African Journal of Hospitality, Tourism and Leisure 2024, Vol.13, No.3, pp. 444-452
ISSN: 2223-814X

Influence of Service Quality on Customer Satisfaction and Return Intention at a Restaurant: The Case of a Student-Operated Restaurant in South Africa

Asanda MTUKUSHE
Cape Peninsula University of Technology, Cape Town Hotel School, South Africa, Email, mtukushea@gmail.com

Tshinakaho NYATHELA-SUNDAY
Cape Peninsula University of Technology, Cape Town Hotel School, South Africa, Email, NYATHELAT@cput.ac.za

Oswald MHLANGA
Cape Peninsula University of Technology, Cape Town Hotel School, South Africa, Email, MHLANGAO@cput.ac.za
Corresponding author

Abstract

This study uses an Institutional DINESERV model to examine the influence of service quality dimensions (i.e., food quality, atmosphere, service quality, convenience, and price) on customer satisfaction and return patronage in a Student Operated Restaurant (SOR). A total of 62 guests were surveyed at a university SOR in South Africa. Factor analysis, ANOVA, correlation, and regression analyses were used to analyse data. The findings show that all service quality dimensions significantly and positively affected customer satisfaction and revisit intentions. Hospitality programs that use restaurants as teaching labs must concentrate their efforts in these areas to equip students with competencies that better meet these industry needs. This study is unique because it extensively explored the influence of service quality on customer satisfaction and return patronage in an immersive experiential learning program, the student-operated restaurant. This area has been underexplored in contemporary literature.

Keywords: Customer satisfaction, institutional DINESERV, service quality, student-operated restaurant

How to cite this article: Mtukushe, A., Nyathela-Sunday, T. & Mhlanga, O. (2024). Influence of Service Quality on Customer Satisfaction and Return Intention at a Restaurant: The Case of a Student-Operated Restaurant in South Africa. African Journal of Hospitality, Tourism and Leisure, 13(3):444-452. DOI: https://doi.org/10.46222/ajhtl.19770720.527

Introduction

On-campus restaurants where students prepare and serve meals are rich learning environments unique to hospitality management programs. These restaurants provide opportunities for active involvement in operations, thereby linking theoretical principles to real-world business situations. Students readily transfer knowledge gained through these experiences to the workplace, resulting in enhanced career success. The term Student-Operated Restaurant (SOR) has been adopted for this paper to describe these on-campus restaurants. Research has shown that hospitality management programs with a SOR generate more graduates who enter the food service industry than those without such experience (Nies, 1993). However, SORs have peculiar challenges which inhibit the delivery of quality service. One major challenge is the negative perception. According to Kwun (2013), the perceptions of SORs tend to be unfavourable due to mediocre service and limited menu items. In addition, SORs face situational, contextual, and environmental constraints, such as captive environments, which make it difficult to achieve service quality and customer satisfaction (Joung et al., 2014). Consequently, SORs face a myriad of challenges that hinder the delivery of quality service, customer satisfaction and return patronage. Customer satisfaction is the leading criterion for determining the quality that is actually delivered to customers through the product/service and the accompanying servicing (Kim et al., 2009). Several studies have found that attracting a new customer costs about five times more time, money, and resources than retaining an existing customer (Andaleeb & Caskey, 2007; Kwun et al., 2013). Implicit in this belief is the notion that service quality has an influence on customer satisfaction and return patronage. Therefore, SORs will need to identify service attributes that influence customer satisfaction and revisit patronage. Although SORs are an integral part of the curriculum of all reputed hospitality programs, little information is available concerning the criteria used in these programs to assess service quality, customer satisfaction and the steps taken to drive referral and revisit patronage. Most studies that have investigated service quality, customer satisfaction and purchase intentions have focused on commercial restaurants (e.g., Akbaba, 2006; Mhlanga, 2023), leaving a gap in the literature on SORs. However, these findings cannot be generalised to SORs, given the complex nature of the on-campus food service market (Josiam et al., 2014). Therefore, the purpose of this study is to fill the gap in the literature by integrating various existing models to propose antecedents of service quality and resulting customer satisfaction and return patronage at a teaching restaurant operated by Hospitality Management programmes at a university in South Africa. Understanding customers' perceptions of their SOR experience is critical in helping programs ensure that the investment required to operate labs is justified and in identifying ways to improve the use of SORs. Despite the important role of SORs in hospitality management programs, the dearth of literature in this area is the driving factor behind this study. The objectives of this study then are:

- To determine whether there is any significant mean difference in the overall satisfaction level according to the age groups.
- To examine the relative importance of service quality factors influencing customer satisfaction and revisit intention to a student-operated restaurant.
- To examine the relationships among service quality, customer satisfaction and return intention.

