with customer retention. They propose providing a series of diminishing discounts rather than a single deep discount. Moreover, there is growing criticism of discounting as a long-term revenue management strategy; arguing that while discounting may alter short-term results, the long-term effects are changes in customer perceptions of a fair and reasonable price (Forgacs, 2010). Cantalalops and Salvi (2014) provide a review of hospitality research on the effects of electronic word of mouth on new customer acquisition. Jin et al. (2016) extend this research by examining customer innovation on restaurant images.

2.1.2. Customer retention

Customer retention is defined as a customer's repeat purchase of a firm's products or services (Berger et al., 2006). Customer retention is a key antecedent of long-term customer relationships (Payne and Frow, 2005) and customer lifetime financial value (Hyun, 2009; Zhang et al., 2010). Sun and Li (2011) investigated the relationship between customer retention rate and a firm's profit using data provided by a digital internet service firm. They found that increasing customer retention by 0.8%, 1.2%, 2.6%, and 3.7% would increase firm profits by 0.3%, 0.8%, 1.6%, and 7.0% respectively. It is commonly argued by researchers that maintaining current customers cost less than attracting new customers (e.g., Coussement et al., 2010; Torkzadeh et al., 2006).

As a result, considerable research has focused on how to maintain current customers and increase the length of customer-firm relationships (e.g., Eisingerich and Bell, 2007; Kalaignanam and Varadarajan, 2012). Numerous studies have examined customer retention from a variety of perspectives, most notably service quality and customer satisfaction (Clemes et al., 2011; So et al., 2016). However, the evidence also suggests that customer retention is not, by itself, a strong measure of firm success. For example, Reinartz and Kumar (2000) found a low Pearson correlation between the length of customer relationships and firm profitability. Further, they found that 18.7 percent of customers generated relatively high profits for the firm even though their relationship tenure was short. In contrast another 21.2 percent generated relatively low profits even though they exhibited a longer lifetime relationship. Similarly, Dolnicar et al. (2015) question the value of intention to return as a measure of customer retention. Some customers who remained as returning customers nonetheless made small financial contributions to the firm. Clearly, understanding both customer retention and the long-term value of a customer are important research objectives for hotel and restaurant management (Forgacs, 2010).

2.1.3. Customer relationship expansion

Customer relationship expansion refers to "increasing purchases either of new products or the same products previously bought from the firm" (Berger et al., 2006, p. 157). There are two different types of relationship development: depth and breadth (Verhoef, 2001). Depth of relationship indicates the frequency

of product purchases over time or a customer's upgrade toward purchasing premium products. Conceptually, as the relationship between the firm and a customer becomes more entrenched, the customer tends to buy the firm's product(s) both more frequently and to purchase premium products that provide a larger profit margin.

In contrast, the breadth of a relationship is reflected in cross-buying (Bolton et al., 2004) in which customers purchase different products from the same firm. For instance, a customer could visit a restaurant only for lunch for several months then decide to go there for dinner or to use the restaurant for a special function or event. A guest could visit a hotel for several years then eventually decide to purchase other services (e.g., concierge club memberships, affiliated credit cards, or vacation ownerships) from the hotel brand. Customer retention helps a firm maintain their customers, while, customer relationship expansion helps to promote increased spending (Rust and Chung, 2006).

Several studies have examined the factors which may influence customer relationship expansion. For example, Bolton and Lemon (1999) found that customer satisfaction and price perceptions positively influence relationship expansion. By analyzing data collected from 490 customers, they found that customers who have high levels of cumulative satisfaction tend to buy higher usage levels of the service in subsequent time periods. Similarly, the results of a study by Bolton et al. (2000) indicate that a loyalty program positively influences relationship expansion. They analyzed cross-sectional, time-series data from a worldwide financial services firm. Their results indicated that loyalty program members tended to spend more money than non-members.

There have been relatively few studies of customer relationship expansion in the hospitality industry. Perdue (2002) examined cross product elasticity using longitudinal data to compare season ticket holders to non-holders, concluding that a season ticket discount attracted new customers who subsequently spent more money on supplementary products. Gregori et al. (2014) examine the effectiveness of affiliate marketing as a customer expansion strategy. Similarly, Šerić et al. (2014) examine integrated marketing communications as a strategy to grow both the frequency and breadth of hotel customer behaviors. Further research is needed to understand both purchase frequency and depth of purchasing by restaurant and hotel customers.

2.1.4. Customer defection

Customer defection is defined as "customers forsaking one service provider for another" (Garland, 2002, pp. 318). Customer defection is an important research question due to its strong, negative effects on firm profitability (e.g., Reichheld, 1996; Reichheld and Sasser, 1990). For example, Reichheld and Sasser (1990) postulated that reducing customer defection by five percent can increase profits by 25–85 percent across several industries. As the overall customer defection rate drops, the average life span of customers increases, thus enhancing customer financial value and increasing the firm's long-term profits. The existing theoretical/empirical studies further support this argument. For instance, according to Hwang et al. (2004), customer defection significantly lowers total customer lifetime financial value because (1) customer defection negatively affects the length of customer-firm relationship period and (2) customer defection deprives the firm of future profit generation from the customer. Borle et al. (2008) empirical study also support this argument. They used a hierarchical Bayesian approach to estimate customer lifetime financial value by jointly modeling repurchase rates, purchase amounts, and defection rates. Analyzing data from a membership-based marketing firm, they concluded that customer repurchase rates, purchase amounts, and defection rates are interrelated constructs. More importantly, all of them significantly influence customer lifetime financial value.

