Marko Kukanja / Tanja Planinc

Influence of managers' perceptions of quality on restaurant operational profitability: Evidence from Slovenian SMEs

Abstract

The importance of quality has been broadly recognized in the restaurant industry, because it generates revenues and has a strong impact on customer loyalty. Previous studies focusing on quality and profitability in the restaurant industry have highlighted the importance of guests' perceptions of quality for restaurants' financial success. However, to date, no study has examined the influence of managers' perceptions of quality (the inner-perspective) on restaurant profitability. Managers' perceptions of quality were analysed using a self-reported DINESERV scale, while financial success was assessed based on restaurants' financial statements provided by the national tax authorities after the introduction of the new fiscal law about the use of fiscal cash registers (fiscal devices) in 2016. A sample of 142 valid questionnaires obtained by managers of independently run restaurant SMEs and their official financial reports were analysed. Results show that according to managers' perspectives, only two quality dimensions are important for ensuring overall restaurant quality: (1) empathy and assurance and (2) tangibles. Surprisingly, in terms of determining restaurants' financial success, the results indicate that the aforementioned quality dimensions have no impact on operational profit. The more surprising is the weak statistically-negative correlation between three DINESERV quality indicators (providing accurate bills, providing services in promised time, and devoting extra attention to guests' special requests) and operational profit. This research has raised many questions in need of further investigation. It is suggested that future research focus on the analysis of guest and management quality perception gap and restaurant profitability.

Key words: DINESERV; restaurant quality; service quality management; profitability; Slovenia

Introduction

In the highly competitive restaurant industry, satisfying guests should be the critical objective of all businesses that wish to encourage repeat purchases and prosper. A crucial challenge for all restaurant managers today is how to provide quality offerings and ensure their firms' financial success. There are many industry-specific factors that significantly affect the level of overall service quality and profitability: volatile demand, small and mostly family run restaurant businesses, the vast selection of products offered, the intangibility of services, labour-intensiveness, intense competition, low average net profit percentage of restaurant businesses, long opening hours and seasonal variations in levels of sales, customers' on-going interest in the quality of the product, continuous need for investment, imagined purchase benefit, the importance of controlling the use of raw materials, the importance of manager's skills and personal characteristics for success, the constant need for renewal, and others. Competition in this industry is severe mainly because of the large number of small operators, very low barriers to

Marko Kukanja, PhD, Assistant Professor, University of Primorska, Faculty of tourism studies – Turistica, Portorož, Slovenia; E-mail: marko.kukanja@fts.upr.si

Tanja Planinc, MSc, Senior Lecturer, University of Primorska, Faculty of tourism studies – Turistica, Portorož, Slovenia; E-mail: tanja.planinc@fts.upr.si

TOURISM

Original scientific paper
Marko Kukanja / Tanja Planinc
Vol. 66/ No. 2/ 2018/ 115 - 129
UDC: 338.488.2:640.43(497.4)

115

entry the market, and the price sensitivity of guests. Similar to other service industries, restaurant firms are characterized by high levels of uncertainty and market change (Kim, Li & Brymer, 2016). The industry is experiencing rapid growth, globalisation pressure, competitiveness, and trends. Together, these aspects significantly add to the current complexities and challenges of the industry.

To gain an advantageous edge and financially prosper, the restaurant management literature has consistently emphasized the importance of restaurant firms' strategic quality orientation. The growing recognition of the customer-based approach has suggested that implementing quality as a managerial tool is essential for fostering higher profits (Sedmak, 2011; Kim, Li & Brymer, 2016; Wang, Law, Hung & Guillet, 2014). Among the various definition of service quality proposed, the most widely used defines quality as a gap between customers' expectations and perceptions (Sivakumar, Li & Dong, 2014). Providers should, therefore, meet or exceed customers' expectations in order to deliver high-quality services. In the relevant literature, there are several models and techniques to explore customers' expectations and to assess service quality. One of the most popular measurement tools adjusted to the needs of the restaurant industry is the DINESERV instrument (Stevens, Knutson & Patton, 1995), which has proven to be a reliable measurement tool for the assessment of restaurant quality (Bougoure & Neu, 2010; Keith & Simmers, 2011; Kim, Ng & Kim, 2009, Marković, Raspor & Šegarić, 2010). DINESERV is based on the theoretical concept of the Conceptual Model of service quality (also referred as the Five-Step Model) and its generic five (Reliability, Assurance, Tangibles, Empathy, Responsiveness (RATER)) quality dimensions (Parasuraman, Zeithaml & Berry, 1985).

According to the Model, managers' realistic perceptions of customers' expectations are the very first step in delivering quality services (also referred to as the quality gap). Therefore, to provide high service quality restaurant managers must avoid any discrepancies between theirs and the guests' perceptions of quality. Nevertheless, few researchers (Briggs, Sutherland & Drummond, 2007; Kukanja, 2015; Lau, Akbar & Fie, 2005; Nasution & Mavondo, 2008; Wilkins, Merrilees & Herrington, 2007) have included managers' perceptions of quality in their studies.

Constant measurement of managers' perceptions of quality is also necessary, because guests have an on-going interest in restaurant offerings and this creates pressure for the overall quality control, product development, marketing, and staff management. This will inevitably be reflected in costs and the financial success of restaurants' firms. Therefore, it is imperative to establish a balance between quality and cost as neither too high nor too low quality will bring the best economic results. To maintain long-term operations, restaurant firms must satisfy their guests' expectations of quality, cover all costs and produce interest on the capital invested in the company. Due to the previously presented industry specifics, managing restaurant operations in terms of providing quality offerings and lucrative operations is extremely difficult. Consequently, the majority of restaurant firm operates with an average net profit of just 2% after taxes (Lee, Hallak & Sardeshmukh, 2016) or end in failure (Parsa, van der Rest, Smith, Parsa & Bujisic, 2015). Thus, the need for restaurant managers and business owners to have strong knowledge of quality, operational, marketing, and financial skills is arguably greater than ever before (Assaf, Deery & Jago, 2011). This is also important, as previous studies reported a strong, positive correlation between guests' perceptions of quality and firms' financial performance (Kim, Li & Brymer, 2016).

