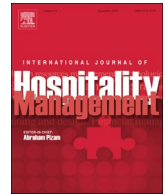




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Service quality and customer satisfaction: The moderating effects of hotel star rating

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ABSTRACT

This research contributes to customer satisfaction knowledge with regard to accommodation in South Africa whose star grading differs. A multi-group analysis and an importance-performance map analysis by means of PLS-SEM allow us to differentiate between service quality performance scores and their influences on customer satisfaction across accommodation with a different star grading. The two most important predictors of satisfaction with one-star and two-star category accommodation are the accommodation infrastructure and the employee expertise. Both predictors were found to have relatively low levels of performance. Safety and security and room quality are two significant determinants of satisfaction with three-star establishments, although they under-perform with regard to safety and security. In respect of four-star and five-star accommodation, waiting time and customer interaction, both of which have above average performance scores, influence customer satisfaction. We provide specific guidelines for managerial interventions to improve service quality and guests' satisfaction for each grading category.

1. Introduction

Accommodation is one of the largest components of the tourism sector (Deng et al., 2013). The ever-increasing competition between service providers also characterizes the accommodation market. Customers benefit from this competition by being offered a range of accommodation choices, which has led to rising expectations (Oh and Kim, 2017). In order to remain competitive, to retain their existing customers, and attract new ones, accommodation providers generally improve their service quality and, consequently, their customer satisfaction as a key strategy. Researchers have shown a keen interest in the measurement of customer satisfaction (Deng et al., 2013; Francesco and Roberta, 2019; Mathe et al., 2016; Rahimi and Kozak, 2017). Customer satisfaction is therefore one of the most systematically documented topics in the hospitality literature (Ali et al., 2016; Oh and Kim, 2017; Prayag et al., 2019; Sharifi, 2019; Lee and Whaley, 2019). Academic debates on the topic have been fervent, while the relevant research has a national and highly practical orientation due to the

development and adoption of customer satisfaction indices, such as the Swedish customer satisfaction barometer (SCSB; Fornell, 1992) and the American customer satisfaction index (ACSI; Fornell et al., 1996). These customer satisfaction indices measure the overall customer experience.

Service quality is one of the main determinants of customer satisfaction (Alnawas and Hemsley-Brown, 2019; Deng et al., 2013; Hao et al., 2015; Nunkoo et al., 2017; Oh, 1999; Oh and Kim, 2017; Ren et al., 2015). It is a multidimensional construct, whose dimensions differ from sector to sector (Brady and Cronin, 2001). Guests' opinions of the service quality usually vary across hotels with different classification ratings (Banerjee and Chua, 2016; Huang et al., 2018; Rhee and Yang, 2015; Román and Martín, 2016), as well as across different types of hotels, such as between stand-alone and resort-based luxury hotels (Lai and Hitchcock, 2016). Research has therefore called for more comparative studies of guest opinions of different types of hotels (Rauch et al., 2015; Rhee and Yang, 2015).

This paper uses data collected from visitors to South Africa to analyze the service quality of and customer satisfaction with hotels with

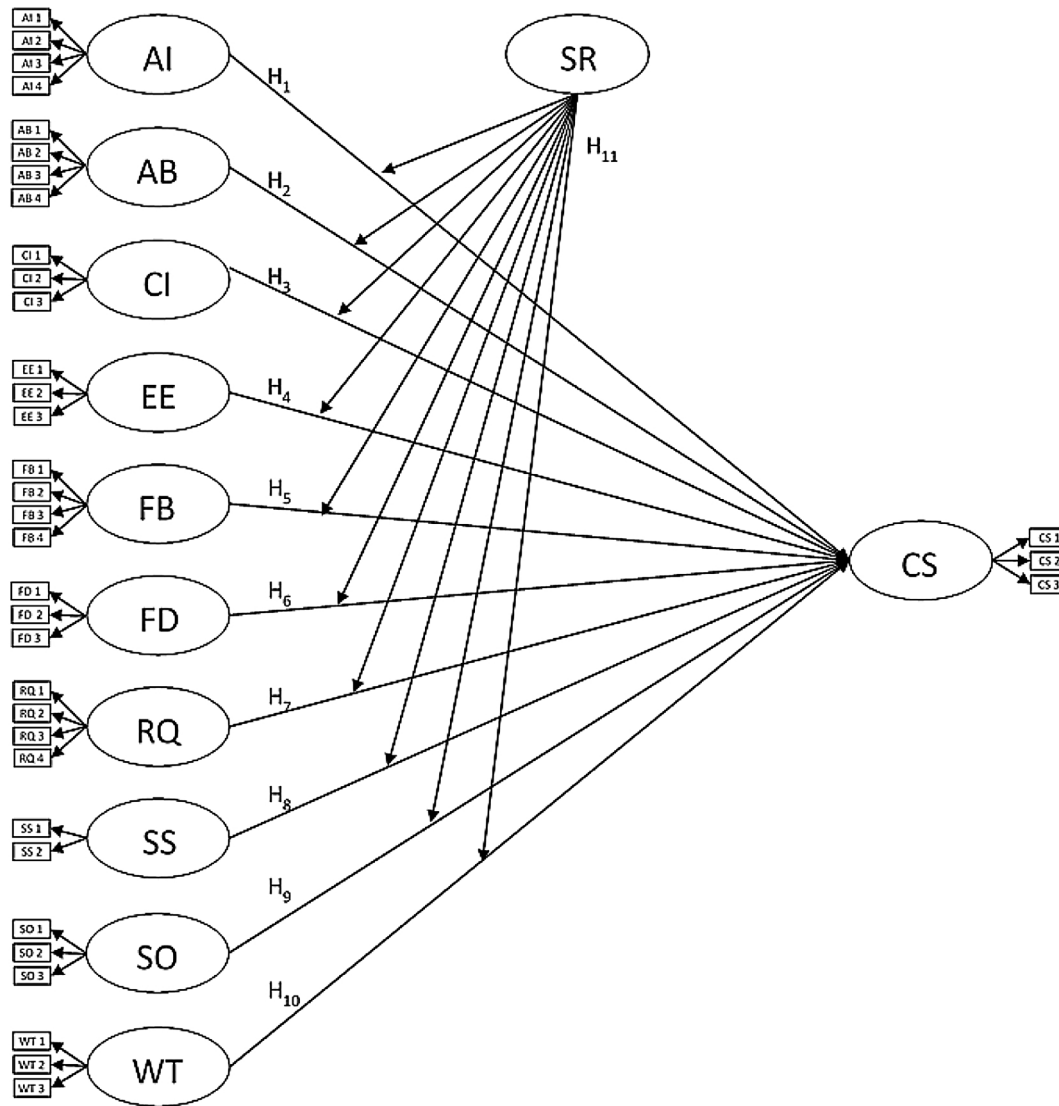
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AI: accommodation infrastructure; AB: attitude and behavior of employees; CI: customer to customer interaction; EE: employee expertise; FB: food and beverage quality; FD: front desk quality; RQ: room quality; SS: safety and security; SO: sociability; WT: waiting time; CS: customer satisfaction; SR: star rating

Fig. 1. The theoretical model of the study.

AI: accommodation infrastructure; AB: attitude and behavior of employees; CI: customer to customer interaction; EE: employee expertise; FB: food and beverage quality; FD: front desk quality; RQ: room quality; SS: safety and security; SO: sociability; WT: waiting time; CS: customer satisfaction; SR: star rating.

different star rating according to the Tourism Grading Council of South Africa's (TGSA) hotel classification system. In particular, we investigate the moderating effects of hotel star ratings on the relationship between different service quality dimensions and customer satisfaction. Fig. 1 presents the study's theoretical model. Our research uses a multi-group analysis (MGA) and an importance-performance map analysis (IPMA) by means of partial least squares structural equation modeling (PLS-SEM) to achieve our objective. Furthermore, this research provides establishments in each grading category with specific managerial recommendations to improve their service quality and customer satisfaction.

The study makes valuable contributions to the relevant literature and has useful practical implications for hotel managers. In order to obtain a better theoretical assessment of the relationship between the constructs, researchers have called for more studies that compare the service quality attributes of and the customer satisfaction with hotels

with a high and a low star classification, or between high- and low-rated hotels. Rhee and Yang (2015) argue that "it is quite difficult to find hotel comparison studies based on the attribute importance" (p. 576). Furthermore, most research on service quality assessments in the hotel sector has been conducted in upscale hotels (four- and five-star hotels), with only a few studies done on low- and mid-end establishments (Rauch et al., 2015). Our study contributes to the limited research that comparatively analyzes the theoretical relationship between the service quality of and customer satisfaction with accommodation establishments with different star ratings. In particular, we analyze the star rating's moderating effects on the relationship between the service quality and customer satisfaction.

Second, we extend MGA's application by using PLS-SEM beyond its traditional use to conduct an IPMA with customer satisfaction as the outcome variable and the service quality dimensions as the predictors. There has recently been an upsurge in studies on the importance-

performance analysis of the hospitality and tourism fields (Babu et al., 2018; Dabestani et al., 2016; Patiar et al., 2017). However, these studies have been criticized for lacking conceptual, methodological, and statistical rigor, which threatens the results' reliability and validity (Lai and Hitchcock, 2015; Server, 2015). For example, concerns have been raised about the arbitrary measurement of importance and the scales' discriminant and predictive validity (Azzopardi and Nash, 2013).

An IPMA by means of PLS-SEM resolves some of the methodological and statistical issues (Ringle and Sarstedt, 2016). This technique extends the standard results that report the path coefficient estimates obtained from an MGA by "adding a dimension that considers the average values of the latent variable scores [...] The goal is to identify predecessors that have a relatively high importance for the target construct (i.e. those that have a strong total effect), but also have a relatively low performance (i.e. low average latent variable scores)" (Ringle and Sarstedt, 2016, p. 1866). From a practical perspective, the MGA-IPMA results should be useful when formulating policies to improve customer satisfaction across accommodation establishments with different star ratings.

2. Literature review

2.1. Customer satisfaction

The customer satisfaction concept was conceptualized a few decades ago. According to Oliver (1980), customer satisfaction is a measure of the discrepancy between customers' expectations before purchasing a service/product and their evaluation of this service/product after consumption. The service sectors are still debating whether customer satisfaction should be regarded as a transaction-specific concept or as a cumulative concept (Johnson et al., 2001). Johnson et al. (2001) make a strong case for adopting customer satisfaction as a cumulative conceptualization and operationalization. These authors' review of the various studies on the customer satisfaction index clearly demonstrates that most authors concur with the transaction-specific conceptualization.

2.2. Service quality

The service quality concept is closely linked to customer satisfaction and is grounded in the expectancy-disconfirmation theory (Grönroos, 1982; Parasuraman et al., 1985). Nevertheless, this theory's transaction-specific conceptualization has been found to be more appropriate for the service quality construct (Iacobucci et al., 1995), from whose perspective service quality is an antecedent of customer satisfaction. Customers therefore cognitively evaluate customer satisfaction's performance service attributes in the short term, which ultimately influences their overall experience of a service (Torres, 2014). Numerous empirical studies have demonstrated that service quality has a direct positive effect on customer satisfaction (Ali and Raza, 2017; Brady et al., 2001; Cronin et al., 2000; Nunkoo et al., 2017; Wu, 2014).

Researchers have developed various models for measuring service quality. For example, SERVQUAL (Parasuraman et al., 1988a,b) proposes reliability, responsiveness, assurance, empathy, and tangible as five service quality dimensions. Although widely used, the model has been criticized by scholars for not adequately reflecting the service quality dimensions relevant to the hospitality sector (Akbaba, 2006). Consequently, researchers have developed context-specific models such as HOLSERV (Wong Ooi Mei et al., 1999) and LODGSERV (Knutson et al., 2004) that better reflect the service quality dimensions of the accommodation sector. Building on these existing models, Wu and Ko (2013) proposed a holistic scale to measure the quality of services in the accommodation sector, namely the Scale of Service Quality in Hotels (SSQH). The latter comprises of the following service quality dimensions: conduct, expertise, problem-solving, atmosphere, room quality, facility, design, location, sociability, valence, and waiting. Although the

service attributes differ across these various models, researchers agree that service quality is best represented by multiple dimensions (Brady and Cronin, 2001).