Some existing research suggests that customer dissatisfaction is a key antecedent of customer defection (Williams et al., 2011). However, other researchers (e.g., Reichheld, 1996) have argued that dissatisfaction is a weak predictor of customer defection. Reichheld (1996) stated that 65–85 percent of customers defect despite being satisfied. Similarly, Hennig-Thurau and Klee (1997) stated that large numbers of dissatisfied customers still repurchase a firm's products/services. Within the context of hospitality, there have been a number of studies of service failure, complaint behavior, and behavioral intentions (Baker et al., 2012; Lee et al., 2013; Swanson and Hsu, 2010; Xie and Heung, 2012), all concluding that service failure increases defection. In restaurant settings, both Line et al. (2016) and Park and Jang (2014) document that switching behavior occurs due not only to service failure, but also to customer satiation with an existing service. Dioko et al. (2013) extend the study of hotel customer switching behavior to consider changes in the competitive environment.

2.2. Validating a customer relationships scale for hospitality business

As reflected by the previous sections, the existing research provides a strong theoretical framework for examining the multi-dimensional relationships between a firm and its customers. Marketing strategies are designed to grow customer relationships and, ultimately, customer financial value through their effects on customer acquisition, retention, expansion and defection. Hospitality marketing research has extensively studied the relationships between various marketing actions and specific dimensions of customer relationships, particularly loyalty and retention. However, there is a lack of research collectively examining the relationships between the dimensions of customer relationships and either marketing actions or customer lifetime value (Hyun, 2009). Such research will help develop more theoretical measures of the effects of hospitality marketing actions. An initial step in that research is to create a valid, reliable multi-dimensional scale to assess customer relationships.

As part of the scale development process, nomological validity involves examining the relationship between the proposed scale and selected measures of its antecedents and effects; marketing actions and financial performance, respectively (Churchill, 1979; DeVellis, 1991; Hinkin et al., 1997). Theoretically, as marketing and service quality increases, customer relationships grow and strengthen, which, in turn, increases customer lifetime financial value (Hyun, 2009). Since there is an extensive body of research examining the correlations between service quality, satisfaction, and loyalty (typically measured as intentions to return) (Clemes et al., 2011; Kim et al., 2015; Xie and Heung, 2012; Yoo and Bai, 2013), service quality was chosen as the antecedent measure for assessing nomological validity of the proposed scale.

Given its widespread usage across a variety of service sectors and its predictive advantages (Carrillat et al., 2007), Cronin and Taylor (1994)'s SERVPERF scale was selected as a criterion measure of marketing and service quality. The ability of the SERVPERF scale to effectively measure service quality across services with minimum modification was a key factor in its selection (Carrillat et al., 2007). Perceived service quality is a form of attitude, a long-run overall evaluation of a brand or firm (Bitner, 1990; Bolton and Drew, 1991; Parasuraman et al., 1988). Therefore, if the newly developed scale of customer relationships is a valid measure, it should be positively correlated with the SERVPERF measure. The following hypothesis was tested as an assessment of the nomological validity of the proposed scale with a key antecedent measure:

Table 1
Initial items for measuring customer relationships.

Customer acquisition
My first impression was that the company was friendly.
The company's promotional email encouraged my first visit/purchase.
The company's price discount encouraged my first visit/purchase.
I got a good deal on my first purchase from the company.
My first impression was that the company was appealing.
I had already seen the company's advertisement before my first visit.
It was easy to find the contact information about the company when I first visited.
It was easy to make the first time reservation/purchase with the company.
My first interaction with an employee of the company was nice.
The company's promotional mail encouraged my first visit/purchase.
The company's celebrity endorsers (e.g. actors, singers in the advertisements) encouraged my first visit/purchase.
I was satisfied with my first visit to/purchase from the company.
I was pleased with my first visit to/purchase from the company.
I heard about the company from other people before my first visit.
Customer retention
When I travel/dine out, this hotel/restaurant is my first choice.
As long as the present service continues, I will keep going to this hotel/restaurant.
I like visiting the hotel/restaurant.
During my lifetime, I want to keep my relationship with the company.
I continue to go to the hotel/restaurant because I like being associated with them.
I don't usually visit other restaurants/hotels.
I visit this hotel/restaurant more frequently than other restaurants/hotels.
I spend a larger amount of money in this hotel/restaurant than in other hotels/restaurants.
I use the hotel's/restaurant's mileage/point program.
I believe that this is my favorite hotel/restaurant.
To me, this hotel/restaurant is the best one to do business with.
Customer relationship expansion
I am proud to tell others that I use this hotel/restaurant.
I am willing to say good things about the hotel/restaurant.
When I go to the hotel/restaurant, I want to bring my friends/relatives/other people.
I would suggest the hotel/restaurant to my friends/relatives.
I want to try the company's premium product (e.g. suite room, high price menu).
I mention this hotel/restaurant to people more than other hotels/restaurants.
I want to try other services/products provided by the company.
If the company opens a new branch/store, I want to visit it.
I mention this hotel/restaurant to others quite frequently.
I have only good things to say about this hotel/restaurant.
When I tell others about this hotel/restaurant, I tend to talk about the hotel/restaurant in great detail.
Once I get talking about this hotel/restaurant, it is hard for me to stop.
I will post good things about the hotel/restaurant on the Internet website (e.g. blog).
If somebody says something negative about the company, I am willing to defend it.
I want to visit the hotel/restaurant more frequently.
Customer defection (reverse coded)
Next time I travel/dine out, I will consider switching to another company.
I will switch if other restaurants/hotels provide better offers.
I like the hotel/restaurant, but I want to try different hotels/restaurants next time.
I will switch if the hotel/restaurant increases its prices in the future.
I will visit another hotel/restaurant when they provide incentive for first-time customers.
I will not visit/dine out at the hotel/restaurant in the near future.
I started to feel bored by the same services provided by the hotel/restaurant.
I am angry with the hotel/restaurant.

Hypothesis 1. There is a significant and positive correlation between the dimensions of the proposed customer relationships scale and marketing success as measured by the SERVPERF scale.