The restaurant service sector is a vital and integral element of the tourism sector and a significant economic activity (Kukanja, 2015). In 2016, there were 2,516 companies operating in this sector of the economy (3.96% of all companies in Slovenia), employing a total of 8,988 employees (2.08% of all employees). Therefore, it is essential to have more information about restaurants' quality practices

and their financial performance. In the past (before 2016) analysing financial performance in Slovenia was a major challenge, as tax inefficiency in the Slovene restaurant sector was one of the major fiscal problems in the country (Kosi & Bojnec, 2013). This resulted in scarce industry reports and few academic studies (Planinc & Kukanja, 2017). Only in 2016 did the Slovenian government introduce fiscal cash registers. Severe tax control resulted in an immediate increase of reported restaurant revenues by 21.6% (AJPES, 2017). The current study expands the existing body of literature by measuring restaurants' financial success based on official data provided by the national tax authorities. In previous studies (Reynolds & Biel, 2007; Roh & Choi, 2010), financial success was mostly assessed based on managers' subjective feedback and smaller samples of restaurant units, as the financial records of restaurant SMEs often remained inaccessible to scholars.

However, previous studies of restaurant quality and profitability have not analysed managers' perceptions of quality in relation to restaurants' financial success. Based on the literature review, we could not determine the importance of managers' (inner) perceptions of quality for restaurants' financial performance, as no study analysed the correlation between quality and profit. Managers must understand in advance what quality features connote guests' perceptions of high quality, and what levels of performance are needed to gain profit.

To fill this research gap, the current study focuses on five RATER quality attributes that, according to Stevens, Knutson and Patton (1995), form the fundamental part of restaurant quality offerings. We assume that that, based on managers perceptions, all five RATER quality dimensions have a statistically significant influence on restaurants quality and financial performance as they all form inseparable parts of guests' dining experience. The goal of this article is to empirically investigate the correlations between managers' perceptions of quality and restaurants' financial success. We, therefore, pose the following research question (RQ): Which quality dimensions have, according to managers' perceptions of quality, a statistically significant impact on restaurants' operational profitability?

The methodological approach taken in this study is a mixed methodology (Johnson & Onwuegbuzie, 2004), combining a systematic literature review, field research and analysis of secondary (financial) data. The overall structure of the study takes the form of four parts, including this introductory part. Part Two begins by laying out the theoretical dimensions of the research, while Part Three is concerned with methodology, research results and findings. Finally, the conclusion summarises and critiques of the findings.

Theoretical background
Service quality

Service quality is based on a highly subjective perspective of consumers' quality evaluation, which makes service quality a highly subjective and relative phenomenon. This theoretical concept is based on the definition suggested by Parasuraman, Zeithaml and Berry (1985), who defined service quality as the ability of a service to fulfil and exceed guests' quality expectations. In scientific literature, several attempts have been made in order to capture the essential characteristics of service quality. These studies are of great importance because they provide a theoretical basis for various models and quantitative techniques for measuring service quality.

Scholars belonging to the "American school" of quality management (Parasuraman, Berry & Zeithaml, 1993; Parasuraman, Zeithaml & Berry, 1994) have contributed a five-step model of service quality and a tool for measuring service quality called the SERVQUAL instrument. The instrument measures

service quality based on 29 items (also referred to as service quality characteristics or factors) belonging to the five RATER quality dimensions.

Another fundamental contribution to service quality measurement has been proposed by researchers belonging to the "Scandinavian school" of quality management (Grönroos, 1990; Lehtinen & Lehtinen, 1991). These authors (ibid.) have defined the two major aspects (components) of service quality: technical quality (the tangible aspect) and functional quality (how services were provided).

Following the work of Grönroos (1982) and Parasuraman and colleagues (1985), several scholars (Candido & Morris 2000; Kukanja, Gomezelj Omerzel & Kodrič, 2017; Lin, Chan & Tsai, 2009) proposed alternative service quality models. For example, Kukanja, Gomezelj Omerzel and Kodrič (2017) proposed a marketing-oriented (7P) model for quality measurement; Lin, Chan and Tsai (2009) upgraded the traditional Importance Performance Analysis and developed a new model called IPGA; while Saeida Ardakani, Nejatian, Farhangnejad and Nejati (2015) proposed a fuzzy-approach to service quality diagnosis. According to Ali, Hussain, Konar and Jeon (2017) none of these models received significant scientific validation, as the in-depth analyses revealed that they are all primarily based on the Five-step model and RATER quality dimensions identified in the generic SERVQUAL instrument. This view is also supported by Marković, Raspor and Šegarić (2010) and Sharif and Kassim (2012) who state that the predominant quantitative measurement technique in hospitality research remains the generic SERVQUAL instrument and its modifications tailored to meet the specifics of the tourism and hospitality sector, such as LODGSERV, a 26-scale instrument developed to measure the five RATER dimensions within the context of a hotel setting (Knutson, Stevens, Wullaert & Patton, 1990); SERVIMPERF, which combines quality and importance measurement of different quality dimension (Lin, Chan & Tsai, 2009); HOLSERV, with three quality dimensions – employees, tangibles, and reliability (Wong Ooi Mei, Dean & White, 1999); TANGSERV, which focuses solely on the tangible dimension of service quality (Raajpoot, 2002); MSQ, a modified SERVQUAL instrument for measuring Muslim service quality (Eid & Abdelkaber, 2017); GRSERV scale, designed for measuring guests' perceptions of quality in green restaurants (Chen, Cheng & Hsu, 2015) and DINESERV, a version of SERVQUAL instrument specifically re-modified to capture the specifics of service quality in restaurant settings (Stevens, Knutson & Patton, 1995).