The accommodation infrastructure's quality is the first important service dimension for the hospitality sector (Wu and Ko, 2013). It includes aspects such as the interior décor (Wu and Weber, 2005; Lockyer, 2002), the infrastructure's design (Aubert-Gamet, 1997; Bitner, 1992), the ambience, which comprises the lighting, music, noise, temperature, signage, and the wall color (Bonn et al., 2007), as well as the cleanliness (Ryan and Huimin, 2007; Nash et al., 2006; Lockyer, 2002). All of these aspects are considered influential in determining the customer satisfaction. Accordingly, we propose the following hypothesis:

H1. The accommodation infrastructure's quality influences customer satisfaction positively.

The second dimension is employees' attitude and behavior (Cronin et al., 2000; Chen, 2016; Parasuraman et al., 1988a,b; Wu and Ko, 2013). Attitude refers to employees' trait characteristics, which comprise their degree of sociability, tenderness, graciousness, demeanor, distress, honesty, and care (Czepiel et al., 1985). Researchers argue that service providers have much to gain by understanding their customers' evaluation of their employees' attitudes (Chen, 2016; Chu et al., 2016; Yang et al., 2015; Wong and Keung, 2000). Various studies suggest there is a relationship between employee attitude and customer satisfaction (Alhelalat et al., 2017; Huang and Xie, 2017; Nunkoo et al., 2017), which leads to the following hypothesis:

H2. Employees attitude and behavior influence customer satisfaction positively.

The third dimension is customer interaction (Huang and Hsu, 2010; Lehtinen and Lehtinen, 1985; Nicholls, 2010, 2011). According to Ko and Pastore (2005), customer interaction is customers' subjective evaluation of other customers' attitudes and behaviors during the service delivery process. Customer-to-customer interactions are critical for the hospitality experience (Kandampully et al., 2018; Taheri et al., 2017). Various studies support the view that customer interaction is an essential component of customers' service quality evaluation and a determinant of customer satisfaction (Lovell, 1991; Brady and Cronin, 2001; Ko and Pastore, 2005; Nunkoo et al., 2017). Accordingly, we posit the following hypothesis:

H3. Customer interaction influences customer satisfaction positively.

The fourth dimension is the employee expertise, described as the extent to which employees' skills and knowledge influence the customer-employee interaction when they accomplish specific tasks (Czepiel et al., 1985). Studies suggest that employee expertise largely determines the quality of employees' interaction with a customer (Brady and Cronin, 2001; Ekinici and Dawes, 2009; Ko and Pastore, 2005; Pugh et al., 2002). Other studies demonstrate empirically that employees' problem-solving skills also contribute to the evaluation of the quality of customers' interaction with a service provider (Dabholkar et al., 1996; Cronin et al., 2000; Ko and Pastore, 2005; Caro and García, 2008). As a dimension of service quality, we expect employee expertise to influence customer satisfaction (Crosby et al., 1990; Nunkoo et al., 2017; Wu and Ko, 2013). We therefore hypothesize that:

H4. Employee expertise influences customer satisfaction positively.

The fifth dimension is the food and beverage quality (Akbaba, 2006; Chu and Choi, 2000). Satisfaction with this dimension relates to the availability of an adequate variety of food and beverages, their overall quality, the food's sanitary aspect, and the service level (Akbaba, 2006; Wu and Ko, 2013). Several studies have validated the relationship between the food and beverage quality and customer satisfaction (Bihamta et al., 2017; Han and Hyun, 2017; Namkung and Jang, 2007; Ryu et al., 2012). Based on the preceding discussion, the following

hypothesis is posited:

H5. The food and beverage quality influences customer satisfaction positively.

The sixth dimension is the front desk quality (Bharadwaja et al., 2018; Gundersen et al., 1996; Hartline and Jones, 1996; Hartline et al., 2003; Jang et al., 2018). This relates to the adequacy of the check-in procedure, the luggage transfer process, and the front desk employees' ability to solve problems (Hartline et al., 2003). Studies by Hartline and Jones (1996) and Hartline et al. (2003) presented empirical evidence that front desk employees' performance has the greatest influence on customers' overall perception of the service quality and on their satisfaction. Consequently, we suggest the following hypothesis:

H6. The front desk quality influences customer satisfaction positively.

The seventh dimension is an accommodation's room quality (Jang et al., 2018; Radojevic et al., 2015; Ramanathan and Ramanathan, 2011; Wilkins et al., 2007). This service quality dimension includes aspects such as the room size, temperature, the level of quietness, and how comfortable the mattress and pillows are. Similar to Choi and Chu (2001); Min and Min (1997), Radojevic et al. (2015) and Mey et al.'s (2006) study found that hotels' room quality was the strongest determinant of customer satisfaction. We therefore consider the room quality an important service quality dimension and an antecedent of customer satisfaction. Accordingly, we posit the following hypothesis:

H7. The room quality influences customer satisfaction positively.

The eighth dimension is safety and security. Generally, safety and security considerations involve protecting people, but security factors also include the protection the hotel property, customers' possessions, and ensuring employees' and customers' individual safety and security (Enz and Taylor, 2002). Enz and Taylor (2002) argue that security features include electronic locks and security cameras, whereas safety facilities include items such as sprinklers and smoke detectors. Security and safety have become a prime concern for travelers throughout the world and remain an important service quality dimension that determines the overall satisfaction with hospitality services (Hsieh et al., 2008; Nunkoo et al., 2017; Wilkins et al., 2007; Wu and Ko, 2013). We therefore suggest the following hypothesis:

H8. Safety and security influences customer satisfaction positively.

The ninth dimension is sociability (Ali et al., 2017; Milne and McDonald, 1999; Nunkoo et al., 2017; Wu and Ko, 2013). Sociability is defined as positive social experiences gained from a sense of fulfillment from being with other people who all participate in the same activity and share the enjoyment. From this perspective, family members, friends, and other acquaintances should be considered significant social factors with regard to the accommodation's guests (Baldacchino, 1995). It is important to note that a social experience, which is an after-consumption outcome, should be differentiated from customer interaction, which occurs during service delivery (Ko and Pastore, 2005). Consequently, this construct deserves consideration as a service quality dimension. Accordingly, we posit the following hypothesis:

H9. Sociability influences customer satisfaction positively.

The tenth and last dimension is waiting time, which relates to the amount of time that customers need to wait for a service (Benitez et al., 2007; Hornik, 1982). When customers enter a service system, they have, to some extent, expectations regarding an acceptable waiting time, which contribute to their level of satisfaction (Davis and Vollmann, 1990; Lee and Cheng, 2018; Taylor, 1994). In the service industry, many customers find waiting for service a frustrating experience (McDougall and Levesque, 1999). Houston et al. (1998) incorporated waiting time into their analysis of service encounter quality and found that it is an important predictor of outcome quality. Nunkoo et al. (2017) also found that waiting time is an important service quality

dimension that predicts customer satisfaction. We therefore propose the following hypothesis:

H10. Waiting time influences customer satisfaction positively.

2.3. Moderating effects of star rating

A hotel classification system based on government-approved regulations or on an independent organization's established criteria classifies hotels according to their quality and service standard (Martin-Fuentes, 2016; Blomberg-Nygaard and Anderson, 2016). In South Africa, the TGSA regulates and manages the classification of accommodation establishments. The grading criteria, introduced in 2002, assign a star rating to each accommodation establishments in the country. The hotel star rating is universally recognized as the most popular system for classifying hotels and ranges from 1 to 5 stars, with a higher star rating indicating higher quality (Abrate et al., 2011; Martin-Fuentes, 2016; TGSA, 2019). The star rating is based on objective criteria such as the infrastructure, services, amenities, and the size of the rooms (Martin-Fuentes, 2016; TGSA, 2019).

A star-rating system has several benefits for tourism and hospitality stakeholders, such as travel agencies, tour operators, and governments. This system allows consumers to compare hotels, reduces information asymmetry, and provides a basis for service expectations (Martin-Fuentes, 2016; Narangajavana and Hu, 2008; Nicolau and Sellers, 2010; Rhee and Yang, 2015). Some studies have found that customer perceptions differ across hotels with different star rating. For example, Martin-Fuentes (2016) found that customers' ratings of hotels increased with each additional star. Similarly, using data from more than 10,000 hotels, Bulchand-Gidumal et al. (2011) empirically demonstrated a positive relationship between a star rating and a hotel's score. Rhee and Yang's (2015) study also suggested differences in guests' expectations across hotels with different ratings. Qu et al. (2000) reported that guests' level of satisfaction with three-star hotels was less compared to that with hotels with higher ratings. Nevertheless, the study did not find a significant difference in satisfaction between four- and five-star establishments. Based on the preceding discussion, we therefore suggest the following hypothesis:

H11. Accommodation establishments' star rating moderates the relationships between the service quality dimensions and customer satisfaction.

3. Methodology

3.1. Sampling design and data collection

Data were collected from guests at TGSA-graded accommodation establishments in South Africa. We selected establishments located in the Western Cape, Kwazulu-Natal, and Gauteng, because these provinces host more than 65% of such accommodation. Cluster sampling was used to select accommodation in each of these three provinces. We used face-to-face and the drop-off and pick-up methods to collect data. In the former case, we surveyed the respondents by means of an on-site intercept method. While some accommodation establishments allowed the survey team to interact with the guests directly, others preferred the accommodation management to administer the questionnaires after the authors had dropped them off. In keeping with Schall's (2003) recommendation, we surveyed guests during their stay or just before their departure to ensure that they had a full appreciation and understanding of the accommodation's various aspects. Where possible, the survey was conducted at the accommodation's front desk, which allowed the respondents to seek clarifications from the management when this was required. A total of 477 questionnaires was obtained. However, five of these had more than 10% missing values across the scales, leading to their rejection (Hair et al., 2006), resulting in a usable sample of 472

cases. See [Appendix A](#) for more descriptive details of our sample.

3.2. Scale development process

We measured customer satisfaction by using three items adapted from a study by [Deng et al. \(2013\)](#), but which [Fornell et al. \(1996\)](#) had originally conceived. These items relate to the accommodation service provider's overall performance, the degree to which the services met the customer's expectations, and, finally, the extent to which the accommodation services corresponded to the customer's ideal. The service quality measures were adapted from a research by [Wu and Ko \(2013\)](#) and other studies on service quality (e.g. [Akbaba, 2006](#); [Brady and Cronin, 2001](#); [Caro and García, 2008](#); [Choi and Chu, 2001](#); [Ko and Pastore, 2005](#); [Lockyer, 2002](#); [Min and Min, 1997](#)). We treated each dimension of the service quality construct as an independent variable to assess its unique influence on customer satisfaction. All the items were measured on a Likert scale ranging from 1 to 5, with 1 = "strongly disagree" and 5 = "strongly agree." Achieving high mean values in respect of these scores, indicated a better service quality across all the dimensions.

Given that the factor structure of the service quality construct is usually influenced by cultural and contextual variations ([Dabholkar et al., 1996](#)), it was necessary to pre-test the survey items. To ensure their face and content validity, researchers in the field of service quality and professionals working at the National Department of Tourism of South Africa provided feedback on the scale items. Some of those were considered redundant and were consequently deleted from the questionnaire. The revised scale items were then subjected to an exploratory factor analysis using a pre-test sample to assess the underlying structure of service quality ([Hair et al., 2006](#)). Items having double loadings and loadings lower than 0.50 were deleted from the analysis. The remaining items were factor analyzed again and ten factors emerged and were labeled accordingly. The service quality dimensions and their measures are presented in [Table 1](#).