As reflected in the introduction, financial return on investment is a fundamental consequence of marketing strategy (Bolton, 2016). While there are numerous studies of financial performance in the hotel and restaurant sectors, most have focused on shareholder

value in publically-traded companies (Chen, 2015; Kim et al., 2006). Since the unit of analysis for this research was the individual consumer, shareholder value of publically-traded companies was not a viable measure (Wiesel and Skiera, 2005). Alternatively, Rust et al.'s (2000) measure of customer lifetime financial value was used. However, given both the predominance of publically-traded companies in the existing hospitality financial performance literature and the fact that Rust et al.'s (2000) scale was validated using publically-traded companies, this research was also conducted within the context of publically-traded companies. Previous studies (e.g., Berger et al., 2006; Gupta et al., 2004; Wiesel and Skiera, 2005) have empirically verified customer lifetime financial value as a measure of the quality and depth of customer relationships with a firm. Therefore, if the newly developed measure of customer relationships is valid, it should be strongly correlated with customer lifetime financial value. As a test of the nomological validity of the proposed scale with a key consequence or effect, the following hypothesis was tested:

Hypothesis 2. There is a significant and positive correlation between the dimensions of the proposed customer relationships scale and customer lifetime financial value.

3. Methodology and results

The study methodology was executed in three phases. The first phase focused on developing and pretesting a multi-dimensional measure of hospitality customer relationships, focusing specifically on hotels and restaurants. The second phase investigated the validity and reliability of the newly developed measure using confirmatory factor analysis. The third phase examined the nomological validity of the new measure by examining correlations with service quality and customer lifetime financial value. As described in the following, student subjects were employed in the first round of data collection primarily because of the associated time efficiency and cost savings. However, phase 2, validity and reliability testing, and phase 3, nomological validity testing, were done using a national panel of hotel and restaurant consumers.

3.1. Phase 1 – scale development and pretesting

The first phase of our research focused on developing and pretesting of a multi-dimensional scale to measure hospitality customer relationships. Following the guidelines proposed by Churchill (1979), DeVellis (1991), Hinkin et al. (1997) and Wong and Wan (2013), a seven step process of scale development was used, including item generation, content adequacy assessment, questionnaire administration, factor analysis, internal consistency assessment, nomological/criterion validity, and replication. Multi-dimensional hospitality relationship scales were simultaneously created for two key sectors of the hospitality industry; hotels and restaurants. Analyzing both hotels and restaurants provided the opportunity to compare results, determine the reliability of our methods, and replicate findings. Throughout the following presentation of analyses and results, both restaurant and hotel results are presented.

3.1.1. Initial item generation

Theoretically, hospitality customer relationships are comprised of four dimensions: customer acquisition, customer retention, customer relationship expansion, and defection (Berger et al., 2006; Gupta and Lehmann, 2005; Kumar and Petersen, 2005; Rust et al., 2004b). An extensive review of the hospitality and marketing literatures in the broad contexts of customer relationship management, loyalty, consumer psychology, and services marketing identified 63 items measuring these dimensions; 14 items supporting customer

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| <p>A. Customer Acquisition: Part of the customer-firm relationship that begins with the consumers' first interaction with the firm and proceeds through the first purchase until the first repeat purchase.</p> <p>B. Customer Retention: A customer's repeat purchase of the product(s) from the firm.</p> <p>C. Customer Relationship Expansion: Increasing purchases either of new products or the same products previously bought from the firm. Willingness to recommend and make referrals.</p> <p>D. Customer Defection: Customers' forsaking one service provider for another.</p> <p>E. This item <u>does not</u> correspond to any of the above four determinants <u>at all</u></p> | <p>8. D___ I will switch if other restaurants/hotels provide better offers.</p> <p>9. E___ My first impression was that the company was appealing</p> <p>10. B___ If the company opens a new branch/store, I want to visit it.</p> <p>11. C___ I believe that this is my favorite hotel/restaurant.</p> <p>12. C___ I visit this hotel/restaurant more frequently than other restaurants/hotels</p> <p>13. B___ I want to visit the hotel/restaurant more frequently.</p> <p>14. A___ I had already seen the company's advertisement before my first visit.</p> <p>15. C___ I don't usually visit other restaurants/hotels.</p> <p>16. C___ When I go to the hotel/restaurant, I want to bring my friends/relatives/other people.</p> <p>17. D___ I like the hotel/restaurant, but I want to try different hotels/restaurants next time.</p> |
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Fig. 1. An example of completed content adequacy questionnaire.

acquisition, 21 items supporting customer retention, 16 items supporting customer relationship expansion, and 12 items supporting customer defection.

3.1.2. Content adequacy assessment

Using the procedures proposed by Hinkin et al. (1997), informed judges were used to determine the content adequacy of this item pool. A total of 16 judges were selected based on three standards: (1) academic experience: published a minimum of ten research papers regarding relationship marketing or consumer behavior, (2) industry experience: possessed a minimum of ten years of professional experience in the hospitality industry, particularly in the marketing or customer management departments, or (3) teaching experience: possessed a minimum of ten years of experience teaching hospitality management or marketing at the university level.

The selected judges completed a content assessment questionnaire (Fig. 1). On the left side of the questionnaire, the four dimensions of customer relationships were defined. On the right side, the initial items were listed. Judges were asked to read through the four dimensions and then match each item to the most appropriate dimension. If the item did not correspond to any of the four dimensions, the judges were instructed to select the response "This item does not correspond to any of the above four determinants at all."

For the content adequacy assessment, items were screened based on a standard-agreement index of 0.6 (Clemenz and Weaver,

2003). In other words, in order to retain an item, at least 60 percent of the judges (at least ten out of 16) needed to agree that the item was relevant for measuring a specific dimension. Using this criterion, 48 items were retained (Table 1): 14 items for customer acquisition, 11 items for customer retention, 15 items for customer relationship expansion, and 8 items for customer defection.