The description of SORs in this study is primarily based on the research completed by Nies in 1993. Most SORs are often located on campus and have a typical capacity of 30 to 100 seats. Unlike their commercial counterparts, these restaurants operate only on weekdays and are often closed during shorter summer sessions. Most concentrate on lunch service due to the lack of demand for dinner, though a few serve both. SORs structure their menus to maximise the student experience while operating within the constraints of a modest budget (Rojas, 2000). However, SORs are as vulnerable to failure as their commercial counterparts. Previous research indicates a failure rate of 27% for restaurants in the first year of business that rises to 50% by the end of the third year (Mhlanga, 2015). As a SOR, management is further challenged by the complexity of

balancing educational responsibility alongside profitability goals (Rojas, 2000). Thus, many SORs struggle to break even or fail altogether in their attempt to avoid substantial loss (Nies, 1993). To improve revenues, drivers of customer satisfaction and their quality need to be assessed in SOR.

Theoretical background

During the past decade, the most frequently used operationalisation of service quality has been a discrepancy measure introduced by Parasuraman et al. (1994). The discrepancy refers to the gap between respondents' expectations scores and their perceptions scores. Typically, individuals respond to a set of attributes designed to measure their expected quality and then subsequently respond to the same battery of items with a score that reflects their perceptions of an organisation's performance on each attribute. This operationalisation has been criticised on several grounds, but the two most persistent relate to its psychometric properties and inferior predictive validity. The psychometric problems stem from subtracting one measurement (expectations) from another (perceptions) to create a new construct for use in subsequent data analysis. This approach has been widely criticised (Babakus & Boller, 1992; Carman, 1990). The criticism has stimulated suggestions that a superior alternative measure may be to directly measure a respondent's perception of performance quality against an expectation standard. According to Cronin and Taylor (1992), the performance-based measure is twice as efficient in data collection and provides better measurement properties than the difference scores measure. Other studies have also shown that perceived performance has a strong effect on customer satisfaction (Mhlanga et al., 2014; Mhlanga, 2023). Consequently, several instruments using different conceptualisations have been used to measure service quality. The most well-known instrument for measuring service quality is SERVQUAL, introduced by Parasuraman et al. (1994). According to the SERVQUAL scale, service quality is a function of five dimensions that are as follows:

(1) Tangibles, which include variables such as physical facilities, equipment, personnel, and communication materials.
(2) Reliability is the organisation's ability to perform the promised service dependably and accurately.
(3) Responsiveness is the willingness to help customers and provide prompt service.
(4) Assurance involves employees' knowledge, courtesy, and ability to convey trust and confidence.
(5) Empathy is the caring and individualised attention provided to the customers.

However, the SERVQUAL model is not considered suitable for the evaluation of some unique features of the restaurant industry. To overcome this challenge, a refinement of the SERVQUAL model known as DINESERV was developed in the restaurant industry. The DINESERV model included 29 variables, and, again, it measured the same service quality dimensions: reliability, assurance, responsiveness, tangibles, and empathy (Stevens et al., 1995). Thereafter, Kim et al. (2009) designed the institutional DINESERV, a new adaptation of the DINESERV model that was tailor-made for university dining facilities. The model included 18 variables and measured five service quality dimensions: namely, food quality, atmosphere, service quality, convenience, and price. However, this scale has not been replicated, and its validity has not been re-examined. This presents a theoretical gap in the extant literature that this research seeks to fill through testing the institutional DINESERV model in a SOR context.