DINESERV in restaurant industry studies

The first serious discussions and analyses of restaurant quality using RATER dimensions were introduced in scientific literature during the 1990s. Bojanic and Rosen (1994) first used the SERVQUAL's dimensions to evaluate service quality in restaurant settings. These authors identified the three most significant dimensions that best explained restaurant quality (empathy, reliability, and assurance), while other dimensions proved not to be statistically significant. In 1995, Stevens, Knutson and Patton introduced the DINESERV instrument. The questionnaire includes 29 items captured into five RATER dimensions of the generic SERVQUAL instrument. Reliability was found to be the most important dimension, followed by tangibles, assurance, responsiveness, empathy. Later, Johns, Tyas, Ingold and Hopkinson (1996) employed the RATER dimensions to evaluate the performance of a contract catering service. These authors used 24 items from the SERVQUAL and added 12 specific items related to the quality of food and value for money. Johns et al. did not confirm the same dimensions as those in the SERVQUAL instrument, as other factors related to food and personnel were found to be more important.

In recent years, there has been an increasing amount of literature on service quality. Fu and Parks (2001) analysed the correlation between RATER quality dimensions and restaurant loyalty among

elderly customers at two family-type restaurants. The major findings were that friendly service and individual attention were the most important factors that influenced elderly customers' behavioural intensions. The same methodological approach was later used to assess restaurant quality in different restaurant settings and different geographical areas. For example, Kim, McCahon and Miller (2003) used DINESERV in a service quality study of Korean casual-dining restaurants; Bougoure and Neu (2010) used DINESERV to assess service quality in the Malaysian fast food industry; Marković, Raspor and Šegarić (2010) analysed service quality of Croatian restaurants; Cao and Kim (2015) analysed service quality in differently structured fast food restaurants, while Djekic et al. (2016) used DINESERV to analyse guests' perceptions of service quality in different European cities.

Research results reveal that the results of presented studies are not generalizable as different guest samples in different geographic areas may have different and specific requirements from different restaurant settings, e.g. ambiance (Ryu & Jang, 2007); cleanliness (Chin & Tsai, 2013); food (Kim, Ng & Kim, 2009) and people (Mosavi & Ghaedi, 2012). In terms of analysing the importance of RATER dimensions for overall customer satisfaction and intention to revisit, a broader perspective has been adopted by Kim, Ng and Kim (2009), who confirmed that all five quality dimensions significantly influence guests' satisfaction and revisit intention.

The presented findings may aid in understanding the specificity of the restaurant industry. According to Hansen (2014), the generic RATER dimension has not been fully validated. Author has therefore proposed the development of new instruments that will be adjusted to meal experience and its complexity in dining establishments. Nevertheless, DINESERV has proven to be a reliable measurement tool for assessing restaurant quality. Its major strength is the gap measurement of specific quality indicators as it does aid in understanding which quality elements have contributed to customers' (dis)satisfaction. Despite its diagnostical success, no study to date has investigated managers' perceptions of restaurant quality and its correlation to restaurants' profitability.

Management perceptions of guests' expectations of quality

Studies in the service quality literature have generally attempted to determine the service quality perception level of guests by mainly focusing on guests' evaluations of quality. According to Kukanja (2015), researchers have not considered managers' perceptions of guests' expectations of quality as a prerequisite for delivering high-quality services. This view was also supported by Briggs, Sutherland and Drummond (2007) and Wilkins, Merrilees and Herington (2007) who wrote that managers often do not understand what quality level of services guests really expect. Similarly, Yavas and Rezayat (2003) reported that managers' perceptions of guests' expectations of quality are mainly conditioned by managers' personal and cultural characteristics and hospitality firms' organizational characteristics. The study by Wilkins, Merrilees and Herrington (2007) offers probably the most comprehensive empirical analysis of hospitality managers' perceptions of quality. Research results revealed that managers do not perceive quality as a multidimensional construct and simplify the importance of its dimensions. A broader perspective has been adopted by Dedeoğlu and Demirer (2015), who analysed perceptions of quality of different stakeholders (guests, managers, and employees) in Turkish hotels. Their findings also showed a discrepancy in perceptions of quality as employees and managers perceived service performance to be at a high level, while guests perceived it to be at a low level.

According to Lau, Akbar and Fie (2005) managers must constantly monitor guests' perceptions of quality in order to gain a realistic perception of guests' expectations of quality. Therefore, measurement of quality should be the key component of all hospitality businesses strategies (Martínez-Tur, Tordera, Peiró & Potocnik, 2011). Uran (2003) analysed the internal quality gaps in Slovenian hotel sector. Based on her findings, internal-organizational gaps present a major obstacle for the implementation of a quality-based differentiation strategy in Slovenian hotel industry.

Quality and restaurant profitability

Profitability is most often defined as the ability of an organization to generate profit in a certain period using capital or assets, either from the creditor or the shareholder himself (Coelli, Rao, O'Donnell & Battese, 2005). According to Tarigan and Widjaja (2012), there are several useful indicators for evaluating profitability: revenue, assets, and profit. Profit as a measure of financial performance is defined as all income earned by the company with all expenses incurred to earn the income deducted. Operating profit is the profit earned from a firm's normal (core) business operations.

Therefore, to be able to maintain long-term operations, a company must cover all costs and produce interest on the capital invested in the company. The basic prerequisites of profitable (financially successful) business operations are that the production processes have been organised productively and economically efficiently. With the help of financial reports, the achievement of these objectives must constantly be evaluated, and all possible deviations must be defined and analysed (Coelli, Rao, O'Donnell & Battese, 2005). The goal of analysing operational processes is to improve operational profitability. In practice, improvements in productivity and profitability are usually achieved by reducing operational costs (also referred to as operational inputs). By doing so, it is essential not to reduce the perceived quality of restaurant offerings (the output). A number of studies have confirmed the importance of quality for restaurant profitability (Demydyuk, Shawky, Rest & Adriaanse, 2015; Reynolds & Biel, 2007; Tarigan & Widjaja, 2012). A recent study by Kim, Li and Brymer (2016) revealed that the number of positive online reviews customers make on social media has a significant and immediate impact on restaurants' financial performance. Therefore, in the attempt to reduce operational costs managers' must still achieve service excellence (Wirtz & Zeithaml, 2017). Presented research findings corroborate the idea of Chin and Tsai (2013, p. 1160) who wrote: "To guarantee success of the restaurants, service quality is a key factor". Together, these studies clearly indicate that guests' perceptions of quality have a significant-positive impact on restaurant profitability.