3.1.3. Pre-test questionnaire administration

Using the results of the content adequacy assessment, two draft questionnaires of the retained items were created: one for the hotel sector and one for the restaurant sector. In order to create the questionnaires, an initial survey was first needed to identify two target firms that could be used as the basis for measuring customer relationships. Specifically, a brief, self-report questionnaire was distributed to 144 students registered in a sophomore level, hospitality course at a major university to identify a national chain hotel firm and a national chain restaurant firm to use as a basis for measuring the customer-firm relationships.

The customer acquisition, customer retention, and customer relationship expansion items were assessed on five-point Likert-type scales ranging from 1 ('strongly disagree') to 5 ('strongly agree'). The customer defection items were reverse coded (5 = strongly disagree to 1 = strongly agree) so that the final scale would measure the strength of the customer-firm relationship. A pre-test of these questionnaires was conducted using eight hospitality and tourism management graduate students and two faculty members. The purpose of this pre-test was to detect potential prob-

lems in questionnaire design, clarity, and wording. Following some modification, a focus group discussion was next conducted with three consumers with high familiarity with hotels and restaurant, specifically consumers who visited a hotel at least once a month and a restaurant at least two times per week. Following final revisions, the questionnaires were then administered to a different group of 218 undergraduate students; 104 students completed the hotel questionnaire and 114 completed the restaurant questionnaire.

3.1.4. Exploratory factor analysis: item evaluation

Exploratory factor analyses with principal components extraction and varimax rotation were conducted. Using the restaurant data, six factors were selected that possessed an eigenvalue greater than 1.0 (Hair et al., 1998). This factor solution accounted for 70.0 percent of the total variance. Based on the factor loadings, the six dimensions were titled: customer engagement, customer motivation, customer retention, customer cross-buying, customer word of mouth, and customer defection. To assess the internal consistency of these six customer relationship dimensions, Cronbach's alpha was estimated; all scales exceeded 0.70 (Hair et al., 1998). For the purposes of item evaluation/purification (Hinkin et al., 1997) (1) items with factor loadings of less than 0.4 were deleted due to their lack of meaningful contribution, (2) cross-loading items negatively influencing scale dimensionality were deleted, and (3) based on Cronbach's alpha, items negatively influencing reliability of each dimension were deleted (Hair et al., 1998). Based on these standards, 21 items were deleted. Using the same process, the hotel data were analyzed, resulting in essentially similar results identifying the same six customer relationship dimensions.

As noted earlier, the existing theoretical background suggests that customer relationships are a multi-dimensional construct comprised of four dimensions: customer acquisition, customer retention, customer relationship expansion, and customer defection (e.g., Berger et al., 2006; Gupta and Lehmann, 2005; Kumar and Petersen, 2005; Rust et al., 2004a). However, the EFA results identified six dimensions: customer engagement, customer motivation, customer retention, customer cross-buying, customer word of mouth, and customer defection. Comparing the anticipated and actual factor structures identified two substantive differences. First, customer acquisition was not uni-dimensional; it was a two dimensional construct comprised of (1) customer engagement and (2) customer motivation. Second, customer relationship expansion was also a two dimensional construct comprised of (1) customer cross-buying and (2) customer word of mouth. Fig. 2 reflects these differences.

3.2. Phase 2 – validity and reliability assessment

The second phase of this research focused on assessing the validity and reliability of the newly developed measurement scales. Using a national online research panel, data were collected from adult customers in the United States. Table 3 presents the restaurant segment questions. Table 5 presents the hotel segment questions. As before, the customer acquisition, customer retention and customer relationship expansion items were assessed on five-point Likert-type scales ranging from 1 ('strongly disagree') to 5 ('strongly agree'), while the customer defection items were reverse coded.

In order to test nomological validity (as described later in Phase 3), six questionnaires were created measuring customer relationships relative to a selected set of six publically-owned hospitality firms (McDonald's, Burger King, Chipotle Mexican Grill, Denny's, Marriott, and Choice). Given that the Rust et al. (2000) customer lifetime value scale was validated with publically-owned companies and given the ability to select companies with high and low cumulative shareholder value, the set of study firms was con-

Table 2
Profile of survey respondents.

Variable	N	Percentage
Gender		
Female	290	49.2
Male	300	50.8
Income		
Under \$25,000	81	13.7
\$25,000–\$39,999	109	18.5
\$40,000–\$54,999	102	17.3
\$55,000–\$69,999	95	16.1
\$70,000–\$84,999	57	9.7
\$85,000–\$99,999	57	9.7
\$100,000–\$149,999	69	11.7
Over \$150,000	20	3.3
Race		
African-American	23	3.9
Asian	20	3.4
Hispanic	19	3.2
Caucasian/White	520	88.1
Other	8	1.4
Education level		
Less than high school degree	11	1.8
High school degree	77	13.0
Some college, but no degree	204	34.6
Bachelor's degree	185	31.4
Graduate degree	113	19.2
Mean age = 48.4 years old		

strained to publically-owned companies. The initial plan was to use two hotel and two restaurant firms, a high and low cumulative shareholder value firm in each sector. However, due to the different categories of publically-owned restaurant firms and the potential measurement bias across categories, four restaurant firms were ultimately selected; a high and low cumulative shareholder value firm in both the fast food and casual dining categories. Shareholder value was calculated by multiplying share prices by outstanding shares as reported in the 10-K annual report of each firm. In the hotel sector, Marriott International was selected as the high shareholder value firm and Choice Hotels was chosen as the low shareholder value firm. For the fast food restaurant sector, the high and low shareholder value firms were McDonald's and Burger King, respectively. For the casual dining restaurant sector, Chipotle Mexican Grill and Denny's were selected as the high and low shareholder value firms, respectively. As noted later, future research examining other companies will be recommended, including both other restaurant categories and privately-owned hotel and restaurant companies.