3.3. Model specification and data analysis

We used the PLS-SEM approach ([Lohmöller, 1989](#); [Wold, 1982](#)) and SmartPLS 3 software ([Ringle et al., 2015](#)) to create, estimate, and assess the underlying conceptual model. PLS-SEM can be applied to both reflective and formative measurement models ([Sarstedt et al., 2016](#)) supports the estimation of relative complex model ([Ali et al., 2018](#)) and is a causal-predictive approach to SEM, which also allows researchers to assess the results' predictive quality ([Sarstedt et al., 2017](#)). PLS-SEM is therefore particularly useful if researchers' purpose is to estimate a structural model that explains a key target construct of interest ([Richter et al., 2015](#); [Rigdon, 2012](#)). More specifically, composite-based PLS-SEM focuses on optimizing the endogenous constructs' prediction and not on the model fit ([Hair et al., 2019](#)), which factor- or covariance-based SEM (CB-SEM) does ([Rigdon et al., 2017](#)).

Given that one of this study's aims is to predict customer satisfaction from various service quality dimensions and not to test a theory per se, we chose a PLS-SEM approach. Furthermore, unlike CB-SEM, which is subject to factor scores indeterminacy ([Rigdon, 2012](#); [Rigdon et al., 2017](#)), PLS-SEM provides fixed latent variable scores, which are required to run an IPMA. The latter compares the structural model's total effect on a predictor variable with the predictors' average latent variable scores ([Hair et al., 2019](#); [Ringle and Sarstedt, 2016](#)).

4. Results

4.1. Sample profile and groups

The sample characteristics (see [Appendix A](#)) reveal that most of the respondents were male (n = 268, 56.8%). The single individuals in the sample were fewer (n = 199, 42.2%) than the married respondents

(n = 231, 48.9%). The respondents in the sample were fairly educated, with around 50% (n = 238) holding a university degree. South Africans dominated the sample (n = 287, 60.8 %), followed by other Africans (n = 76, 16.1%), Europeans (n = 46, 9.7%), Asians (n = 32, 6.8%), and Americans (n = 27, 5.7%). Most of the respondents stayed in three-star (n = 138, 29.2%) and four-star (n = 141, 29.9%) accommodation establishments, while a few stayed in five-star establishments (n = 45, 9.5%).

For a more meaningful comparison between accommodation providers with different star ratings and following earlier research ([Martin-Fuentes, 2016](#); [Rhee and Yang, 2015](#)), we grouped the establishments into the following three categories: low range, which included one- and two-star establishments (n = 148); mid-range, which included three-star establishments (n = 138); and high-range, which included four- and five-star establishments (n = 186). We conducted a power analysis by means of G*Power software ([Faul et al., 2009](#)) to estimate the minimum sample size required for the MGA. With 10 predictors, an alpha level of 5%, and a power of 80%, the minimum sample size estimated to identify a medium effect size was 118. Consequently, the sample size of each accommodation category satisfied this requirement.

4.2. Assessment of the measurement models and measurement invariance

First, we assessed the results of the measurement model for the pooled sample ([Hair et al., 2019](#)). [Table 1](#) shows the outer loadings, composite reliability (CR), and average variance extracted (AVE) values. All the outer loading values were above the 0.7 threshold, while the AVE and CR scores were above the cut-off point of 0.50 and 0.70 respectively, which indicated that the measurement model was internally consistent ([Hair et al., 2019](#)). The AVE and CR values also indicated the measurement model's convergent validity ([Bagozzi and Yi, 1988](#); [Nunkoo and Ramkissoon, 2012](#); [Nunkoo et al., 2013](#)).

Following [Hair et al. \(2017\)](#) and [Henseler et al. \(2015\)](#), we assessed the discriminant validity using the correlations' heterotrait-monotrait ratio (HTMT) (see [Table 2](#)). All the HTMT ratios were below 0.85, suggesting that the measurement model achieved discriminant validity. Similarly, we assessed the measurement models for the group-specific model estimations. The results met all the relevant assessment criteria (see [Appendices B and C](#)).

The present research utilizes an IPMA in the context of an MGA, which meant that it was important to ensure that any differences obtained in the results were not due to measurement invariance ([Hair et al., 2017](#)). We therefore used the measurement invariance of the composite models (MICOM) procedure that [Hair et al. \(2017\)](#) recommend. MICOM comprises three stages: (i) configural invariance assessment, (ii) compositional invariance assessment, and (iii) the assessment of equal means and variances. The results ([Tables 3A, 3B, 3C](#)) showed evidence of partial measurement invariance, which allowed us to compare the standardized coefficients across the three groups of accommodation establishments ([Hair et al., 2017](#)).

4.2.1. Structural model assessment

Having established the measurement models' reliability and validity and ensured the measurement invariance across the groups, our focus shifted to the structural model. [Table 4](#) presents the results of the path relationships of the pooled sample and the three groups of accommodation establishments.

We used the PLS-predict technique to assess the service quality dimensions' predictive power with regard to the customer satisfaction of the pooled sample and across the three groups of establishments. The results are presented in [Table 5](#). When comparing the root mean squared error (RMSE) values of the PLS-SEM analysis to the linear regression model benchmark, we found that the former produces lower prediction errors for all the indicators of the outcome variable (customer satisfaction). Consequently, the results indicate a high predictive power ([Shmueli et al., 2019](#)).

Table 1
Properties of the measurement model for pooled sample.

Variables and indicators	FL	CR	AVE
<i>Accommodation infrastructure (AI)</i>		0.93	0.76
The style of décor is to my liking at this accommodation	0.87		
The accommodation is generally clean	0.86		
The design of the accommodation is attractive	0.89		
The physical environment is what I expect in this accommodation	0.86		
<i>Room quality (RQ)</i>		0.90	0.70
The room size of this accommodation is adequate	0.83		
The bed/mattress/pillow are comfortable	0.85		
This room in this accommodation is quiet.	0.83		
In-room temperature control is of high quality	0.83		
<i>Front desk (FD)</i>		0.91	0.77
The check in procedure at the accommodation is good	0.87		
Luggage transfer is adequate	0.89		
In general, the front desk employees are able to solve my problems	0.87		
<i>Food and beverage (FB)</i>		0.92	0.79
The food and beverage in this accommodation are of high quality	0.89		
Cultural differences are taken into account in the menu proposed	0.86		
There are a variety of food and beverage facilities at this accommodation	0.90		
<i>Sociability (SO)</i>		0.93	0.82
This accommodation provides me with opportunities for social interaction	0.91		
I feel a sense of belonging with other customers at this accommodation.	0.92		
I have made social contacts at this accommodation	0.88		
<i>Safety and security (SS)</i>		0.85	0.60
There are accessible fire exits at this accommodation.	0.76		
There are noticeable sprinkler systems at this accommodation	0.72		
The accommodation is located in a safe area	0.80		
The room door has adequate security features	0.81		
<i>Attitude and behavior of employees (AB)</i>		0.95	0.87
The attitude of employees demonstrates their willingness to help me	0.93		
The attitude of employees shows me that they understand my needs	0.94		
The behavior of the employees allows me to trust their services	0.93		
<i>Employee expertise (EE)</i>		0.95	0.83
The employees understand that I rely on their professional knowledge to meet my needs	0.91		
I can count on the employees knowing their jobs/responsibilities.	0.93		
The employees managed to deal with all my needs	0.91		
The employees are competent	0.90		
<i>Customer interaction (CI)</i>		0.93	0.86
I am generally impressed with the behavior of the other customers	0.93		
My interaction with the other customers has a positive impact on my perception of this accommodation's services.	0.93		
<i>Waiting time (WT)</i>		0.95	0.86
The waiting time for service is reasonable at this accommodation.	0.92		
The employees of this accommodation understand that waiting time is important to me	0.95		
The employees of this accommodation try to minimize my waiting time.	0.91		
<i>Customer satisfaction (CS)</i>		0.94	0.83
I feel satisfied with the accommodation's overall performance	0.92		
The performance of this accommodation has met my expectations	0.93		
My satisfaction level with this accommodation is quite close to my ideal accommodation	0.88		

FL: Factor loadings; Composite reliability; AVE: Average variance extracted.

Table 2
Heterotrait-monotrait ratio for the pooled sample.

	AI	AB	CI	CS	EE	FB	FD	RQ	SO	SS	WT
AI											
AB	0.62										
CI	0.48	0.46									
CS	0.64	0.69	0.52								
EE	0.80	0.65	0.44	0.67							
FB	0.55	0.60	0.52	0.58	0.55						
FD	0.80	0.71	0.44	0.63	0.75	0.55					
RQ	0.66	0.79	0.55	0.70	0.62	0.62	0.71				
SO	0.39	0.44	0.78	0.45	0.37	0.59	0.39	0.44			
SS	0.45	0.58	0.35	0.56	0.47	0.54	0.52	0.60	0.33		
WT	0.68	0.58	0.43	0.67	0.73	0.46	0.67	0.60	0.31	0.42	

HTMT values should be below 0.85 to establish discriminant validity.

As presented in Table 4, the following five dimensions of service quality influenced the pooled sample's customer satisfaction significantly: accommodation infrastructure ($\beta = 0.16$), employee expertise ($\beta = 0.16$), room quality ($\beta = 0.16$), safety and security

($\beta = 0.10$), and waiting time ($\beta = 0.22$). We therefore find empirical support for hypotheses 1, 4, 7, 8, and 10 and reject hypotheses 2, 3, 5, 6, and 9.

4.3. Multi-group analysis

Table 6 presents the results of the MGA analysis. The path coefficient of the relationship between the room quality and the customer satisfaction differed between low-end and high-end establishments ($p < 0.05$). Mid-range and high range establishments differed with respect to the relationship between the employee expertise and customer satisfaction, the room quality and the customer satisfaction, and the sociability and customer satisfaction ($p < 0.05$). However, in respect of low-range and mid-range accommodation providers, these dimensions did not differ significantly in any of the tested path relationships ($p > 0.05$). Consequently, the results partially supported hypothesis 11, which suggests that accommodation establishments' star rating moderates the relationships between the service quality dimensions and customer satisfaction.

Table 3A
Compositional invariance test using permutation.

	Low-range vs. mid-range			Low-range vs. high range			Mid-range vs. High-range		
	C = 1	95% CI	CIE?	c = 1	95% CI	CIE?	c = 1	95% CI	CIE?
AI	0.999	[0.999; 1.000]	Yes	0.999	[0.998; 1.000]	Yes	0.999	[0.994; 1.000]	Yes
AB	1.000	[0.999; 1.000]	Yes	1.000	[0.999; 1.000]	Yes	1.000	[0.999; 1.000]	Yes
CI	0.998	[0.994; 1.000]	Yes	1.000	[0.994; 1.000]	Yes	0.996	[0.986; 1.000]	Yes
CS	0.999	[0.998; 1.000]	Yes	1.000	[0.999; 1.000]	Yes	0.999	[0.999; 1.000]	Yes
EE	0.999	[0.997; 1.000]	Yes	1.000	[0.999; 1.000]	Yes	0.999	[0.999; 1.000]	Yes
FB	1.000	[0.999; 1.000]	Yes	1.000	[0.999; 1.000]	Yes	1.000	[0.997; 1.000]	Yes
FD	0.999	[0.990; 1.000]	Yes	0.997	[0.996; 1.000]	Yes	0.996	[0.985; 1.000]	Yes
RQ	0.998	[0.996; 1.000]	Yes	0.999	[0.997; 1.000]	Yes	0.999	[0.991; 1.000]	Yes
SS	0.979	[0.970; 1.000]	Yes	0.994	[0.992; 1.000]	Yes	0.998	[0.976; 1.000]	Yes
SO	0.999	[0.995; 1.000]	Yes	0.999	[0.994; 1.000]	Yes	0.999	[0.992; 1.000]	Yes
WT	1.000	[0.999; 1.000]	Yes	1.000	[0.999; 1.000]	Yes	1.000	[0.998; 1.000]	Yes

Notes: C = 1: correlation value = 1; CI: confidence interval; CIE: compositional invariance established?