However, such studies remain narrow in focus, dealing only with guests' perceptions of quality. According to the five-step model, management perceptions of guests' quality expectations present the very first step in delivering quality offerings. Therefore, we might assume that a positive correlation also exists between managers' perceptions of quality and restaurant operational profitability.

Methodology
Research process and sample description

This study examined restaurant quality using an adapted version of the SERVQUAL instrument, named DINESERV. The research instrument used in this study comprises 29 quality statements (see Table 1). The level of managers' perceptions was measured on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Although the generic DINESERV instruments measures differences between guests' quality expectations and perceptions in order to determine the service quality gap, in

our study we focused only on managers' perceptions of quality as previously done by Dedeoğlu and Demirer (2015) and Kukanja (2017).

Given the research objective, data were collected from 142 restaurant settings located throughout Slovenia (market characteristics are presented in the introductory part). To test the research question (RQ) posed in the introductory part, we focused only on those facilities that operate with similar and comparable operational variables across units. Our research is therefore predicated on the following preconditions: all restaurants are independently run SMEs with similar technical characteristics (officially classified as restaurants, inns, or snack facilities); no restaurant included in the sample belongs to a franchise chain nor is it managed by a management contract; no restaurant unit operates within a hotel setting; restaurant activity represents the only source of income in restaurant firms' financial statements. Especially the latter presented one of the major challenges as several restaurant firms have diverse business activities, which are then aggregated in a common financial statement. Another issue was the official-national records of business entities, which are not completely in accordance with the current market situation (e.g. firms are officially registered for several businesses; seasonal activities are registered as full-time businesses, non-operational facilities are not automatically deleted from central registries, etc.). To assure that all restaurant units included in the study matched the research criteria, randomly pre-selected businesses (n=860) were thoroughly checked by ten interviewers in a vast field study during the winter and spring of 2017. If the restaurant technically matched the research criteria and the manager agreed to participate in the study, managers were asked to fill in the questionnaire. According to surveyors, some managers refused to participate in the study for a variety of reasons. The final analysis is, therefore, based on 148 independently operated restaurants located throughout the country.

In the next step, restaurant firms' annual financial reports (income statements) which are in public domain in Slovenia, were analysed. In our study, we have specifically focused on the fiscal year 2016. Namely, in 2016 after the implementation of fiscal cash registers the National Financial Administration (FURS) identified an increase of restaurants' operating revenues by more than one fifth in comparison to previous years. According to AJPES (2017), this increase was the result of strict financial supervision. It can, therefore, be assumed that any prior research would not present a clear picture of restaurants' financial performance. For this study, we operationalized firms' operational profit, which captures the objective assessment of operational financial performance (Ivankovič & Planinc, 2011).

Results and discussion

Next, descriptive statistical analysis was used to analyse respondents' demographic characteristics. The majority of respondents were on average of slightly less than 45 years of age, and the majority of the sample was composed of male managers (60.1%). The highest number of managers had completed secondary (vocational) education (70.9%), 26.4% of managers had acquired a high school education, 2% had only finished elementary school, and only 0.7% of managers had obtained a Master's degree. On average, managers had 21 years of experience in the industry. Next, the restaurant ownership was analysed. Results show that almost three quarters of managers (69.1%) owed the restaurant they managed, while only a small proportion (30.9%) was employed as professional experts. In addition to demographic data, the number of staff employed was also analysed. Results show that the majority of restaurants (41.1%) employed from 6 to 10 workers, following by restaurants employing 2 to 5 workers (31.5%), and only four restaurants (2.7%) employed more than 20 workers. On average, restaurants had 20 years of business activity.

The results presented in Table 1 show that all 29 quality indicators were evaluated relatively highly (the average mean value is 6.26). Among the five quality dimensions, the highest-rated dimension was reliability (mean 6.51), with accurate guest bill as its highest-rated indicator (mean value 6.63). The results indicate that the lowest perceptions are related to the dimension of empathy (mean 6.05), with the lowest scores related to the indicator "employees sensitive to guests individual needs and wants" (mean 5.68). The coefficients of variation show how homogeneous managers are in the evaluation of individual quality indicators.

Table 1
Analysis of managers' assessment of quality (descriptive statistics)

Quality indicators	Mean	Coefficient of variation (%)
Tangibles		
I1 - Visually attractive parking areas and building exteriors	5.59	26
I2 - Visually attractive dining area	5.96	20
I3 - Clean, neat and appropriately dressed staff	6.34	14
I4 - Restaurant's decor typical to its image and price range	6.48	11
I5 - Easily readable menu	6.54	12
I6 - Visually attractive menu	6.01	20
I7 - Comfortable dining area	6.16	19
I8 - Clean rest rooms	6.27	16
I9 - Clean dining areas	6.39	14
I10 - Comfortable seats in the dining room	6.10	17
Reliability		
I11 - Service in the promised time	6.45	12
I12 - Quick correction of wrong service	6.47	11
V13 - Dependable and consistent restaurant	6.61	10
I14 - Accurate bill	6.63	9
I15 – Error-free served order (food)	6.42	11
Responsiveness		
I16 - Maintaining speed and quality of service during busy times	5.86	25
I17 - Provision of prompt service	6.32	14
I18 - Extra effort for handling special requests	6.48	12
Assurance		
I19 - Employees can answer questions completely	6.18	17
I20 - Comfortable and confident feeling	6.54	11
I21 - Staff provide information about menu items, their ingredients, and method of preparation	6.17	16
I22 - Feeling safe	6.61	10
I23 - Well-trained, competent and experienced staff	6.28	13
I24 - Restaurant supports the employees	6.29	13
Empathy		
I25 - Employees provide individual attention	5.68	26
I26 - Special feeling	6.01	18
I27 - Anticipation of customers' individual needs and wants	5.91	20
I28 - Sympathetic and reassuring employees	6.33	13
I29 - Customers' best interests at heart	6.31	15

Source: authors' own research.