The survey respondents were randomly assigned to one of the six questionnaires. In total, 725 respondents participated. After eliminating responses with missing information and extreme answers, 590 usable responses remained, 371 for the restaurant questionnaires and 219 for the hotel questionnaires. More specifically, across the six versions of the questionnaire the numbers of respondents were McDonald's ($n = 90$), Burger King ($n = 92$), Chipotle Mexican Grill ($n = 95$), Denny's ($n = 94$), Marriott ($n = 106$), and Choice ($n = 113$).

Among the respondents, 49.2 percent were male and 50.8 percent were female. In terms of age, the respondents were fairly evenly distributed from 18 to 91 years old; the mean age was 48.4 years. The majority of respondents were Caucasian (88.1%), and over half of the respondents had bachelors or graduate degrees (31.4% and 19.2%, respectively). In terms of income, the respondents were fairly evenly distributed, with the largest group (18.5%) reporting incomes between \$25,000 and \$39,999 and the smallest group (3.4%) reporting incomes of \$150,000 or more; 67.8% reported incomes higher than \$40,000 (Table 2).

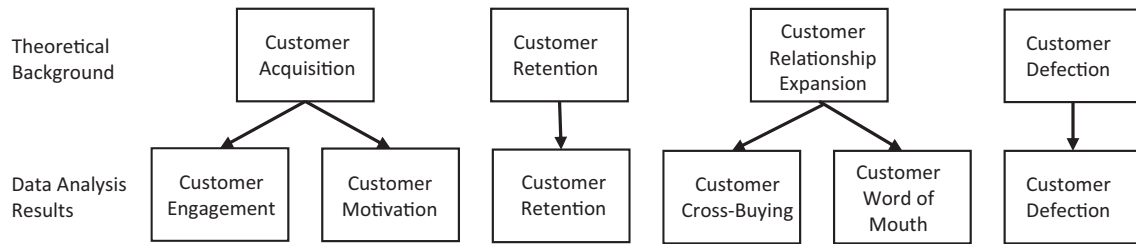


Fig. 2. Theoretical dimensions of customer relationships vs dimensions derived from exploratory factor analysis.

3.2.1. Second-order confirmatory factor analysis: restaurant segment

As previously reported, the exploratory factor analysis revealed that customer acquisition was a two dimensional construct comprised of customer engagement and customer motivation. Similarly, customer relationship expansion was also a two dimensional construct comprised of customer cross-buying and customer word of mouth (Fig. 2). In other words, these two constructs (customer acquisition and customer relationship expansion) are actually second order factors, which makes the overall customer relationship construct a third-order factor model. For this reason, second-order confirmatory factor analysis were conducted.

For the restaurant sector, the CFA results indicated an acceptable model fit, with a Chi-Square of 390.63 with 108 degrees of freedom ($p < 0.001$). CFI = 0.932, IFI = 0.933, TLI = 0.915 and a root mean square error of approximation (RMSEA) = 0.08. Table 3 shows the specific customer relationship scale items together with their standardized factor loadings.

As shown from the second-order confirmatory factor analysis results, all factor loadings were equal to or greater than 0.508, and significant at $p < 0.001$ with the t -values ranging from 7.69 to 23.88. Table 4 shows the descriptive statistics and associated measures for the scale dimensions. Convergent and discriminant validity of the scales were tested using the CFA results (Anderson and Gerbing, 1988). As stated above, all indicators loaded significantly on the proposed constructs ($p < 0.001$). The average variance extracted (AVE) was greater than the 0.50 cutoff for all constructs (Bagozzi and Yi, 1988), indicating acceptable convergent validity (Fornell and Larcker, 1981). To assess discriminant validity, the squared correlation (R^2) between each pair of constructs should be lower than the AVE for each construct (Fornell and Larcker, 1981). However, as shown in Table 4, regarding five pairs of concepts, the squared correlation values (R^2) between a pair of concepts were higher than the AVE for each concept. In this case, as Bagozzi and Yi (1988) postulated, discriminant validity between the pairs should be re-tested by combining them into a single construct and then conducting a χ^2 difference test on the values obtained from the uncombined (original) and combined models. Based on the χ^2 difference test results, discriminant validity between all the five constructs was confirmed. In summary, all of the constructs' discriminant validities were strongly supported by the data analysis. Finally, all composite reliabilities were higher than 0.7, indicating adequate internal consistency.

3.2.2. Second-order confirmatory factor analysis: hotel segment

Table 5 shows the specific items of the customer relationship scales, together with their standardized factor loadings for the hotel sector. The second-order CFA results for the hotel data achieved very similar results to that reported earlier for the restaurant sector. In the hotel sector, it was also confirmed that all of the constructs were uni-dimensional constructs that achieved convergent validity, discriminant validity, and internal consistency (Table 6).

Table 3

Restaurant segment: second-order confirmatory factor analysis results.

Construct and scale item	Standardized loading
Customer acquisition	
Engagement 0.763	
My first impression with the staff at the restaurant was pleasant.	0.782
On first impression, I found the environment at the restaurant appealing.	0.861
On first impression, I found the atmosphere at the restaurant friendly.	0.925
I was satisfied with my first visit to the restaurant.	0.783
Motivation 0.728	
The restaurant's reasonable price encourages my visit.	0.508
The restaurant's convenient location encourages my visit.	0.944
Customer commitment	
When I dine out, the restaurant is my first choice.	0.841
As long as the current level of service continues, I will keep going to the restaurant.	0.676
I visit the restaurant more frequently than I do other restaurants.	0.805
Customer relationship expansion	
Cross-buying 0.909	
If the restaurant opens in a new location, I want to visit it.	0.808
I want to visit the restaurant more frequently.	0.862
I want to try the restaurant's premium product line (e.g. higher-price menu).	0.641
Word of mouth 0.908	
I suggest the restaurant to others quite frequently.	0.904
When I tell others about the restaurant, I tend to talk about the restaurant in great detail.	0.847
Once I get talking about the restaurant, it is hard for me to stop.	0.701
Customer defection (reverse coded)	
Next time I dine out, I will choose another reputable restaurant over the restaurant.	0.718
I will choose another reputable restaurant over the restaurant if the reputable restaurant provides better offers.	0.873

Note: All factors loadings are significant at $p < 0.001$. Bold figures represent first-order factor loadings.