4.4. Importance-performance map analysis

We conducted an IPMA to extract useful insights into the key service quality dimensions that predict customer satisfaction with each category of South African accommodation establishments. In the IPMAs, we plotted only those service quality dimensions that exerted a significant influence on customer satisfaction with each category of accommodation establishment. As recommended by Ringle and Sarstedt (2016), all the mean values were converted to a scale of 100 and the mean performance score were subsequently calculated for benchmarking purposes. In order to improve our results' diagnostic and obtain findings that would support managerial decision making, we conducted an IPMA based on the accommodation's grading category.

Fig. 2 presents the IPMA for establishments in the low-end category. The two service quality dimensions that exerted a significant influence on customer satisfaction, namely the accommodation infrastructure and employee expertise, had a performance score of 67.3 and 70.2 respectively, which were below the overall average score of 76. The establishments in this category were therefore under-performing in respect of those two service quality attributes.

The IPMA result of the mid-end accommodation establishment category is presented in Fig. 3. While this group performed well with respect to the room quality attribute (performance score = 77.8), it exhibited poor performance with regard to the safety and security aspects (performance score = 71.5). With regard to high-end establishments, the significant predictors of customer satisfaction, namely customer interaction and waiting time, had a performance score of 79.2 and 81.7 respectively, which were both above the average score of 76 (see Fig. 4).

Table 3B
Equal mean assessment.

	Low-end vs. mid-end			Low-end vs. high end			Mid-end vs. High-end		
	D = 0	95% CI	EMV?	D = 0	95% CI	EMV?	D = 0	95% CI	EMV?
AI	-0.381	[-0.218; 0.204]	No	-0.762	[-0.218; 0.218]	No	-0.462	[-0.222; 0.211]	No
AB	-0.300	[-0.231; 0.233]	No	-0.558	[-0.22; 0.222]	No	-0.298	[-0.210; 0.209]	No
CI	-0.266	[-0.231; 0.223]	No	-0.646	[-0.211; 0.219]	No	-0.417	[-0.211; 0.215]	No
CS	-0.359	[-0.226; 0.220]	No	-0.600	[-0.228; 0.211]	No	-0.297	[-0.212; 0.213]	No
EE	-0.386	[-0.227; 0.230]	No	-0.639	[-0.220; 0.223]	No	-0.321	[-0.226; 0.199]	No
FB	-0.391	[-0.258; 0.214]	No	-0.756	[-0.226; 0.211]	No	-0.401	[-0.211; 0.211]	No
FD	-0.311	[-0.229; 0.224]	No	-0.602	[-0.215; 0.212]	No	-0.357	[-0.224; 0.217]	No
RQ	-0.569	[-0.232; 0.223]	No	-0.847	[-0.216; 0.223]	No	-0.336	[-0.209; 0.231]	No
SS	-0.562	[-0.233; 0.214]	No	-0.648	[-0.203; 0.214]	No	-0.137	[-0.218; 0.206]	Yes
SO	0.013	[-0.254; 0.222]	Yes	-0.509	[-0.224; 0.214]	No	-0.509	[-0.234; 0.220]	No
WT	-0.401	[-0.240; 0.227]	No	-0.589	[-0.212; 0.210]	No	-0.181	[-0.200; 0.221]	Yes

Notes: D = 0: difference in the composite's mean value (=0); CI: confidence interval; EMV: equal Mean values.

Table 3C
Equal variance assessment.

	Low-end vs. mid-end			Low-end vs. high end			Mid-end vs. High-end		
	R = 0	95% CI	EV?	R = 0	95% CI	EV?	R = 0	95% CI	EV?
AI	0.562	[-0.479; 0.450]	No	0.877	[-0.475; 0.464]	No	0.303	[-0.383; 0.386]	Yes
AB	0.503	[-0.493; 0.462]	No	0.625	[-0.511; 0.473]	No	0.123	[-0.448; 0.418]	Yes
CI	0.378	[-0.370; 0.351]	No	0.923	[-0.417; 0.388]	No	0.549	[-0.339; 0.300]	No
CS	0.666	[-0.537; 0.498]	No	0.776	[-0.529; 0.494]	No	0.113	[-0.529; 0.501]	Yes
EE	0.663	[-0.467; 0.458]	No	0.666	[-0.457; 0.431]	No	0.007	[-0.436; 0.405]	Yes
FB	0.235	[-0.314; 0.336]	Yes	0.586	[-0.352; 0.320]	No	0.354	[-0.390; 0.345]	No
FD	0.687	[-0.469; 0.402]	No	0.827	[-0.451; 0.429]	No	0.132	[-0.401; 0.397]	Yes
RQ	0.597	[-0.465; 0.381]	No	1.016	[-0.446; 0.391]	No	0.412	[-0.351; 0.348]	No
SS	0.623	[-0.353; 0.312]	No	0.335	[-0.323; 0.304]	No	-0.293	[-0.338; 0.309]	Yes
SO	-0.103	[-0.291; 0.285]	Yes	0.397	[-0.319; 0.280]	No	0.506	[-0.333; 0.334]	No
WT	0.278	[-0.429; 0.447]	Yes	0.641	[-0.465; 0.442]	No	0.363	[-0.410; 0.385]	Yes

Notes: R = 0: logarithm of the composite's variances ratio (R = 0); CI: confidence interval; EV: equal variances.

important determinants in respect of each accommodation establishment segment. The service quality attributes that were important for customer satisfaction differed across the establishments' grading. Our study found that the star rating had a moderating effect on the relationship between the service quality and the customer satisfaction. Although the service quality attributes that researchers use vary between studies, empirical evidence suggests that guest opinions about the service quality and their customer satisfaction differ across hotels' grading category (Francesco and Roberta, 2019, Martin-Fuentes, 2016; Rajaguru and Hassani, 2018; Rhee and Yang, 2015). The accommodation infrastructure and employee expertise were important determinants of customer satisfaction in respect of low-end establishments. Although guests of one- and two-star establishments generally have a low service expectation and are aware that such accommodation may not have enough resources to improve their service, they nevertheless expect decent accommodation infrastructure and a certain level of employee expertise. The room quality and safety and security were important determinants of customer satisfaction in respect of mid-range establishments. Previous studies also found that guests' opinions of these service quality attributes differed across accommodation establishments' grading categories (Nasution and Mavondo, 2008; Qu et al., 2000).

In four- and five-star accommodation, the significance of customer to customer interaction in respect of guest satisfaction emphasizes the instrumental role that customers play in high-end establishments' service delivery process. Service-oriented sectors recognize the influence that customers' presence and participation have on their fellow customers' service experience well. In many servicescapes, customer to customer interaction is a common phenomenon (Martin, 1996) and a key element of customer experience management (Kandampully et al.,

2018). Consequently, customer to customer interaction has been found to be a significant predictor of customer satisfaction across several service settings (Huang and Hsu, 2010; Kim and Choi, 2016; Wu, 2007). Waiting time is another important determinant of guest satisfaction with high-end establishments. The literature recognizes that reducing waiting time improves customer satisfaction, a relationship that has been validated empirically in several studies carried out across various service settings (De Vries et al., 2018; Houston et al., 1998; Fullerton and Taylor, 2015; Lin et al., 2015).

6. Implications

The IPMA results provide valuable information for accommodation managers of each establishment category and they can use this to improve their guest satisfaction. Research indicates that an increase in peer-to-peer accommodation networks will affect accommodation providers of low-end establishments most, due to these establishments' similar room prices (Guttentag, 2015; Zervas et al., 2017). Accommodation establishments belonging to the low-end category underperformed in the two most important service quality attributes that determine satisfaction: the employee expertise and the accommodation infrastructure. Consequently, to be more competitive, low-end establishments need to focus on improving their service quality in these two areas. Training is one of the most important ways of improving hotel employees' expertise (Cornford and Athanasou, 1995; Jacobs, 2019; Jacobs and Jaseem Bu-Rahmah, 2012) and its benefits are well documented in the literature (Dhar, 2015).

Low-end establishment should therefore have proper employee training and development programs. Structured, on-the-job training can be a valuable strategy to improve employees' expertise if such

Table 4
Results of the path coefficients.

Path	Pooled sample		Low-end		Mid-end		High-end	
	β	BC-CI (95%)	β	BC-CI (95%)	β	BC-CI (95%)	β	BC-CI (95%)
AI -> CS	0.16*	[0.07; 0.25]	0.25*	[0.06; 0.46]	0.13	[-0.07; 0.38]	0.15	[-0.00; 0.29]
AB -> CS	0.05	[-0.07; 0.14]	-0.01	[-0.18; 0.16]	-0.17	[-0.39; 0.04]	0.14	[-0.05; 0.35]
CI -> CS	0.07	[-0.02; 0.16]	0.07	[-0.08; 0.22]	0.01	[-0.18; 0.21]	0.15*	[0.01; 0.30]
EE -> CS	0.16*	[0.04; 0.25]	0.24*	[0.04; 0.45]	0.16	[-0.04; 0.35]	-0.04	[-0.24; 0.17]
FB -> CS	0.07	[0.00; 0.13]	0.09	[-0.04; 0.22]	0.01	[-0.14; 0.18]	0.14	[-0.02; 0.31]
FD -> CS	-0.04	[-0.13; 0.04]	-0.14	[-0.29; 0.02]	-0.11	[-0.30; 0.04]	0.08	[-0.09; 0.26]
RQ -> CS	0.16*	[0.07; 0.25]	0.18	[-0.03; 0.37]	0.36*	[0.16; 0.55]	0.00	[-0.15; 0.14]
SS -> CS	0.10*	[0.04; 0.17]	0.09	[-0.02; 0.17]	0.18*	[0.02; 0.31]	0.08	[-0.08; 0.23]
SO -> CS	0.05	[-0.04; 0.14]	-0.03	[-0.16; 0.11]	0.18	[-0.03; 0.39]	-0.06	[-0.20; 0.08]
WT -> CS	0.22*	[0.14; 0.30]	0.23	[0.07; 0.39]	0.17	[-0.06; 0.38]	0.29*	[0.11; 0.46]
Model assessment								
R ²	0.57		0.68		0.43		0.53	

* p < 0.05.

Table 5
PLSpredict assessment of manifest variables.

Item	Pooled sample		Low-end			Mid-end			High-end			
	PLS-SEM		LM	PLS-SEM		LM	PLS-SEM		LM	PLS-SEM		LM
	RMSE	Q ² _{predict}	RMSE	RMSE	Q ² _{predict}	RMSE	RMSE	Q ² _{predict}	RMSE	RMSE	Q ² _{predict}	RMSE
s1	0.776	0.403	0.78	0.949	0.357	1.023	0.759	0.302	0.87	0.729	0.258	0.839
s2	0.593	0.455	0.601	0.69	0.513	0.834	0.662	0.155	0.819	0.507	0.423	0.551
s3	0.512	0.503	0.518	0.555	0.607	0.632	0.505	0.291	0.595	0.518	0.327	0.556

Table 6
MGA results.

Path	Low-range vs. mid-range Path coeff. difference	Low-range vs. high-range Path coeff. difference	Mid-range vs. high-range Path coeff. difference
AI -> CS	0.123	0.104	0.019
AB -> CS	0.160	0.151	0.311
CI -> CS	0.063	0.080	0.143
EE -> CS	0.087	0.280	0.193*
FB -> CS	0.081	0.044	0.125
FD -> CS	0.029	0.220	0.191
RQ -> CS	0.184	0.179*	0.363*
SS -> CS	0.096	0.004	0.100
SO -> CS	0.200	0.033	0.233*
WT -> CS	0.065	0.062	0.127

* $p < 0.05$.

establishments do not have the necessary resources to invest in other training (Jacobs, 2019; Jacobs and Jaseem Bu-Rahmah, 2012). This type of training has several advantages and various organizations have adopted it to improve their employee expertise (Ahadi and Jacobs, 2017; Jacobs, 2019; Swedberg et al., 2015). Not only is structured, on-the-job training less costly than other forms of training programs, but it can also be provided as and when the need arises, as it doesn't require many resources (Jacobs, 2019; Jacobs and Jaseem Bu-Rahmah, 2012). To ensure that accommodation establishments derive the full benefits from on-the-job training, they should identify appropriate mentors with the required interpersonal and leadership qualities (Chang and Busser, 2017). However low-end establishments can improve their customer satisfaction by following a costlier strategy: improving the accommodation infrastructure's quality when it first under-performs. Nevertheless, we recognize that it might not be possible to improve the

infrastructure drastically in the short term, given the substantial investment this would require. On the other hand, focusing on less resource-intensive infrastructural improvements, such as those related to cleanliness and attractiveness, could improve the service quality and guest satisfaction.