In the next section of the study, an exploratory factor analysis was performed to assess the factor structure of perceived restaurant quality. With this factor analysis, we have tried to identify which quality dimensions have a statistically significant impact on delivering restaurants quality. The first step in this process was to check whether the answers to the above 29 quality indicators were normally distributed. Because we could not confirm a normal distribution for any of the selected quality indicators of the first set (Kolmogorov-Smirnov test was used), it was necessary to use the Principal Axis Factoring method for the exploratory factor analysis.

Based on the results of the first test, we evaluated the suitability of the information for inclusion in the factor model. Thus, on the basis of the value of the Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy (0.900), and the outcome of the Bartlett Test of Sphericity (χ^2 = 2,807.617; degrees of freedom = 604), we estimated that all included variables are suitable for performing the factor analysis. The majority of factors had satisfactory communalities (> = 0.50), suggesting that the greater part of their variability can be explained by the influence of common factors. Seven quality indicators with too low communalities (I1, I6, I11, I14, I15, I16, I25) were excluded in the next step from the evaluation process of the factor analysis. After a few successive iterations of the factor model evaluation, we finally selected as most appropriate the model with 18 indicators; while three indicators with too low communalities (I13, I17, and I26) had to be removed from further analysis. The suitability of the information for inclusion in the final factor model is also supported by the high value of the KMO indicator (0.908) and the outcome of the Bartlett test (χ^2 = 1,769.452; degrees of freedom = 153). Based on a rotated factor solution, we have decided to include two main factor groups (quality dimensions) in the final model, as it allows a more meaningful interpretation of the model. The final (rotated) factor model with two quality dimensions is presented in Table 2. Factor weights with factor loadings above 0.3 and factors that contain more than three items were retained. Indicators belonging to the quality dimensions empathy and assurance were logically merged into a new common quality dimension (empathy – assurance).

Table 2
Rotated factor solution

Quality indicators	Quality dimensions	
	Empathy and assurance	**Tangibles**
I28	0.831	*-0.153*
I25	0.825	*-0.149*
I27	0.792	*-0.124*
I23	0.730	*0.099*
I26	0.693	*-0.075*
I24	0.689	*0.163*
I22	0.683	*0.172*
I20	0.655	*0.129*
I18	0.593	*0.200*
I17	0.560	*0.154*
I13	0.514	*0.264*
I9	*-0.071*	0.952
I8	*0.030*	0.827
I10	*-0.035*	0.790
I7	*0.037*	0.719
I2	*0.165*	0.607
I3	*0.368*	0.461
Explained variance %	*46.5*	9.95

Note: Extracted factors are marked in italics.
Source: authors' own research.

Based on the rotated matrix of factor weights presented in the table above, it is evident that according to managers' perceptions of quality, only two quality dimensions are important in delivering overall restaurant quality: empathy and assurance (46.5%) and tangibles (9.95%). Based on the presented quality dimensions and the values of their total explained variances, it is evident that according to restaurant managers' beliefs indicators reflecting the quality of staff (empathy and assurance) has by far the greatest importance in assuring overall restaurant quality, followed by the quality of tangibles. Other DINESERV quality dimensions are not statistically significant, according to managers' perception of restaurant quality. As further dissection of the results does not contribute to the improvement of the quality of the research, we have decided to keep the model with two main factors.

To establish which quality dimensions influence restaurant profitability, managers' perceptions of quality identified in Table 2 were correlated to operational profit. The average operational profit was a little over €17,000, the profit margin was 4.51%, and the current ratio was 1.13 per restaurant unit. The correlation between perceptions of quality (presented in Table 2) and firms' operational profit was tested using the Spearman correlation coefficient (ρ). Surprisingly, only one extracted quality indicator identified in Table 2 (I18 - extra effort for handling special requests) had a statistically significant influence on operational profit. Moreover, this correlation proved to be negative. Contrary to evidence presented in previous research (see studies presented in part Quality and restaurant profitability), the results did not confirm a statistically significant-positive correlation between managers' perceptions of quality and operational profitability.

Therefore, to determine if there are any other possible correlations between quality indicators and operational profitability all quality indicators included in the generic DINESERV questionnaire were tested. The most striking observation to emerge from the data comparison was the weak statistically significant-negative correlation between operational profit and three quality indicators: I18 (extra effort for handling special requests); I14 (accurate bill), and I11 (service delivered in the promised time). Quality indicator I18 was the only indicator (extracted factor) that was also included in the final factor model (see Table 2), while I14 and I11 proved to not be statistically significant in delivering overall restaurant quality. All other 26 DINESERV quality indicators proved not to have a statistically significant influence on restaurants' operational profit.

It is difficult to explain these results as they are not in line with previous research, but they might be related to industry specifics, such as high labour insensitivity and the possible ongoing process of tax evasions. Specifically, the industry is characterized by high operational costs and cash payments, which often lead to hiding operational revenues. The implementation of fiscal cash registers was launched with an intensive public campaign promoting the importance of demanding the receipt. It is possible that managers are aware of customers' sensitivity related to this issue and consequently highlight the importance of accurate bills. This interpretation is in line with descriptive statistics presented in Table 1 which indicate a high average value (6.45) and a high coefficient of variation (12%) regarding managers' assessment of I14 (providing accurate bills). Similarly, results indicate that managers are relatively homogeneous in high evaluations of indicators I11 (providing services in promised time: mean value 6.45; correlation coefficient 12%) and I18 (devoting extra attention to special requests: mean value 6.48; correlation coefficient 12%). The presented results indicate that managers highlight the quality of all three indicators although according to factor analysis they do not really believe they are crucial for providing restaurant quality. These results may be explained by the fact that focusing too much attention on quick service and handling guests' special requests result in higher labour costs, which have a negative impact on restaurants' operational profitability. A possible explanation for a negative relationship between accurate bills and profitability might be the ongoing process of managers' tax

evasion; the more managers are active in tax malpractice, the higher they (consciously) evaluate the quality of this indicator. However, these data must be interpreted with caution, as this is the very first study to analyse the correlation between managers' perceptions of quality and operational profitability.