3.3. Phase 3 – nomological validity assessment

Theoretically, as marketing success increases, customer relationships strengthen, which, in turn, increases customer lifetime financial value (Bolton, 2016). In this sense, if the newly developed customer relationship scale is a valid measure, it should be strongly and positively correlated with both its antecedents, measures of marketing success, and effects or consequences, customer lifetime financial value. As discussed earlier, service quality as measured by Cronin and Taylor (1994)'s SERVPERF scale was used as the

Table 4
Restaurant segment: scale descriptive statistics.

	No. of items	Mean (Std dev.)	AVE	Customer acquisition	Customer commitment	Customer relationship expansion	Customer defection
Customer acquisition	6	3.42 (0.71)	0.55	0.809^a	0.994 ^b	0.937	0.952
Customer commitment	3	2.77 (0.90)	0.60	0.988 ^c	0.800	0.937	0.728
Customer relationship expansion	6	2.61 (0.87)	0.83	0.878	0.878	0.936	0.806
Customer defection	2	3.36 (0.92)	0.64	0.906	0.530	0.650	0.774
Goodness-of-fit statistics:							
$\chi^2 (108) = 390.634, p < 0.001$							
$\chi^2/df = 3.617$							
CFI = 0.932; IFI = 0.933; TLI = 0.915							
RMSEA = 0.08							

Note: AVE: average variance extracted estimate, CFI: comparative fit index, IFI: incremental fit index, TLI: Tucker–Lewis index, RMSEA: root mean square error of approximation.

^a Composite reliabilities are along the diagonal.

^b Correlations are above the diagonal.

^c Squared correlations are below the diagonal.

Table 5
Hotel segment: second-order confirmatory factor analysis results.

Construct and scale item	Standardized loading
Customer acquisition	
Engagement	0.661
I was satisfied with my first visit to the hotel brand.	0.844
My first interaction with an employee of the hotel brand was pleasant.	0.944
My first impression was that the staff at the hotel brand was friendly.	0.943
My first impression was that the hotel brand was appealing.	0.849
Motivation	0.845
The hotel's brand reputation encourages my visit.	0.812
The hotel company's easy reservation process encourages my visit.	0.837
The hotel company's customer service encourages my visit.	0.867
Customer commitment	
When I travel, the hotel brand is my first choice.	0.953
I visit the hotel brand more frequently than other hotels.	0.873
I spend more money in the hotel brand than in other hotels.	0.529
Customer relationship expansion	
Cross-Buying	0.685
If the hotel brand opens a new hotel, I want to visit it.	0.803
I want to visit the hotel brand more frequently.	0.861
When I go to the hotel brand, I like to bring my friends/relatives/other people.	0.732
I would try other services/products (e.g. sports bar) provided by the hotel brand.	0.630
Word of Mouth	0.805
I would suggest the hotel brand to my friends/relatives.	0.906
I am willing to say good things about the hotel brand.	0.855
I mention the hotel brand to others quite frequently.	0.513
Customer defection (reverse coded)	
I like the hotel brand, but I want to try different hotels next time.	0.744
Next time I travel, I will consider another hotel brand over the hotel brand.	0.850

Note: All factors loadings are significant at $p < 0.001$. Bold figures represent first-order factor loadings.

measure of marketing success. Customer lifetime value was measured by Rust et al's. (2000) scale. As an assessment of nomological validity, two hypotheses were tested:

- **Hypothesis 1:** There is a significant and positive correlation between the dimensions of the proposed customer relationships scale and marketing success as measured by the SERVPERF scale.
- **Hypothesis 2:** There is a significant and positive correlation between the dimensions of the proposed customer relationships scale and customer lifetime financial value.

In order to test first hypothesis, Pearson correlation were calculated between two sets of variables: (1) the three SERVPERF scales and (2) the six customer relationship scales. As shown in Table 7, there were significant and positive correlations between the six customer relationship scales and the SERVPERF scales in the fast food restaurant, casual dining restaurant, and hotel segments. Therefore, Hypothesis 1 was supported.

To test the second hypothesis, customer lifetime financial value was calculated using the formula created by Rust et al. (2000).

$$\text{Customer Lifetime Financial Value} = \sum_{t=0}^T [(1+d)^{-t} F_{it} S_{it} \pi_{it}]$$

Note: T : the length of the planning horizon, t : time period, F_{it} : expected frequency of the customer's purchases/visit per time period, π_{it} : the customer's average spending/contribution per visit, S_{it} : the probability of return, d : the firm's discount rate.

For each of the six questionnaires, measurement items were borrowed from Rust et al. (2000) and were re-worded to fit within the hospitality context. Hypothesis 2 was then tested by examining the Pearson correlations between the six customer relationship scales and the customer lifetime financial value. As hypothesized, there were significant positive correlations between customer lifetime financial value and the six dimensions of customer relationships in the fast food restaurant, casual restaurant, and hotel segments (Table 8).

4. Discussion and conclusions

Two key hospitality marketing trends underlie this research; the paradigmatic shift from transaction to customer relationship marketing (Bolton, 2016) and the increasing calls for research and methodologies to calculate and understand the return on investment from marketing activities (Farris et al., 2015; Hanssens and Pauwels, 2016; MSI, 2016). The key contribution of this research is our identification and validation of a multi-dimensional scale

Table 6
Hotel segment: scale descriptive statistics.