Service quality, customer satisfaction and purchase intentions

Service literature emphasises the importance of service quality perceptions and the relationship between service quality and customer satisfaction (Cronin & Taylor, 1992). Some researchers describe customer satisfaction as an antecedent of service quality (Bitner, 1990; Carman, 1990; Parasuraman et al., 1994; Mhlanga & Machingambi, 2016), and others have counter-argued that service quality is an antecedent of customer satisfaction (Bolton & Drew, 1991; Cronin et al., 2000) and that service quality is not equivalent to satisfaction (Oliver, 1980). The research found a direct relationship between service quality and customer satisfaction (Churchill & Surprenant, 1982; Tse & Wilton, 1988). Cronin & Taylor (1992) reported that customer satisfaction had a stronger and more consistent effect on purchase intentions than service quality. Many researchers have found a positive association between satisfaction and repurchase intention (Bitner, 1990; Cronin & Taylor, 1992). However, other empirical studies have not confirmed such a direct relationship. In attempting to explain these conflicting findings, Rust & Zahorik (1993) suggested that a satisfied customer might switch to an alternative supplier to increase the present satisfaction level. In contrast, a dissatisfied customer might remain with the existing supplier because no better alternatives are available. Parasuraman et al. (1994) and Zeithaml et al. (1996) have reported a positive relationship between perceived service quality and behavioural intentions. Bitner (1990) also found that perceived service quality influences repurchase intentions. Condensing the results from these studies, scepticism seems to be well-founded as to the widespread conceptual view of a strong quality-satisfaction–retention relationship. Therefore, it seems necessary to critically examine the sweeping postulate of a close relationship between service quality, customer satisfaction and purchase intentions and identify the causes for the existing divergence of these constructs.

Age and customer satisfaction

Previous studies have investigated the role of age in customer satisfaction in different contexts (see Josiam et al., 2014; Mhlanga, 2018). Interestingly, these studies have generated mixed results and exposed a lack of consensus on the existence of an association between age and consumer behaviour. Some studies (Kwun et al., 2013; Mhlanga & Machingambi, 2016) concluded that age influences customer satisfaction. It is noteworthy to highlight the lack of consensus among this cohort of studies as results reflect different conclusions concerning the specific leanings of varying age groups. There are also other

studies (Harrington et al., 2013; Josiam et al., 2014) that contend that there is no evidence to suggest that age relates to customer satisfaction. Because of the discordance in the results of studies investigating the association of age with customer satisfaction, it can be inferred that context may be critical to the findings. The implication of this is that none of the results obtained in previous studies can be relied upon to predict the possible outcome within an SOR. However, although the restaurant consumer population in a SOR setting may be heterogeneous in composition, a certain degree of homogeneity exists in the sense that they are all restaurant consumers in a particular captive environment. Because of this, the expectations of this segment of consumers as it pertains to customer satisfaction may not be substantially polarised. The study believes that consumers in a SOR setting belong to the same communal environment on campus; all of them are typically subject to relatively similar conditions, although they may fall into different age groups. Against this background, it would seem reasonable to project that they may have more in common compared to the things that differentiate them.

Literature review

Researchers have been reporting contradictory findings on the factors influencing guest satisfaction in university dining facilities. For instance, studies have also shown that food quality and menu variety within university dining play significant roles in guest satisfaction (Andaleeb & Caskey, 2007; Kwun et al., 2013). In addition to food quality and variety of menu options, the quality of service can be very influential in the overall dining experience and the guest's desire to return (Harrington et al., 2013). Location on campus can contribute to an inviting dining environment, guest satisfaction, and intent to return (Kim et al., 2009). Convenient location with easy access in a campus setting is becoming important because university dining facilities compete with a variety of off-campus dining facilities which are easily accessible to university patrons and closely located to campus. Apart from location, preferences, and expectations, contributing to satisfaction may be impacted based on the area of campus in which the dining facility is placed and the "image" the dining facility portrays (Kwun et al., 2013). In another study, Mhlanga (2018) found menu price to be a significant determinant of guest satisfaction in university food service operations. In campus food service, it is noteworthy that customers have restricted financial resources that influence their choices and decisions when picking food service operations, as they continually seek reasonable prices due to limited budgets. Similarly, Mhlanga and Machingambi (2016) found that cost is the primary factor in university food service operations since students have limited funds. In another study, Andaleeb & Caskey (2007) found that guests at Pennsylvania State University perceived food quality as one of the three most crucial elements that explained their satisfaction with the food service on campus. Other factors included the price of food, staff conduct, speed of service, atmosphere and cleanliness. Likewise, Kim et al. (2009) used the DINESERV measuring scale to measure guest perceptions of a university dining facility. Their findings showed that food quality was the most important predictor of satisfaction, followed by service quality, price, convenience and atmosphere. According to Kim et al. (2009), staff knowledge about food increased customer satisfaction more than staff without such knowledge. Thus, it is important to identify these important dining attributes in a unique captive environment, particularly from a SOR perspective.