Evidence of statistically negative correlations between quality indicators and operational profit is presented in Table 3.

Table 3
Correlations between DINESERV quality indicators and operational profit

Quality indicators	Operational profit	
I11	Spearman correlation (ρ)	-0.483*
	Sig. (2-tailed)	0.039
I14	Spearman correlation (ρ)	-0.402*
	Sig. (2-tailed)	0.049
I18	Spearman correlation (ρ)	-0.407*
	Sig. (2-tailed)	0.048

Note: *Correlation is significant at the 0.05 level (2-tailed).
Source: authors' own research.

Returning to the research question (RQ) posted at the beginning of the study, it is now evident that the identified quality dimensions are not correlated to restaurant profitability. The relation between the theoretical construct and the research findings is presented in Figure 1. On the left side, the RATER quality dimensions are presented with the initial 29 quality indicators, while on the right side the research results, with the final two quality dimensions and 17 indicators are presented. Twelve indicators had to be removed from the factor analysis, as they had low communalities (< 0.5) and low factor weights (< 0.3). The results of this study clearly indicate that managers perceive restaurant quality based on only two quality dimensions and 17 quality indicators (see Table 2). Furthermore, this study showed that managers' perceptions of quality (in terms of exploratory factor analysis results) don't have a statistically significant influence on restaurants' operational profit, although managers' evaluation of three DINESERV quality indicators proved to have a negative influence on operational profitability. Overall, this study did not confirm the correlation between managers' perceptions of quality and restaurant firms' operational profitability.

Figure 1
Theoretical model and research results
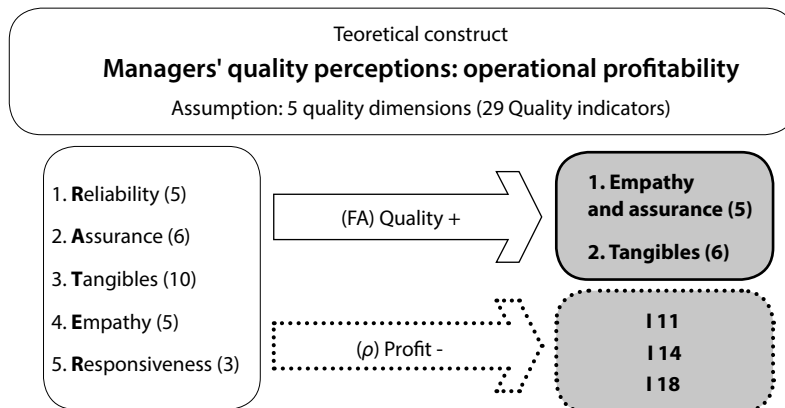
Note: Dashed border indicates negative (-), full border presents positive (+) statistical correlation
Source: authors' own research.

Conclusions

The purpose of this study was to determine how different quality indicators of the institutional DINESERV instrument influence restaurant managers' overall quality perception and restaurant firms' operational profit. Based on the qualitative research, we were unable to determine the significance of different quality indicators, neither from the managers' perspective nor from the profitability perspective. The present study confirms previous findings (Chin & Tsai, 2013; Kim, Ng & Kim, 2009, Mosavi & Ghaedi, 2012; Ryu & Jang, 2007) and contributes additional evidence which suggests that service quality dimensions cannot be generalised. The results of this study have shown that only two (out of five) quality dimensions have a statistically significant influence on managers' perception of overall restaurant quality – (1) empathy and assurance and (2) tangibles, while other quality indicators proved to be statistically insignificant. Returning to the research question posed at the beginning of the study, it appears that according to managers' perceptions the quality of staff (empathy and assurance) and tangibles (environmental elements) have by far the greatest importance in ensuring overall restaurant quality. It can thus be suggested that according to managers' beliefs guests perceive restaurant quality primarily according to the quality of indicators belonging to the two aforementioned quality dimensions. Taken together, these results suggest that, according to management perceptions, not all five RATER quality dimensions are significant in ensuring the quality of restaurant offerings.

The second part of this study was concerned with investigating the effects of managers' perceptions of quality on restaurant profitability. One of the more significant findings to emerge from this study is that managers' perceptions of quality have no influence on restaurants' profitability. Moreover, correlational analyses revealed a negative statistically significant correlation between three DINESERV indicators and operational profit. These data suggest that higher profit can be achieved through lowering the perceptions of quality (scores) of the identified three indicators. All other 26 DINESERV quality indicators are not correlated to restaurants' operational profit.

This research extends knowledge of restaurant quality management. This is the first time that DINESERV has been used to explore management perceptions of restaurant quality and their correlations to operational profit. As the methodology is based on the generic DINESERV instrument and the standardized P&L financial report, we assume that it may also be applied to other restaurant facilities (e.g. rural, catering, and theme restaurant facilities etc.). A key strength of the present study was the financial data provided by national tax authorities (FURS) after the implementation of fiscal cash registers.

A number of important limitations need to be considered. The major limitation of this study is the absence of guests' evaluation of perceived restaurant quality. The study only examined domestic managers' perceptions of restaurant quality in Slovenia. Therefore, additional caution must be applied, as the findings might not be generalized. This research has generated many questions in need of further investigation. Future studies should empirically investigate quality perception gaps between guests and managers in order to extend the current findings. Further research is also needed to determine whether differences exist between managers of different types of restaurant facilities and different segments of guests as previously suggested by Dedeoğlu and Demirer (2015) and Kukanja (2017). Randomised controlled trials combining qualitative research methods (e.g. interviews with managers, academics and financial experts) could also provide more evidence regarding the importance of presented findings. The current data support the idea of cost-effective service excellence, as described by Wirtz and Zeithaml (2017) in their latest work. This study has raised important questions about the nature and importance of quality and profitability management in the restaurant industry. Further studies focusing

on restaurant quality and profitability management need to be carried out in order to gain a more detailed understanding of how to manage quality-profitable restaurant operations.