	No. of items	Mean (Std dev.)	AVE	Customer acquisition	Customer commitment	Customer relationship expansion	Customer defection
Customer acquisition	7	3.77 (0.55)	0.58	0.893^a	0.667 ^b	0.993	0.531
Customer commitment	3	2.85 (0.87)	0.65	0.445 ^c	0.832	0.858	0.601
Customer relationship expansion	7	3.15 (0.67)	0.56	0.986	0.736	0.821	0.597
Customer defection	2	2.83 (0.67)	0.64	0.282	0.361	0.356	0.867
Goodness-of-fit statistics:							
$\chi^2 (142) = 386.210, p < 0.001$							
$\chi^2/df = 2.72$							
CFI = 0.917; IFI = 0.918; TLI = 0.901							
RMSEA = 0.08							

Note: AVE: average variance extracted estimate, CFI: comparative fit index, IFI: incremental fit index, TLI: Tucker–Lewis index, RMSEA: root mean square error of approximation.

^a Composite reliabilities are along the diagonal.

^b Correlations are above the diagonal.

^c Squared correlations are below the diagonal.

measuring hospitality firm – customer relationships. In order to establish the nomological validity of the scale, hypotheses were tested assessing the relationships between the proposed scale and marketing effectiveness and customer lifetime financial value. Specifically, as hypothesized, significant and positive correlations were found between the customer relationship scale and marketing effectiveness measured using SERVPERF. Similarly, as hypothesized, there were significant and positive correlations between customer lifetime financial value and the customer relationship scale.

For both the restaurant and hotel segments, valid and reliable multi-dimensional customer relationships scales were identified, each comprised of six dimensions ‘customer engagement’, ‘customer motivation’, ‘customer retention’, ‘customer cross-buying’, ‘customer word of mouth’, and ‘customer defection’. These scales may serve as a foundation for future research assessing both the effects or marketing strategy and the return on investment. This section will report, first, on potential applied and theoretical applications of the proposed scale. Next, limitations of this research will be presented along with potential future research.

4.1. Implications for hospitality marketing practice

In collaboration with the Marketing Science Institute, the November 2016 issue of the *Journal of Marketing* published a series of seven articles “aimed to synthesize the learnings of years of academic research in a format that would be accessible to marketers” (MSI, 2016b). Included in this special issue was a paper on “Demonstrating the Value of Marketing” by Hanssens and Pauwels (2016). They argue that “marketing has multiple facets, some attitudinal, some behavioral, and some financial” (Hanssens and Pauwels, 2016, p. 173). Marketing corporations are encouraged to create and maintain marketing intelligence dashboards, comprised of a mix of such measures. Specifically, marketing intelligence dashboards track a set of inter-related marketing actions, customer attitudes, customer behaviors and performance metrics (Pauwels et al., 2008); the guiding principle of such dashboards is continuous improvement in marketing strategy and financial performance. As a central marketing construct, the depth, strength and resilience of customer relationships are a critical component of such a dashboard. Customer relationship management is predicated on understanding the effects of marketing actions on customer attitudes and behavior toward the firm and, ultimately, how customer attitudes create financial value. “Marketing aims to create and stimulate favorable attitudes with the goal of ultimately boosting customer demand” (Hanssens and Pauwels, 2016, p. 173). Moreover, by demonstrating the nomological validity of the proposed scale with both antecedent

Table 7
Correlations between customer relationship scales and SERVPERF Scales.

Customer relationship scales	SERVPERF scales		
	Responsiveness	Tangibles	Reliability
Engagement			
Fast food restaurant	0.284 [*]	0.563 [*]	0.543 [*]
Casual dining	0.444 [*]	0.510 [*]	0.611 [*]
Hotel	0.309 [*]	0.587 [*]	0.648 [*]
Motivation			
Fast food restaurant	0.183 [*]	0.333 [*]	0.362 [*]
Casual dining	0.277 [*]	0.254 [*]	0.311 [*]
Hotel	0.429 [*]	0.555 [*]	0.594 [*]
Commitment			
Fast food restaurant	0.249 [*]	0.568 [*]	0.525 [*]
Casual dining	0.297 [*]	0.463 [*]	0.622 [*]
Hotel	0.586 [*]	0.383 [*]	0.334 [*]
Cross buying			
Fast food restaurant	0.191 [*]	0.529 [*]	0.495 [*]
Casual dining	0.278 [*]	0.491 [*]	0.607 [*]
Hotel	0.597 [*]	0.320 [*]	0.316 [*]
Word of mouth			
Fast food restaurant	0.195 [*]	0.499 [*]	0.481 [*]
Casual dining	0.226 [*]	0.440 [*]	0.573 [*]
Hotel	0.564 [*]	0.584 [*]	0.598 [*]
Customer defection			
Fast food restaurant	0.387 [*]	0.682 [*]	0.658 [*]
Casual dining	0.342 [*]	0.529 [*]	0.598 [*]
Hotel	0.232 [*]	0.308 [*]	0.261 [*]

Note: Customer defection measurement items were inversely coded for data analysis.

^{*} $p < 0.001$.

Table 8
customer relationship scale correlations with customer lifetime financial value.

Customer relationship scale	Hospitality sector		
	Fast food dining	Casual dining	Hotel
Engagement	0.355 [*]	0.317 [*]	0.233 [*]
Motivation	0.376 [*]	0.355 [*]	0.326 [*]
Commitment	0.534 [*]	0.518 [*]	0.251 [*]
Cross buying	0.482 [*]	0.396 [*]	0.274 [*]
Word of mouth	0.430 [*]	0.487 [*]	0.295 [*]
Customer defection	0.330 [*]	0.295 [*]	0.235 [*]

Note: Customer defection measurement items were inversely coded for data analysis.