Mid-range accommodation establishments should improve their safety and security aspects and room quality to enhance their guest satisfaction. However, since such establishments underperformed with regard to the safety aspects, this should be a priority area for intervention. These establishments should have clear fire safety procedures. The fire extinguishers should be in a good condition, perfectly visible, and accessible to guests. The general distance from any emergency evacuation point to the closest fire extinguisher should follow the norm (Sierra et al., 2012). These establishments should also have well trained staff members to implement a fully developed emergency plan (Enz, 2009). Managers should also ensure that rooms' security features include, for example, appropriate door locks and a safe for guests' valuables. A hotel's safety features are usually also a source of competitive advantage (Chan and Lam, 2013; Poon and Lock-Teng Low, 2005; Sierra et al., 2012). It is therefore also important that such establishments' safety and security aspects are brought to the guests' attention and integrated into their overall marketing strategy.

Finally, the findings show that waiting time and customer interaction are the significant determinants of the guest satisfaction with high-end accommodation establishments. Customers have very high service expectations from four-star and five-star accommodations compared to the lower range ones (Lai and Hitchcock, 2016). Consequently, although these service quality dimensions' performance scores were above the industry mean score, high-end establishments can gain benefits in respect of guest satisfaction by improving their waiting time and customer interaction. They can improve their customer to customer interaction by providing appropriate forums, such as social gatherings,

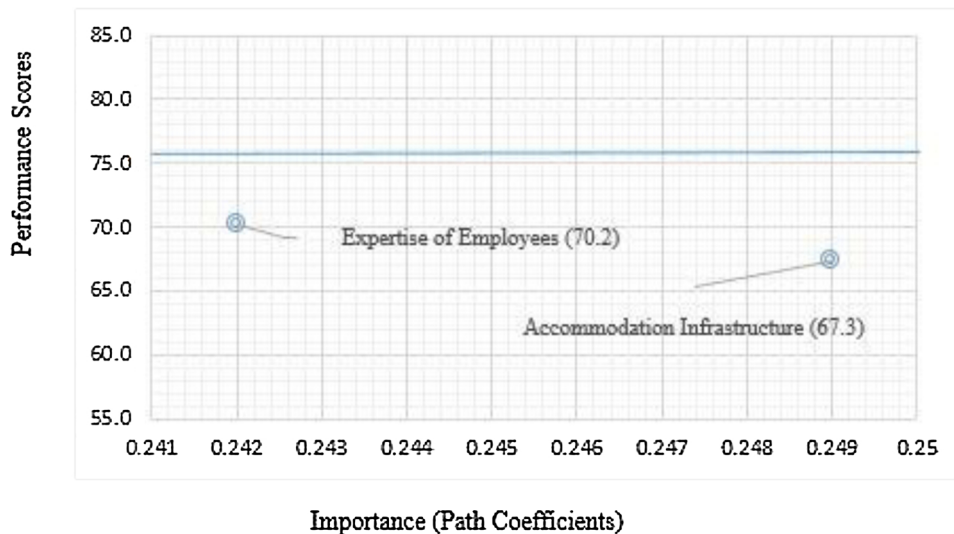


Fig. 2. IPMA of low-end establishments (one-star and two-star).

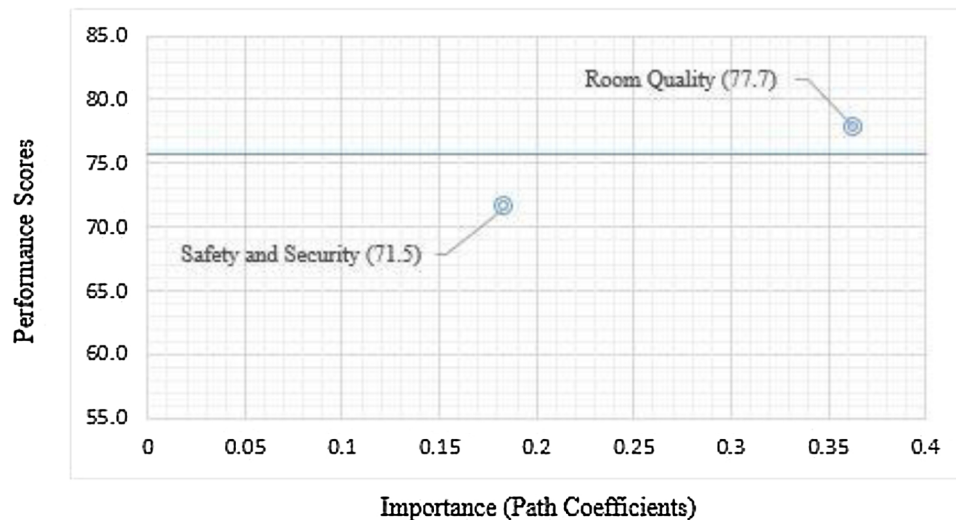


Fig. 3. IPMA of mid-end establishments (three-star).

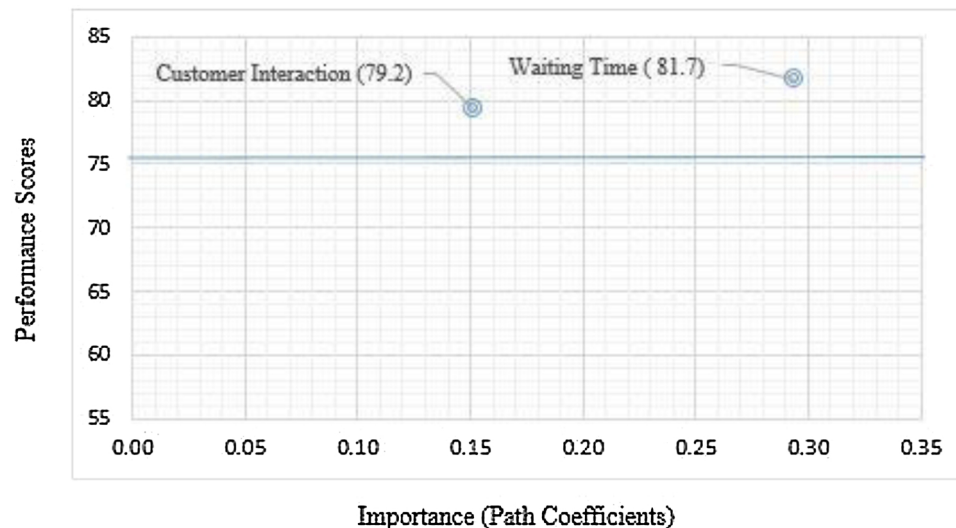


Fig. 4. IPMA of high-end establishments (four- and five-star).

where customers can interact with one another. At a more strategic level, high-end establishments should encourage and emphasize on customer interaction by encouraging guest-to-guest encounters as part of the overall guests' experience (Huang and Hsu, 2010). To reduce waiting time, high-end accommodations can set their default capacity to peak demand (Dickson et al., 2005), while at the same time make use of self-service technologies (Kokkinou and Cranage, 2013).

7. Conclusion

This study analyzes the relationships between service quality and customer satisfaction across South African accommodation establishments with different grading categories. The research provides valuable insights into the star rating's moderating effects on the relationships between the two mentioned constructs. The MGA approach that we adopted in this study allowed us to identify heterogeneous observations of accommodation establishments whose star grading differs and with different population. The results indicate that the service quality attributes that influence customer satisfaction significantly differ between establishments with different star ratings.

To complement the MGA, the study makes use of an IPMA by extending PLS-SEM beyond its traditional use. In addition to its methodological robustness, an IPMA that uses PLS-SEM is useful for

generating additional findings and conclusions by identifying the most important areas for specific actions (Ringle and Sarstedt, 2016). An IPMA allows group results to be compared and the development of specific policies for each group (Rigdon et al., 2010, 2011). Accordingly, we demonstrate that it may be misleading to design interventions to improve guest satisfaction without considering accommodation establishments' grading category. A targeted approach based on an establishment's star rating is required to improve guest satisfaction. This conclusion could not have been reached without the MGA-IPMA approach.

7.1. Limitation and direction for future research

Although the study findings shed light on various important issues with respect to the service quality and customer satisfaction in accommodations whose star grading differs, researchers should interpret these findings in the light of its limitations. First, the study data are restricted to guests staying in accommodation establishments in South Africa. Evidence suggests that a country's geographic location, its security, environmental conditions, lifestyle, language barrier, and cost of living influence travelers' expectations of a hotel (Banerjee and Chua, 2016; Chen, 2001; Francesco and Roberta, 2019). The findings may therefore have limited external generalizability, requiring researchers

to conduct similar studies in other countries to validate our conclusions. Second, we collected data at one point in time, whereas research suggests that consumer perceptions of hotel attributes change over time (Jang et al., 2018). Future studies should therefore capture longitudinal data on guests' perceptions of their accommodation's service quality and satisfaction, as this would improve such accommodation establishments' competitiveness. Finally, this study only considered the relationship between service quality and customer satisfaction. Other service evaluation constructs, such as the perceived value, image, cultural contact, service experience, and the type of service have also been found to be related to service quality and customer satisfaction (Deng et al., 2013; Jin et al., 2019; Kim et al., 2019; Li and Liu, 2019; Nunkoo et al., 2017; Zhang et al., 2019). Consequently, future studies should

consider integrating these constructs to improve the structural models' explanatory power.

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3. Robin Nunkoo and Viraiyan Teeroovengadam share a co-first authorship in this paper.