The findings of this study have a number of important implications for future practice. For restaurant managers, these results indicate the value of investing substantial effort in understanding the complexity of ensuring restaurant quality and profitability. Furthermore, managers must constantly measure the quality of their offerings in order to improve (optimize) their financial performance. To avoid discrepancies between managers' perceptions of quality, guests' quality expectations, and restaurant profitability performance measurement from both the quality and financial perspectives should be the strategic priority for all restaurant businesses.

References

Ajpes. (2017). *FI-PO-Financial data*. Retrieved November 14, 2017, from http://www.ajpes.si/fipo/prikaz.asp?xid=22 LH4qw3HhZXE2cUwJjA3IsfiLPq2U/51pvTrfxFcNYwoH8TGxge+h2cSmb20MVd7lBy.

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. *Journal of Quality Assurance in Hospitality & Tourism*, *18*(3), 354-378.

Assaf, A. G., Deery, M. & Jago, L. (2011). Evaluating the performance and scale characteristics of the Australian restaurant industry. *Journal of Hospitality & Tourism Research*, *35*(4), 419-436.

Bojanic, D. C. & Drew Rosen, L. (1994). Measuring service quality in restaurants: an application of the SERVQUAL instrument. *Hospitality Research Journal*, *18*(1), 3-14.

Bougoure, U. S. & Neu, M. K. (2010). Service quality in the Malaysian fast food industry: An examination using DINE-SERV. *Services Marketing Quarterly*, *31*(2), 194-212.

Briggs, S., Sutherland, J. & Drummond, S. (2007). Are hotels serving quality? An exploratory study of service quality in the Scottish hotel sector. *Tourism Management, 28*(4), 1006–1019.

Candido, C. J. F. & Morris, D. S. (2000). Charting service quality gaps. *Total Quality Management, 11*(4), 463–472.

Cao, Y. & Kim, K. (2015). How do customers perceive service quality in differently structured fast food restaurants?. *Journal of Hospitality Marketing & Management*, *24*(1), 99-117.

Chen, C. T., Cheng, C. C. & Hsu, F. S. (2015). GRSERV scale: an effective tool for measuring consumer perceptions of service quality in green restaurants. *Total Quality Management & Business Excellence*, *26*(3-4), 355-367.

Chin, J. B. & Tsai, C. H. (2013). Developing a service quality evaluation model for luxurious restaurants in international hotel chains. *Total Quality Management & Business Excellence*, *24*(9-10), 1160-1173.

Coelli, T. & Rao, D. S. P., O'Donnel, J. & Battese, G. E. (2005). *An introduction to efficiency and productivity analysis. Biometrics*, *41*, 349.

Dedeoğlu, B. B. & Demirer, H. (2015). Differences in service quality perceptions of stakeholders in the hotel industry. *International Journal of Contemporary Hospitality Management*, *27*(1), 130-146.

Demydyuk, G., Shawky, H. A., Rest, J. V. D. & Adriaanse, J. A. A. (2015). Key operating indicators to lever financial performance of publicly traded restaurant companies: a market's perspective from 2007-2011. *International Journal of Revenue Management*, *8*(2), 165-192.

Djekic, I., Djekic, I., Kane, K., Kane, K., Tomic, N., Tomic, N., ... & Zamioudi, L. (2016). Cross-cultural consumer perceptions of service quality in restaurants. *Nutrition & Food Science*, *46*(6), 827-843.

Eid, R. & Abdelkader, A. A. (2017). Muslim service quality dimensions in the tourism and hospitality industry: construct development and measurement validation. *International Journal of Islamic Marketing and Branding*, *2*(3), 215-231.

Fu, Y. Y. & Parks, S. C. (2001). The relationship between restaurant service quality and consumer loyalty among the elderly. *Journal of Hospitality & Tourism Research*, *25*(3), 320-326.

Grönroos, C. (1982). An applied service marketing theory. *European journal of marketing*, *16*(7), 30-41.

Grönroos, C. (1990). Relationship approach to marketing in service contexts: The marketing and organizational behaviour interface. *Journal of Business Research, 20*(1), 3–11.

Hansen, K. V. (2014). Development of SERVQUAL and DINESERV for measuring meal experiences in eating establishments. *Scandinavian Journal of Hospitality and Tourism*, *14*(2), 116-134.

Ivankovič, G. & Planinc, T. (2011). *Računovodske informacije za poslovno odločanje v turizmu*. Koper: Univerza na Primorskem, Znanstveno-raziskovalno središče, Univerzitetna založba Annales.

Johns, N., Tyas, P., Ingold, T. & Hopkinson, S. (1996). Investigation of the perceived components of the meal experience, using perceptual gap methodology. *Progress in Tourism and Hospitality Research*, *2*(1), 15-26.

Johnson, R. B. & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, *33*(7), 14-26.

Keith, N. K. & Simmers, C. S. (2011). Measuring Service Quality Perceptions of Restaurant Experiences: The Disparity between Comment Cards and DINESERV. *Journal of Foodservice Business Research, 14*(1), 20–32.

Kim, H. J., McCahon, C. & Miller, J. (2003). Assessing service quality in Korean casual-dining restaurants using DINESERV. *Journal of Foodservice Business Research*, *6*(1), 67-86.

Kim, W. G., Li, J. J. & Brymer, R. A. (2016). The impact of social media reviews on restaurant performance: The moderating role of excellence certificate. *International Journal of Hospitality Management*, *55*, 41-51.

Kim, W. G., Ng, C. Y. N. & Kim, Y. (2009). Influence of institutional DINESERV on Customer satisfaction, return intention, and word-of-mouth. *International Journal of Hospitality Management, 28*(1), 10–17.

Knutson, B., Stevens, P., Wullaert, C., Patton, M. & Yokoyama, F. (1990). LODGSERV: A service quality index for the lodging industry. *Hospitality Research Journal*, *14*(2), 277-284.

Kosi, T. & Bojnec, Š. (2013). Institutional barriers to business entry in advanced economies. *Journal of Business Economics and Management*, *14*(2), 317-329.

Kukanja, M. (2015). Model dejavnikov kakovosti v prehrambnem gostinstvu: doktorska disertacija. Novo mesto: FOŠ.