^{*} $p < 0.001$.

measures of service quality and with effect measures of customer lifetime financial value, this research has potentially contributed to the development of hospitality firm marketing intelligence dashboards.

More specifically, knowledge of the six dimensions that define customer relationships can assist hospitality firms to develop and execute more effective marketing programs. Future research can examine the effects of various marketing strategies across the dimensions of customer relationships and, thereby, develop more refined strategies. Both correlational tracking research, within the framework of the marketing intelligence dashboard, and experimental research could be used to better understand both how marketing actions affect long-term customer relationships and how changes in long-term customer relationships affect financial performance. [Sainaghi \(2009\)](#) provides an extensive review of alternative strategies by which the proposed scale could be used in tracking and understanding hotel and/or restaurant performance.

4.2. *Implications for hospitality marketing theory and methodology*

This research makes three substantive theoretical and methodological contributions. First, the study results both contribute to our understanding of hospitality customer-firm relationships and provide a foundation for future hospitality marketing and customer relationship research. While the concept of customer relationships has long existed, it has not been studied as a multi-dimensional construct. Hospitality researchers have tended to focus on measuring specific dimensions of customer relationships, e.g., customer commitment or loyalty. Further, much of the hospitality marketing research has focused on the relationship between various measures of marketing activities and specific dimensions of customer relationships; the body of work examining the relationships between service quality, customer satisfaction and customer retention is but one example. Our results provide an important theoretical contribution and supports future customer relationship management research.

Second, the proposed customer relationship scale provides a relationship marketing framework for research aimed at better understanding both the effects of various marketing actions and the financial return on investment from marketing activities and investments. Existing efforts to determine the ROI from marketing activities are heavily based on traditional “transactions” marketing. Along with the evolution of marketing theory from transactions-based to relationship-based models, it is essential that marketing ROI research focus on the effects of marketing actions on the various dimensions of its relationships with customers and customer segments. Only then can the financial effects of marketing over time be understood.

Third, there is a long history of scale development research in the hospitality scholarly literature (i.e., [Bavik, 2016](#); [Lee et al., 2016](#); [Tasci and Semrad, 2016](#)). Among these scale development studies, nomological validity testing using both antecedent and effect variables is uncommon. Moreover, attempts to create methodologies independently assessing a proposed scale across hospitality industry sectors as a means of replication is also very rare. Hence, the methodology illustrated by this paper contributes to the scale development literature and provides a process to advance this important area of hospitality research.

Thus, it is proposed that the customer relationship scales provided by this research can serve as a foundation for future research to examine how customer relationships evolve and change. As further articulated in the following discussion of the study’s limitations, important avenues for such future research include (1) the extension of this research to other hospitality industry sectors, (2) further understanding the correlations between marketing investments/activities and customer relationships, and (3) using customer relationships as a means of better understanding the return on investment from marketing activities. It is also proposed

that the methodology developed for this study provides a foundation for future scale development research in hospitality.

4.3. *Study limitations and future research*

It is important to recognize five key limitations and to recognize that each of these limitations is an avenue for future research.

First, our study was limited to hotels and restaurants and, even more specifically, to six publically-traded hotel and restaurant firms. Inherently, customer-firm relationships must be studied at the firm level. We selected six publically-traded firms based on their market capitalization/shareholder value – relatively high and low firms in the hotel sector, the fast food sector, and the casual dining sector. Obviously, future research would extend this study to other firms within these sectors, to other sectors of the hospitality industry, and to privately-owned firms.

Second, while an extensive review of literature was used to create the initial pool of items for our scale development process, further research examining other potential items is needed. The contribution of this research focuses on defining the dimensions of customer-firm relationships; further research will continue to improve and strengthen this definition.

Third, it was very important to assess the nomological validity of our proposed scales. If the underlying premise is that marketing actions and investments create customer relationships, then the proposed scale needed to be assessed against a measure of hospitality marketing action. Because so much of the hospitality marketing research focuses on the effects of service quality on customer behavioral intentions, we decided to use [Cronin and Taylor’s \(1994\)](#) SERVPERF scale to examine the correlations between marketing actions and the customer relationships scales. Future research examining the correlation between other measures of marketing actions/investments and the proposed customer relationships measures is needed to further assess nomological validity. Similarly, [Rust et al’s \(2000\)](#) measure of customer lifetime financial value was selected to examine the correlation between customer relationships and customer financial value. Again, further research using other measures is needed.

Fourth, the initial phases of this research, including the scale pretesting and exploratory factor analysis, were conducted using student subjects. The time and cost efficiencies and trade-offs of using student subjects are well documented, but there are still the underlying issues of generalizability and representativeness. While our primary validation and reliability assessments were conducted using a national panel of hotel and restaurant consumers, this use of student subjects may have impacted our results. Moreover, the national panel of consumers was comprised of USA residents; future research using different study populations is needed.

Fifth, hospitality customer-firm relationships are extremely dynamic and are currently being redefined by technology. Recent technological advances allow customers to have more dynamic relationships with firms ([Kira et al., 2009](#)). For instance, customers easily make hotel/restaurant reservations on smart phones. Also, they can immediately post their staying/dining experience on blogs. A key concern of hospitality revenue management, as a major marketing function, continues to focus on the implications of online travel agencies for customer relationship management ([Barthel and Perret, 2015](#)). Consequently, customer relationship management is being reshaped due to the technology innovation. While this study identified dimensions of hospitality customer relationships, an important next step is to examine how technology engagement impacts and changes these relationships. Future research, probably involving longitudinal designs, is needed to determine how technological advances influence customer relationship management across its various dimensions. Importantly, this fifth limitation also supports the critical need both for an effective, multi-dimensional

measure of customer relationships and for future research examining the effects of hospitality marketing on the various dimensions of customer–firm relationships.

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