Appendix A. Sample profile of the respondents

Variables	Frequency	Percentage
Gender (N = 472)		
Male	268	56.8
Female	204	43.2
Marital status (N = 472)		
Single	199	42.2
Married	231	48.9
Divorced	27	5.7
Widowed	15	3.2
Level of education (N = 472)		
Less than high school	15	3.2
High school	57	12.1
Apprenticeship/trade certificate	22	4.7
College	140	29.7
University	238	50.4
Nationality (N = 468)		
South African	287	60.8
Other Africa	76	16.1
European	46	9.7
Asian	32	6.8
American	27	5.7
Purpose of visit (N = 472)		
Business	240	50.8
Visiting friends and relatives	66	14.0
Holidays	105	22.2
Others	61	12.9
Type of accommodation stayed (N = 472)		
One-star rating	56	11.9
Two-star rating	92	19.5
Three-star rating	138	29.2
Four-star rating	141	29.9
Five-star rating	45	9.5

Appendix B. Properties of the measurement model for each group

Variables and indicators	FL	CR	AVE	FL	CR	AVE	FL	CR	AVE
	Low-range			Mid-range			High-range		
<i>Accommodation infrastructure (AI)</i>		0.922	0.747		0.93	0.768		0.876	0.638
AI1	0.836			0.913			0.841		
AI2	0.864			0.839			0.771		
AI3	0.897			0.871			0.808		
AI4	0.859			0.88			0.774		
<i>Room quality (RQ)</i>		0.896	0.682		0.9	0.693		0.856	0.598
RQ1	0.802			0.848			0.755		
RQ2	0.834			0.891			0.813		
RQ3	0.83			0.773			0.783		
RQ4	0.838			0.813			0.741		
<i>Front desk (FD)</i>		0.897	0.689		0.844	0.584		0.856	0.599
FD1	0.879			0.846			0.831		
FD2	0.617			0.485			0.664		
FD3	0.887			0.852			0.847		
<i>Food and beverage (FB)</i>		0.934	0.824		0.933	0.822		0.9	0.75
FB1	0.906			0.907			0.874		
FB2	0.915			0.894			0.871		
FB3	0.903			0.919			0.852		

<i>Sociability (SO)</i>		0.912	0.775		0.94	0.838		0.868	0.687
SO1	0.887			0.927			0.868		
SO2	0.903			0.921			0.855		
SO3	0.85			0.899			0.76		
<i>Safety and security (SS)</i>		0.851	0.54		0.784	0.623		0.873	0.58
SS1	0.786			0.754			0.786		
SS2	0.721			0.747			0.695		
SS3	0.806			0.708			0.732		
SS4	0.819			0.695			0.847		
<i>Attitude and behavior of employees (AB)</i>		0.939	0.836		0.946	0.855		0.957	0.881
AB1	0.917			0.942			0.92		
AB2	0.919			0.919			0.951		
AB3	0.908			0.913			0.945		
<i>Employee expertise (EE)</i>		0.945	0.81		0.939	0.794		0.945	0.812
EE1	0.896			0.881			0.901		
EE2	0.92			0.922			0.917		
EE3	0.897			0.863			0.903		
EE4	0.886			0.897			0.883		
<i>Customer interaction (CI)</i>		0.924	0.858		0.897	0.813		0.848	0.737
CI1	0.929			0.935			0.859		
CI2	0.923			0.867			0.858		
<i>Waiting time (WT)</i>		0.948	0.86		0.942	0.844		0.929	0.813
WT1	0.911			0.902			0.861		
WT2	0.949			0.951			0.947		
WT3	0.921			0.902			0.895		
<i>Customer satisfaction (CS)</i>		0.931	0.819		0.926	0.807		0.907	0.765
CS1	0.934			0.912			0.872		
CS2	0.929			0.892			0.904		
CS3	0.85			0.891			0.846		

FL: factor loadings; CR: composite reliability; AVE: average variance extracted.

Appendix C. Discriminant validity assessment using the heterotrait-monotrait ratio

Heterotrait-monotrait ratio for low-range accommodation

	AI	AB	CI	CS	EE	FB	FD	RQ	SS	SO	WT
AI											
AB	0.773										
CI	0.565	0.605									
CS	0.802	0.699	0.569								
EE	0.785	0.822	0.602	0.793							
FB	0.618	0.644	0.493	0.635	0.671						
FD	0.846	0.833	0.554	0.639	0.753	0.556					
RQ	0.835	0.805	0.572	0.813	0.769	0.673	0.764				
SS	0.501	0.367	0.294	0.462	0.355	0.422	0.449	0.596			
SO	0.605	0.594	0.816	0.528	0.599	0.584	0.539	0.593	0.293		
WT	0.741	0.713	0.53	0.775	0.818	0.537	0.658	0.731	0.355	0.479	

Heterotrait-monotrait ratio for low-range accommodation

	AI	AB	CI	CS	EE	FB	FD	RQ	SS	SO	WT
AI											
AB	0.773										
CI	0.565	0.605									
CS	0.802	0.699	0.569								
EE	0.785	0.852	0.602	0.793							
FB	0.618	0.644	0.493	0.635	0.671						
FD	0.866	0.833	0.554	0.639	0.753	0.556					
RQ	0.895	0.805	0.572	0.813	0.769	0.673	0.764				
SS	0.501	0.367	0.294	0.462	0.355	0.422	0.449	0.596			
SO	0.605	0.594	0.816	0.528	0.599	0.584	0.539	0.593	0.293		
WT	0.741	0.713	0.53	0.775	0.818	0.537	0.658	0.731	0.355	0.479	

Heterotrait-monotrait ratio for high-range accommodation

	AI	AB	CI	CS	EE	FB	FD	RQ	SS	SO	WT
AI											
AB	0.504										
CI	0.504	0.465									
CS	0.585	0.662	0.568								
EE	0.633	0.812	0.531	0.628							
FB	0.527	0.657	0.449	0.64	0.654						
FD	0.65	0.835	0.459	0.678	0.757	0.676					
RQ	0.621	0.575	0.491	0.54	0.589	0.612	0.813				
SS	0.577	0.523	0.433	0.571	0.516	0.689	0.607	0.58			
SO	0.424	0.364	0.71	0.328	0.447	0.389	0.491	0.411	0.372		
WT	0.518	0.759	0.507	0.727	0.762	0.625	0.744	0.531	0.548	0.325	

References

- Abrate, G., Capriello, A., Fraquelli, G., 2011. When quality signals talk: evidence from the Turin hotel industry. *Tour. Manag.* 32 (4), 912–921.
- Ahadi, S., Jacobs, R.L., 2017. A review of the literature on structured on-the-job training and directions for future research. *Hum. Resour. Dev. Rev.* 16 (4), 323–349.
- Akbaba, A., 2006. Measuring service quality in the hotel industry: a study in a business hotel in Turkey. *Int. J. Hosp. Manag.* 25 (2), 170–192.
- Alhelalat, J.A., Ma'moun, A.H., Twaissi, N.M., 2017. The impact of personal and functional aspects of restaurant employee service behaviour on customer satisfaction. *Int. J. Hosp. Manag.* 66, 46–53.
- Ali, F., Amin, M., Ryu, K., 2016. The role of physical environment, price perceptions, and consumption emotions in developing customer satisfaction in Chinese resort hotels. *J. Qual. Assur. Hosp. Tour.* 17 (1), 45–70.
- Ali, F., Hussain, K., Konar, R., Jeon, H.M., 2017. The effect of technical and functional quality on guests' perceived hotel service quality and satisfaction: a SEM-PLS analysis. *J. Qual. Assur. Hosp. Tour.* 18 (3), 354–378.
- Ali, F., Rasoolimanesh, S.M., Sarstedt, M., Ringle, C.M., Ryu, K., 2018. An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research. *Int. J. Contemp. Hosp. Manag.* 30 (1), 514–538.
- Ali, M., Raza, S.A., 2017. Service quality perception and customer satisfaction in Islamic banks of Pakistan: the modified SERVQUAL model. *Total. Qual. Manag. Bus. Excell.* 28 (5–6), 559–577.
- Alnawas, I., Hemsley-Brown, J., 2019. Examining the key dimensions of customer experience quality in the hotel industry. *J. Hosp. Mark. Manag.* 1–29.
- Aubert-Gamet, V., 1997. Twisting servicescapes: diversion of the physical environment in a re-appropriation process. *Int. J. Serv. Ind. Manag.* 8 (1), 26–41.
- Azzopardi, E., Nash, R., 2013. A critical evaluation of importance–performance analysis. *Tour. Manag.* 35, 222–233.
- Babu, D.E., Kaur, A., Rajendran, C., 2018. Sustainability practices in tourism supply chain: importance performance analysis. *Benchmarking* 25 (4), 1148–1170.
- Bagozzi, R.P., Yi, Y., 1988. On the evaluation of structural equation models. *J. Acad. Mark. Sci.* 16 (1), 74–94.
- Baldacchino, G., 1995. Total quality management in a luxury hotel: a critique of practise. *Int. J. Hosp. Manag.* 14 (1), 67–78.
- Banerjee, S., Chua, A.Y., 2016. In search of patterns among travellers' hotel ratings in TripAdvisor. *Tour. Manag.* 53, 125–131.
- Benitez, J.M., Martín, J.C., Román, C., 2007. Using fuzzy number for measuring quality of service in the hotel industry. *Tour. Manag.* 28 (2), 544–555.
- Bharadwaja, S., Lee, L., Madera, J.M., 2018. Customer evaluations of service-oriented organizational citizenship behaviors: agentic and communal differences. *Int. J. Hosp. Manag.* 70, 120–129.
- Bihanta, H., Jayashree, S., Rezaei, S., Okumus, F., Rahimi, R., 2017. Dual pillars of hotel restaurant food quality satisfaction and brand loyalty. *Br. Food J.* 119 (12), 2597–2609.
- Bitner, M.J., 1992. Servicescapes: the impact of physical surroundings on customers and employees. *J. Mark.* 56 (2), 57–71.
- Blomberg-Nygard, A., Anderson, C.K., 2016. United Nations world tourism organization study on online guest reviews and hotel classification systems: an integrated approach. *Serv. Sci.* 8 (2), 139–151.
- Bonn, M.A., Joseph-Mathews, S.M., Dai, M., Hayes, S., Cave, J., 2007. Heritage/cultural attraction atmospherics: creating the right environment for the heritage/cultural visitor. *J. Travel. Res.* 45 (3), 345–354.
- Brady, M.K., Cronin, J.J., 2001. Some new thoughts on conceptualising perceived service quality: a hierarchical approach. *J. Mark.* 65 (3), 34–49.
- Brady, M.K., Robertson, C.J., Cronin, J.J., 2001. Managing behavioural intentions in diverse cultural environments: an investigation of service quality, service value, and satisfaction for American and Ecuadorian fast-food customers. *J. Int. Manag.* 7 (2), 129–149.
- Bulchand-Gidumal, J., Melián-González, S., González López-Valcárcel, B., 2011. Improving hotel ratings by offering free Wi-Fi. *J. Hosp. Tour. Technol.* 2 (3), 235–245.
- Caro, L.M., García, J.A.M., 2008. Developing a multi-dimensional and hierarchical service quality model for the travel agency industry. *Tour. Manag.* 29 (4), 706–720.
- Chan, E.S., Lam, D., 2013. Hotel safety and security systems: bridging the gap between managers and guests. *Int. J. Hosp. Manag.* 32, 202–216.
- Chang, W., Busser, J.A., 2017. Hospitality employees promotional attitude: findings from graduates of a twelve-month management training program. *Int. J. Hosp. Manag.* 60, 48–57.
- Chen, J.S., 2001. A case study of Korean outbound travelers' destination images by using correspondence analysis. *Tour. Manag.* 22 (4), 345–350.
- Chen, W.J., 2016. The model of service-oriented organizational citizenship behavior among international tourist hotels. *J. Hosp. Tour. Manag.* 29, 24–32.
- Choi, T.Y., Chu, R., 2001. Determinants of hotel guests' satisfaction and repeat patronage in the Hong Kong hotel industry. *Int. J. Hosp. Manag.* 20 (3), 277–297.
- Chu, R.K., Choi, T., 2000. An importance-performance analysis of hotel selection factors in the Hong Kong hotel industry: a comparison of business and leisure travellers. *Tour. Manag.* 21 (4), 363–377.
- Chu, Y., Tang, L., Luo, Y., 2016. Two decades of research on luxury hotels: a review and research Agenda. *J. Qual. Assur. Hosp. Tour.* 17 (2), 151–162.
- Cornford, I., Athanasou, J., 1995. Developing expertise through training. *Ind. Commer. Train.* 27 (2), 10–18.
- Cronin, J.J., Brady, M.K., Hult, G.T.M., 2000. Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *J. Retail.* 76 (2), 193–218.
- Crosby, L.A., Evans, K.R., Cowles, D., 1990. Relationship quality in services selling: an interpersonal influence perspective. *J. Mark.* 54 (3), 68–81.
- Czepiel, J.A., Solomon, M.R., Suprenant, C.E., 1985. *The Service Encounter*. Lexington Books, Lexington, MA.
- Dabestani, R., Shahin, A., Saljoughian, M., Shirouyehzad, H., 2016. Importance-performance analysis of service quality dimensions for the customer groups segmented by DEA: the case of four star hotels. *Int. J. Qual. Reliab. Manag.* 33 (2), 160–177.
- Dabholkar, P.A., Thorpe, D.I., Rentz, J.O., 1996. A measure of service quality for retail stores: scale development and validation. *J. Acad. Mark. Sci.* 24 (1), 3–16.
- Davis, M.M., Vollmann, T.E., 1990. A framework for relating waiting time and customer satisfaction in a service operation. *J. Serv. Mark.* 4 (1), 61–69.
- De Vries, J., Roy, D., De Koster, R., 2018. Worth the wait? How restaurant waiting time influences customer behavior and revenue. *J. Oper. Manag.* 63, 59–78.
- Deng, W.J., Yeh, M.L., Sung, M.L., 2013. A customer satisfaction index model for international tourist accommodations: integrating consumption emotions into the American Customer Satisfaction Index. *Int. J. Hosp. Manag.* 35, 133–140.
- Dhar, R.L., 2015. Service quality and the training of employees: the mediating role of organizational commitment. *Tour. Manag.* 46, 419–430.
- Dickson, D., Ford, R.C., Laval, B., 2005. Managing real and virtual waits in hospitality and service organizations. *Cornell Hotel Restaur. Adm. Q.* 46 (1), 52–68.
- Ekinci, Y., Dawes, P.L., 2009. Consumer perceptions of frontline service employee personality traits, interaction quality, and consumer satisfaction. *Serv. Ind. J.* 29 (4), 503–521.
- Enz, C.A., 2009. The physical safety and security features of US hotels. *Cornell Hosp. Q.* 50 (4), 553–560.
- Enz, C.A., Taylor, M.S., 2002. The safety and security of US hotels a post-September-11 report. *Cornell Hotel Restaur. Adm. Q.* 43 (5), 119–136.
- Faul, F., Erdfelder, E., Buchner, A., Lang, A.-G., 2009. Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149–1160.
- Fornell, C., 1992. A national customer satisfaction barometer: the Swedish experience. *J. Mark.* 56, 6–21.
- Fornell, C., Johnson, M.D., Anderson, E.W., Cha, J., Bryant, B.E., 1996. The American customer satisfaction index: nature, purpose, and findings. *J. Mark.* 60 (4), 7–18.
- Fullerton, G., Taylor, S., 2015. Dissatisfaction and violation: two distinct consequences of the wait experience. *J. Serv. Theory Pract.* 25 (1), 31–50.
- Grönroos, C., 1982. An applied service marketing theory. *Eur. J. Mark.* 16 (7), 30–41.
- Gundersen, M.G., Heide, M., Olsson, U.H., 1996. Hotel guest satisfaction among business travelers: what are the important factors? *Cornell Hotel Restaur. Adm. Q.* 37 (2), 72–81.
- Guttentag, D., 2015. Airbnb: disruptive innovation and the rise of an informal tourism accommodation sector. *Curr. Issues Tour.* 18 (12), 1192–1217.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L., 2006. *Multivariate Data Analysis Vol. 6* Pearson Prentice Hall, Upper Saddle River, NJ.

- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Thiele, K.O., 2017. Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *J. Acad. Mark. Sci.* 45 (5), 616–632.
- Hair, J.F., Risher, J.J., Sarstedt, M., Ringle, C.M., 2019. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* 31 (1), 2–24.
- Hair, J.F., Sarstedt, M., Ringle, C.M., Mena, J.A., 2012. An assessment of the use of partial least squares structural equation modeling in marketing research. *J. Acad. Mark. Sci.* 40 (3), 414–433.
- Han, H., Hyun, S.S., 2017. Impact of hotel-restaurant image and quality of physical-environment, service, and food on satisfaction and intention. *Int. J. Hosp. Manag.* 63, 82–92.
- Hao, J.X., Yu, Y., Law, R., Fong, D.K.C., 2015. A genetic algorithm-based learning approach to understand customer satisfaction with OTA websites. *Tour. Manag.* 48, 231–241.
- Hartline, M.D., Jones, K.C., 1996. Employee performance cues in a hotel service environment: influence on perceived service quality, value, and word-of-mouth intentions. *J. Bus. Res.* 35 (3), 207–215.
- Hartline, M.D., Wooldridge, B.R., Jones, K.C., 2003. Guest perceptions of hotel quality: determining which employee groups count most. *Cornell Hotel Restaur. Adm. Q.* 44 (1), 43–52.
- Henseler, J., Ringle, C.M., Sinkovics, R.R., 2009. The use of partial least squares path modeling in international marketing. *New Challenges to International Marketing*. Emerald Group Publishing Limited, pp. 277–319.
- Henseler, J., Ringle, C.M., Sarstedt, M., 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43 (1), 115–135.
- Hornik, J., 1982. Situational effects on the consumption of time. *J. Mark. Res.* 46 (4), 44–55.
- Houston, M.B., Bettencourt, L.A., Wenger, S., 1998. The relationship between waiting in a service queue and evaluations of service quality: a field theory perspective. *Psychol. Mark.* 15 (8), 735–753.
- Hsieh, L.F., Lin, L.H., Lin, Y.Y., 2008. A service quality measurement architecture for hot spring hotels in Taiwan. *Tour. Manag.* 29 (3), 429–438.
- Huang, J., Hsu, C.H., 2010. The impact of customer-to-customer interaction on cruise experience and vacation satisfaction. *J. Travel. Res.* 49 (1), 79–92.
- Huang, Q., Xie, C., 2017. The effect of interaction between hotel employees and customers on employees' work efficiency and customer satisfaction. *Tour. Tribune* 32 (4), 66–77.
- Huang, W.J., Chen, C.C., Lai, Y.M., 2018. Five-star quality at three-star prices? Opaque booking and hotel service expectations. *J. Hosp. Mark. Manag.* 27 (7), 833–854.
- Iacobucci, D., Ostrom, A., Grayson, K., 1995. Distinguishing service quality and customer satisfaction: the voice of the consumer. *J. Consum. Psychol.* 4 (3), 277–303.
- Jacobs, R.L., 2019. *Work Analysis in the Knowledge Economy: Documenting What People Do in the Workplace for Human Resource Development*. Palgrave Macmillan, Cham.
- Jacobs, R.L., Jaseem Bu-Rahmah, M., 2012. Developing employee expertise through structured on-the-job training (S-OJT): an introduction to this training approach and the KNPC experience. *Ind. Commer. Train.* 44 (2), 75–84.
- Jang, S., Liu, T., Kang, J.H., Yang, H., 2018. Understanding important hotel attributes from the consumer perspective over time. *Australas. Mark. J.* 26 (1), 23–30.
- Jin, D., DiPietro, R.B., Fan, A., 2019. The impact of customer controllability and service recovery type on customer satisfaction and consequent behavior intentions. *J. Hosp. Mark. Manag.* 1–23.
- Johnson, M.D., Gustafsson, A., Andreassen, T.W., Lervik, L., Cha, J., 2001. The evolution and future of national customer satisfaction index models. *J. Econ. Psychol.* 22 (2), 217–245.
- Kandampully, J., Zhang, T., Jaakkola, E., 2018. Customer experience management in hospitality: a literature synthesis, new understanding and research agenda. *Int. J. Contemp. Hosp. Manag.* 30 (1), 21–56.
- Kim, H.S., Choi, B., 2016. The effects of three customer-to-customer interaction quality types on customer experience quality and citizenship behavior in mass service settings. *J. Serv. Mark.* 30 (4), 384–397.
- Kim, M., Cichy, R.F., Zhang, L., Yu, J., 2019. Antecedents of social capital and its impact on satisfaction and Loyalty. *J. Hosp. Mark. Manag.* 28 (2), 263–284.
- Kim, W.G., Cha, Y., 2002. Antecedents and consequences of relationship quality in hotel industry. *Int. J. Hosp. Manag.* 21 (4), 321–338.
- Knutson, B.J., Singh, A.J., Yen, H.H., Bryant, B.E., 2004. Guest satisfaction in the US lodging industry using the ACS model as a service quality scoreboard. *J. Qual. Assur. Hosp. Tour.* 4 (3-4), 97–118.
- Ko, Y.J., Pastore, D.L., 2005. A hierarchical model of service quality for the recreational sport industry. *Sport Market. Q.* 14 (2), 84–97.
- Kokkinou, A., Cranage, D.A., 2013. Using self-service technology to reduce customer waiting times. *Int. J. Hosp. Manag.* 33, 435–445.
- Lai, I.K.W., Hitchcock, M., 2015. Importance-performance analysis in tourism: a framework for researchers. *Tour. Manag.* 48, 242–267.
- Lai, I.K.W., Hitchcock, M., 2016. A comparison of service quality attributes for stand-alone and resort-based luxury hotels in Macau: 3-Dimensional importance-performance analysis. *Tour. Manag.* 55, 139–159.
- Lee, J., Whaley, J.E., 2019. Determinants of dining satisfaction. *J. Hosp. Mark. Manag.* 28 (3), 351–378.
- Lee, W.H., Cheng, C.C., 2018. Less is more: a new insight for measuring service quality of green hotels. *Int. J. Hosp. Manag.* 68, 32–40.
- Lehtinen, U., Lehtinen, J.R., 1985. *Service quality: a study of quality dimensions*. Paper presented at the Second World Marketing Congress, University of Stirling, Scotland, UK.
- Li, Y.Q., Liu, C.H., 2019. Impact of cultural contact on satisfaction and attachment: mediating roles of creative experiences and cultural memories. *J. Hosp. Mark. Manag.* 1–25.
- Lin, Y.T., Xia, K.N., Bei, L.T., 2015. Customer's perceived value of waiting time for service events. *J. Consum. Behav.* 14 (1), 28–40.
- Lockyer, T., 2002. Business guests' accommodation selection: the view from both sides. *Int. J. Contemp. Hosp. Manag.* 14 (6), 294–300.
- Lohmöller, J.-B., 1989. *Latent Variable Path Modeling with Partial Least Squares*. Physica, Heidelberg.
- Lovelock, C.H., 1991. *Service Marketing*. Prentice-Hall, Englewood Cliffs, NJ.
- Martin, C.L., 1996. Consumer-to-consumer relationships: satisfaction with other consumers' public behavior. *J. Consum. Aff.* 30 (1), 146–169.
- Martin-Fuentes, E., 2016. Are guests of the same opinion as the hotel star-rate classification system? *J. Hosp. Tour. Manag.* 29, 126–134.
- Mathe, K., Scott-Halsell, S., Roseman, M., 2016. The role of customer orientation in the relationship between manager communications and customer satisfaction. *J. Hosp. Tour. Res.* 40 (2), 198–209.
- McDougall, G.H.G., Levesque, T.J., 1999. Waiting for service: the effectiveness of recovery strategies. *Int. J. Contemp. Hosp. Manag.* 11 (1), 6–15.
- Mey, L.P., Akbar, A.K., Fie, D.Y.G., 2006. Measuring service quality and customer satisfaction of the hotels in Malaysia: Malaysian, Asian and non-Asian hotel guests. *J. Hosp. Tour. Manag.* 13 (2), 144–160.
- Milne, G.R., McDonald, M.A., 1999. *Sport Marketing: Managing the Exchange Process*. Jones and Bartlett Publishers, Sudbury, MA.
- Min, H., Min, H., 1997. Benchmarking the quality of hotel services: managerial perspectives. *Int. J. Qual. Reliab. Manag.* 14 (6), 582–597.
- Namkung, Y., Jang, S., 2007. Does food quality really matter in restaurants? Its impact on customer satisfaction and behavioral intentions. *J. Hosp. Tour. Res.* 31 (3), 387–409.
- Narangajavana, Y., Hu, B., 2008. The relationship between the hotel rating system, service quality improvement, and hotel performance changes: a canonical analysis of hotels in Thailand. *J. Qual. Assur. Hosp. Tour.* 9 (1), 34–56.
- Nash, R., Thyne, M., Davies, S., 2006. An investigation into customer satisfaction levels in the budget accommodation sector in Scotland: a case study of backpacker tourists and the Scottish Youth Hostels Association. *Tour. Manag.* 27 (3), 525–532.
- Nasution, H.N., Mavondo, F.T., 2008. Customer value in the hotel industry: what managers believe they deliver and what customer experience. *Int. J. Hosp. Manag.* 27 (2), 204–213.
- Nicholls, R., 2010. New directions for customer-to-customer interaction research. *J. Serv. Mark.* 24 (1), 87–97.
- Nicholls, R., 2011. Customer-to-customer interaction (CCI): a cross-cultural perspective. *Int. J. Contemp. Hosp. Manag.* 23 (2), 209–223.
- Nicolau, J.L., Sellers, R., 2010. The quality of quality awards: diminishing information asymmetries in a hotel chain. *J. Bus. Res.* 63 (8), 832–839.
- Nunkoo, R., Ramkissoon, H., 2012. Structural equation modelling and regression analysis in tourism research. *Curr. Issues Tour.* 15 (8), 777–802.
- Nunkoo, R., Ramkissoon, H., Gursoy, D., 2013. Use of structural equation modeling in tourism research past, present, and future. *J. Travel. Res.* 52 (6), 759–771.
- Nunkoo, R., Teeroovengadam, V., Thomas, P., Leonard, L., 2017. Integrating service quality as a second-order factor in a customer satisfaction and loyalty model. *Int. J. Contemp. Hosp. Manag.* 29 (2), 2978–3005.
- Oh, H., 1999. Service quality, customer satisfaction, and customer value: a holistic perspective. *Int. J. Hosp. Manag.* 18 (1), 67–82.
- Oh, H., Kim, K., 2017. Customer satisfaction, service quality, and customer value: years 2000-2015. *Int. J. Contemp. Hosp. Manag.* 29 (1), 2–29.
- Oliver, R.L., 1980. A cognitive model of the antecedents and consequences of satisfaction decisions. *J. Mark. Res.* 17, 460–469.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L., 1985. A conceptual model of service quality and its implications for future research. *J. Mark.* 49, 41–50.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L., 1988a. SERVQUAL: A multiple-item scale for measuring consumer perception. *J. Retail.* 64 (1), 12.
- Parasuraman, A., Zeithaml, V.A., Berry, L.L., 1988b. SERVQUAL: A multi-item scale for measuring consumer perceptions of service quality. *J. Retail.* 64 (Spring), 13–40.
- Patiar, A., Ma, E., Kensbock, S., Cox, R., 2017. Hospitality management students' expectation and perception of a virtual field trip web site: an Australian case study using importance-performance analysis. *J. Hosp. Tour. Educ.* 29 (1), 1–12.
- Poon, W.C., Lock-Teng Low, K., 2005. Are travellers satisfied with Malaysian hotels? *Int. J. Contemp. Hosp. Manag.* 17 (3), 217–227.
- Prayag, G., Hassibi, S., Nunkoo, R., 2019. A systematic review of consumer satisfaction studies in hospitality journals: conceptual development, research approaches and future prospects. *J. Hosp. Mark. Manag.* 28 (1), 51–80.
- Pugh, S.D., Dietz, J., Wiley, J.W., Brooks, S.M., 2002. Driving service effectiveness through employee-customer linkages. *Acad. Manag. Exec.* 16 (4), 73–84.
- Qu, H., Ryan, B., Chu, R., 2000. The importance of hotel attributes in contributing to travelers' satisfaction in the Hong Kong hotel industry. *J. Qual. Assur. Hosp. Tour.* 1 (3), 65–83.
- Radojevic, T., Stanic, N., Stanic, N., 2015. Ensuring positive feedback: factors that influence customer satisfaction in the contemporary hospitality industry. *Tour. Manag.* 51, 13–21.
- Rahimi, R., Kozak, M., 2017. Impact of customer relationship management on customer satisfaction: the case of a budget hotel chain. *J. Travel Tour. Mark.* 34 (1), 40–51.
- Rajaguru, R., Hassanli, N., 2018. The role of trip purpose and hotel star rating on guests' satisfaction and WOM. *Int. J. Contemp. Hosp. Manag.* 30 (5), 2268–2286.
- Ramanathan, U., Ramanathan, R., 2011. Guests' perceptions on factors influencing customer loyalty: an analysis for UK hotels. *Int. J. Contemp. Hosp. Manag.* 23 (1), 7–25.
- Rauch, D.A., Collins, M.D., Nale, R.D., Barr, P.B., 2015. Measuring service quality in mid-scale hotels. *Int. J. Contemp. Hosp. Manag.* 27 (1), 87–106.
- Ren, L., Zhang, H.Q., Ye, B.H., 2015. Understanding customer satisfaction with budget