Kukanja, M. (2017). Quality measurement in restaurant industry from the marketing perspective: a comparison of guests' and managers' quality perceptions. *Ekonomska misao i praksa*, (1), 41-61.

Kukanja, M., Gomezelj Omerzel, D. & Kodrič, B. (2017). Ensuring restaurant quality and guests' loyalty: an integrative model based on marketing (7P) approach. *Total Quality Management & Business Excellence*, *28*(13-14), 1509-1525.

Lau, P. M., Akbar, A. K. & Fie, D. Y. G. (2005). Service quality: a study of the luxury hotels in Malaysia. *Journal of American Academy of Business, 7*(2), 46-55.

Lee, C., Hallak, R. & Sardeshmukh, S. R. (2016). Drivers of success in independent restaurants: A study of the Australian restaurant sector. *Journal of Hospitality and Tourism Management*, *29*, 99-111.

Lehtinen, U. & Lehtinen, J. R. (1991). Two Approaches to Service Quality Dimensions. *The Service Industries Journal, 11*(3), 287–303.

Lin S. P., Chan, Y. H. & Tsai, M. C. (2009). A transformation function corresponding to IPA and gap analysis. *Total Quality Management in Business Excellence*, *20*(8), 829–846.

Marković, S., Raspor, S. & Šegarić, K., (2010). Does restaurant performance meet Customers' expectations? An assessment of restaurant service quality using a modified DINESERV approach. *Tourism and Hospitality Management*, *16*(2), 181–195.

Martínez-Tur, V., Tordera, N., Peiró, J. M. & Potocnik, K. (2011). Linking Service Climate and Disconfirmation of Expectations as Predictors of Customer Satisfaction: A Cross-Level Study. *Journal of Applied Social Psychology, 41*(5), 1189–1213.

Mosavi, S. A. & Ghaedi, M. (2012). The effects of relationship marketing on Relationship quality in luxury restaurants. *African Journal of Business Management, 6*(19), 6090–6102.

Nasution, H. N. & Mavondo, F. T. (2008). Customer value in the hotel industry: What managers believe they deliver and what customer experience. *International Journal of Hospitality Management, 27*(2), 204–213.

Parasuraman, A., Berry, L. L. & Zeithaml, V. A. (1993). More on improving service quality measurement. *Journal of Retailing, 69*(1), 140–147.

Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *the Journal of Marketing*, 41-50.

Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1994). Reassessment of Expectations as a Comparison Standard in Measuring Service Quality. Implications for Further Research. *Journal of Marketing, 58*(1), 111–124.

Parsa, H. G., van der Rest, J. P. I., Smith, S. R., Parsa, R. A. & Bujisic, M. (2015). Why restaurants fail? Part IV: The relationship between restaurant failures and demographic factors. *Cornell Hospitality Quarterly*, *56*(1), 80-90.

Planinc, T. & Kukanja, M. (2017). Analiza gospodarske dejavnosti prehrambnega gostinstva v Republliki Sloveniji: retrospektiva razvoja. *Revija za ekonomske in poslovne vede 4*(2), 3-24.

Raajpoot, N. A. (2002). Tangserv. *Journal of Foodservice Business Research, 5*(2), 109–127.

Reynolds, D. & Biel, D. (2007). Incorporating satisfaction measures into a restaurant productivity index. *International Journal of Hospitality Management*, *26*(2), 352-361.

Roh, E. Y. & Choi, K. (2010). Efficiency comparison of multiple brands within the same franchise: Data envelopment analysis approach. *International Journal of Hospitality Management*, *29*(1), 92-98.

Ryu, K. & Jang, S. S. (2007). The Effect of Environmental Perceptions on Behavioral Intentions through Emotions: The Case of Upscale Restaurants. *Journal of Hospitality in Tourism Research, 31*(1), 56–72.

Saeida Ardakani, S., Nejatian, M., Farhangnejad, M. A. & Nejati, M. (2015). A fuzzy approach to service quality diagnosis. *Marketing Intelligence & Planning*, *33*(1), 103-119.

Sedmak, G. (2011). *Menedžment prehrambenih obratov*. Koper: UP Annales.

Sharif, K. & Kassim, N. M. (2012). Non-academic service quality: comparative analysis of students and faculty as users. *Journal of Marketing for Higher Education*, *22*(1), 35-54.

Sivakumar, K., Li, M. & Dong, B. (2014). Service quality: The impact of frequency, timing, proximity, and sequence of failures and delights. *Journal of Marketing, 78*(1), 41-58.

Stevens, P., Knutson, B. & Patton, M. (1995). DINESERV: A tool for measuring service quality in restaurants. *The Cornell Hotel and Restaurant Administration Quarterly*, *36*(2), 556-60.

Tarigan, J. & Widjaja, D. C. (2012). The Relationship between Non-Financial Performance and Financial Performance Using Balanced Scorecard Framework: A Research in Cafe and Restaurant Sector. *International Journal of Innovation, Management and Technology*, *3*(5), 614.

Uran, M. (2003). *Kakovost storitev kot strategija diferenciacije za ustvarjanje konkurencne prednosti slovenskega hotelirstva: doktorska disertacija*. Ljubljana: Univerza v Ljubljani.

Wang, L., Law, R., Hung, K. & Guillet, B. D. (2014). Consumer trust in tourism and Hospitality: A review of the literature. *Journal of Hospitality and Tourism Management, 21,* 1–9.

Wilkins, H., Merrilees, B. & Herington, C. (2007). Towards an understanding of total service quality in hotels. *International Journal of Hospitality Management, 26*(4), 840–853.

Wirtz, J. & Zeithaml, V. (2017). Cost-Effective Service Excellence. *Journal of the Academy of Marketing Science*, 1-22.

Wong Ooi Mei, A., Dean, A. M. & White, C. J. (1999). Analysing service quality in the hospitality industry. *Managing Service Quality: An International Journal*, *9*(2), 136-143.

Yavas, B. F. & Rezayat, F. (2003). The Impact of Culture on Managerial Perceptions of Quality. *International Journal of Cross Cultural Management*, *3*(2), 213–234.