Many research studies have been conducted previously on the use of SORs from various perspectives. For instance, Nies (1993) explored how SOR managers integrate nutrition principles into their programs and noted that nutritional principles are taught in most programs and typically emphasised as a major component. Another study conducted by West and Farley (1991) claimed that nutritional competency is important for hospitality students, and its place is often overvalued in education. Josiam et al. (2014) used comment cards to investigate guests' perceptions of patrons who visited a SOR and found that the patrons were satisfied with the quality of the food, service, value for money and the proximity to the university. According to Josiam et al. (2014), courteous service and staff appearance were positively associated with customer satisfaction. However, Josiam et al. (2014) investigated guests' perceptions of patrons who visited SOR. Unfortunately, the construct validity of customer comment cards is often too poor for management to use them confidently in making strategic decisions. There is a need, then, for research on customer perception of SORs using an in-depth survey with a broader, more representative sample. The results of such research would provide information beyond that of the limited, self-selected comment card data that typically suffer an inadequate sample size and shallowness of scope. The proposed research model is presented below.

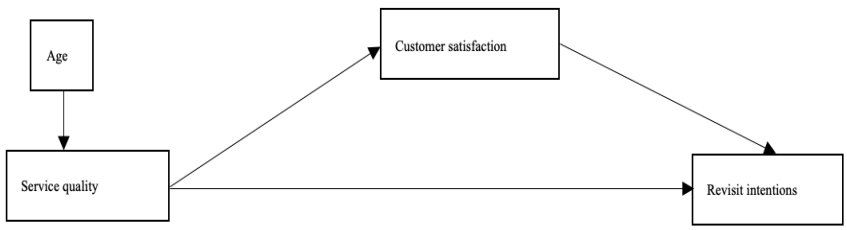

Figure 1: Conceptual model

On the basis of the research and theory mentioned above, the theoretical research model, which shows the relationship between elements of service quality, customer satisfaction, and return patronage, has been shown in Figure 1 above.

Research methodology

The questionnaire was divided into three sections. The first section gathered general demographic information that helped the authors further analyse the collected data. The demographic information included gender, ethnicity, and age. All the above demographic characteristics and other information were measured using a nominal scale. The second part measured the service quality construct. During the past decade, the most frequently used operationalisation of service quality has been a discrepancy measure introduced by Parasuraman et al. (1994). However, as previously mentioned, this operationalisation has been widely criticised. Hence, a decision was made in this study to operationalise quality with a perception measure (Cronin & Taylor, 1992). The attributes used to measure service quality were adapted from Kim et al. (2009) Institutional DINESERV model. The 18-dimensional model was designed to measure four domains: food quality, which related to the nutrition and overall quality of food; service quality, which embraced service quality features of staff; price, which related to the overall dining experience; an atmosphere which related to the overall comfort of the dining facility and convenience, which related to the location of the restaurant. In accordance with the recommendation of Parasuraman et al. (1994), the attributes were measured on a five-point Likert scale. The descriptors ranged from ‘‘strongly agree (1),’’ to ‘‘strongly disagree (5).’’ The third section asked the respondents to rate their overall restaurant evaluation. Satisfaction was measured using a 4-item scale adapted from Kim et al. (2009). This offered an overall global measure of satisfaction and was selected because it had been empirically verified. A five-point semantic differential format was used. The four sets of polar terms were dissatisfied/satisfied, displeased/pleased, unfavourable/favourable, and negative/positive. Finally, return patronage adapted from Kivela et al. (1999) was measured by three items: (1) to what degree would you rate your intent to return to the same dining facility? (2) to what degree would you rate your intentions to visit the SOR facility again? and (3). To what degree would you rate your definite return patronage?

This study was carried out in Cape Town, South Africa, in a university SOR that provides students with theoretical and on-site practical training. The hundred-seat restaurant is a fully functioning facility expressly designed to teach students to manage a restaurant. Hospitality management students rotate through different positions to learn all aspects of restaurant operations. The restaurant was chosen because of its uniqueness and location. The SOR is in the prime location for tourists competing with off-campus food providers in the vicinity. Using the restaurant database, a web survey questionnaire was distributed via email to 395 customers who had visited the restaurant between the 1st of January 2020 and the 31st of March 2020. A total of 62(15.7%) questionnaires were collected. The low response rate may be attributed to the fact that no incentives were provided to respondents, and the survey was conducted at the beginning of the COVID-19 pandemic when people’s interests and focus shifted. The collected data were analysed using the Statistical Package for Social Science (SPSS). In order to achieve the study’s objective, factor analysis was used to identify customer perceptions of the Institutional DINESERV dimensions in the SOR. Then, a one-way Analysis of Variance (ANOVA) was used to test the first research question, any mean difference in customers’ satisfaction level with regard to age groups. Multiple regression analyses were employed to measure the relative impact of Institutional DINESERV dimensions on customer satisfaction and return patronage. Finally, a Pearson correlation analysis tested the relationships between customer satisfaction and return patronage.