- hotels through online comments: evidence from home inns in China. *J. Qual. Assur. Hosp. Tour.* 16 (1), 45–62.
- Rhee, H.T., Yang, S.B., 2015. Does hotel attribute importance differ by hotel? Focusing on hotel star-classifications and customers' overall ratings. *Comput. Human Behav.* 50, 576–587.
- Richter, N.F., Cepeda, G., Roldán, J.L., Ringle, C.M., 2015. European management research using partial least squares structural equation modeling (PLS-SEM). *Eur. Manag. J.* 33 (1), 1–3.
- Rigdon, E.E., 2012. Rethinking partial least squares path modeling: in praise of simple methods. *Long Range Plann.* 45 (5–6), 341–358.
- Rigdon, E.E., Sarstedt, M., Ringle, C.M., 2017. On comparing results from CB-SEM and PLS-SEM. Five perspectives and five recommendations. *Mark. ZFP* 39 (3), 4–16.
- Rigdon, E.E., Ringle, C.M., Sarstedt, M., 2010. Structural modeling of heterogeneous data with partial least squares. *Rev. Market. Res.* 7, 255–296.
- Rigdon, E.E., Ringle, C.M., Sarstedt, M., Gudergan, S.P., 2011. Assessing heterogeneity in customer satisfaction studies: across industry similarities and within industry differences. *Adv. Int. Market.* 22, 169–194.
- Ringle, C.M., Sarstedt, M., 2016. Gain more insight from your PLS-SEM results: the importance-performance map analysis. *Ind. Manag. Data Syst.* 116 (9), 1865–1886.
- Ringle, C.M., Wende, S., Becker, J.-M., 2015. "SmartPLS 3.0," SmartPLS. Bönningstedt. Available at: www.smartpls.de.
- Román, C., Martín, J.C., 2016. Hotel attributes: asymmetries in guest payments and gains—a stated preference approach. *Tour. Manag.* 52, 488–497.
- Ryan, C., Huimin, G., 2007. Perceptions of Chinese hotels. *Cornell Hotel Restaur. Adm. Q.* 48 (4), 380–391.
- Ryu, K., Lee, H.R., Gon Kim, W., 2012. The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioral intentions. *Int. J. Contemp. Hosp. Manag.* 24 (2), 200–223.
- Sarstedt, M., Hair, J.F., Ringle, C.M., Thiele, K.O., Gudergan, S.P., 2016. Estimation issues with PLS and CBSEM: where the Bias Lies!. *J. Bus. Res.* 69 (10), 3998–4010.
- Sarstedt, M., Ringle, C.M., Hair, J.F., 2017. Partial least squares structural equation modeling. In: Homburg, C., Klarmann, M., Vomberg, A. (Eds.), *Handbook of Market Research*. Springer, Cham, pp. 1–40.
- Schall, M., 2003. Best practices in the assessment of hotel-guest attitudes. *Cornell Hotel Restaur. Adm. Q.* 44 (2), 323–343.
- Sharifi, S., 2019. Examining the impacts of positive and negative online consumer reviews on behavioral intentions: role of need for cognitive closure and satisfaction guarantees. *J. Hosp. Mark. Manag.* 28 (4), 397–426.
- Shi, Y., Prentice, C., He, W., 2014. Linking service quality, customer satisfaction and loyalty in casinos, does membership matter? *Int. J. Hosp. Manag.* 40, 81–91.
- Shmueli, G., Koppius, O.R., 2011. Predictive analytics in information systems research. *MIS Q.* 553–572.
- Shmueli, G., Sarstedt, M., Hair, J.F., Cheah, J.H., Ting, H., Vaithilingam, S., Ringle, C.M., 2019. Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *Eur. J. Mark.*
- Sierra, F.J.M., Rubio-Romero, J.C., Gámez, M.C.R., 2012. Status of facilities for fire safety in hotels. *Saf. Sci.* 50 (7), 1490–1494.
- Su, L., Swanson, S.R., Chen, X., 2016a. The effects of perceived service quality on re-purchase intentions and subjective well-being of Chinese tourists: the mediating role of relationship quality. *Tour. Manag.* 52, 82–95.
- Su, L., Swanson, S.R., Chen, X., 2016b. The impact of perceived service fairness and quality on the behavioral intentions of Chinese hotel guests: the mediating role of consumption emotions. *J. Travel Tour. Mark.* 33 (sup1), 88–102.
- Swedberg, L., Michélsen, H., Hammar Chiriac, E., Hylander, I., 2015. On-the-job training makes the difference: healthcare assistants' perceived competence and responsibility in the care of patients with home mechanical ventilation. *Scand. J. Caring Sci.* 29 (2), 369–378.
- Taheri, B., Coelho, F.J., Sousa, C.M., Evanschitzky, H., 2017. Mood regulation, customer participation, and customer value creation in hospitality services. *Int. J. Contemp. Hosp. Manag.* 29 (12), 3063–3081.
- Taylor, S., 1994. Waiting for service: the relationship between delays and the evaluations of service. *J. Mark.* 58 (2), 56–69.
- Torres, E.N., 2014. Deconstructing service quality and customer satisfaction: challenges and directions for future research. *J. Hosp. Mark. Manag.* 23 (6), 652–677.
- Tourism Grading Council of South Africa, 2019. Core Grading Requirements Implemented.** Retrieved, July 2. https://www.tourismgrading.co.za/assets/assets/Final_TGCSA_Grading_Criteria_Booklet.pdf.
- Wilkins, H., Merrilees, B., Herington, C., 2007. Towards an understanding of total service quality in hotels. *Int. J. Hosp. Manag.* 26 (4), 840–853.
- Wold, H.O.A., 1982. Soft modeling: the basic design and some extensions. In: Jöreskog, K.G., Wold, H.O.A. (Eds.), *Systems under Indirect Observations: Part II*, pp. 1–54. Amsterdam: North-Holland.
- Wong, S., Keung, C., 2000. Tourists' perceptions of hotel frontline employees' questionable job-related behaviour. *Tour. Manag.* 21 (2), 121–134.
- Wong Ooi Mei, A., Dean, A.M., White, C.J., 1999. Analysing service quality in the hospitality industry. *Manag. Serv. Q.* 9 (2), 136–143.
- Wu, A., Weber, K., 2005. Convention center facilities, attributes and services: the delegates' perspective. *Asia Pacific J. Tour. Res.* 10 (4), 399–410.
- Wu, C.H.J., 2007. The impact of customer-to-customer interaction and customer homogeneity on customer satisfaction in tourism service—the service encounter perspective. *Tour. Manag.* 28 (6), 1518–1528.
- Wu, H.C., 2014. The effects of customer satisfaction, perceived value, corporate image and service quality on behavioral intentions in gaming establishments. *Asia Pacific J. Mark. Logist.* 26 (4), 540–565.
- Wu, H.C., Ko, Y.J., 2013. Assessment of service quality in the hotel industry. *J. Qual. Assur. Hosp. Tour.* 14 (3), 218–244.
- Yang, C.C., Cheng, L.Y., Lin, C.J., 2015. A typology of customer variability and employee variability in service industries. *Total. Qual. Manag. Bus. Excell.* 26 (7–8), 825–839.
- Zervas, G., Proserpio, D., Byers, J.W., 2017. The rise of the sharing economy: estimating the impact of Airbnb on the hotel industry. *J. Mark. Res.* 54 (5), 687–705.
- Zhang, M., Kim, P.B., Goodsir, W., 2019. Effects of service experience attributes on customer attitudes and behaviours: The case of New Zealand café industry. *J. Hosp. Mark. Manag.* 28 (1), 28–50.