Results

Characteristics of respondents

The demographic characteristics of the respondents are shown in Table 1 below.

Table 1: Demographic characteristics of respondents (N = 62)

Demographics	N	%
Gender		
Female	41	66%
Male	21	34%
Age		
18-24	1	2%
25-34	26	42%
35-44	15	24%
45-54	6	10%
55-64	9	14%
65+	5	8%
Household characteristics		
Child	7	11%
Parent	5	8%
Roommate/friend	3	4%
Romantic partner	15	24%
Child and romantic partner	15	24%
Parent and grandparent	1	2%
Parent and romantic partner	1	2%
Child and grandchild	1	2%
Parent and child	1	2%
Grandchild and parent	1	2%
None of the above	12	19%
Relationship status		
Married	27	44%
Single	32	51%
Widowed	2	3%
Divorced	1	2%
Internal or external customer		
University staff	25	40%
External customers (not university staff)	37	60%

The sample comprised 21 male respondents (34%) and 41 female respondents (66%). Among the 62 respondents, 26(42%) were between the 25-to-34-year age group. Furthermore, 15(24%) respondents were either staying with a romantic partner or

a child and romantic partner, respectively. However, 32(52%) respondents were single, and 37(60%) of them were external customers (i.e., non-university staff) (Table 1).

ANOVA

A one-way ANOVA was used to determine whether there was any significant mean difference in the overall satisfaction level according to the age groups. Table 2 shows the ANOVA results for the age groups and the respondents' overall satisfaction. Tukey's post hoc test was conducted in order to assess which age group showed a significant difference. The results revealed that respondents in the 35–44-year age group had the highest mean score and showed much higher satisfaction levels than the older age groups (45–54 and 55–64).

Table 2: One-way ANOVA (age groups and overall satisfaction) and post hoc test

Characteristic	Factor		Categories						*F*-value	*p*-Value
			18-24	25-34	35-44	45-54	55-64	65+		
		N	1	26	15	6	9	5	5.287	0.000*
Overall satisfaction	Age group	Mean	3.87	3.84	3.91	3.49	3.38	3.57		
		S D	0.791	0.846	0.805	0.691	0.784	0.751		
Post hoc test										
(*I*) Age	(*J*) Age		Mean difference (*I-J*)							Sig.
35-44	18-24		0.302							0.377
	25-34		0.292							0.381
	44-54		0.389**							0.001
	55-64		0.414**							0.000
	65+		0.381**							0.001

*$p \leq 0.01$; ** The mean difference is significant at the 0.01 level

Factor analysis

The current study used a factor loading cut-off 0.50 to retain items in the factor analysis. Only factors with an eigenvalue equal to or greater than one were retained. A solution that accounted for at least 50% of the total variance was regarded as satisfactory. After analysing the data using Principal Component Analysis with a Varimax rotation, the 18 variables were reduced to five factors, which explained 81.79% of the total variance. The commonality of each variable was relatively high, ranging from 0.58 to 0.88. This indicates that the variance of the original values was captured reasonably well by these five factors—food quality, service quality, price, atmosphere, and convenience (Table 3).

Table 3: Factor analysis — service quality dimensions

		VARIMAX ROTATED LOADING					
FACTOR	**VARIABLES**	**FACTOR 1**	**FACTOR 2**	**FACTOR 3**	**FACTOR 4**	**FACTOR 5**	**COMMUNALITY**
F1	**Food quality**						
	The overall quality of the food	0.86					0.86
	Taste of food	0.83					0.85
	Nutrition of the food	0.75					0.74
	The freshness of the food	0.72					0.73
F2	**Service Quality**						
	Staff appearance		0.70				0.72
	Attentive staff		0.76				0.78
	Service provided by staff		0.81				0.82
	Staff's knowledge about food		0.67				0.69
	Friendly dining managers		0.62				0.58
F3	**Price**						
	Good value for the price			0.83			0.83
	Appropriate portion size			0.70			0.68
	Reasonable price item			0.86			0.86
	Overall value of the dining experience			0.59			0.71
F4	**Atmosphere**						
	Cleanliness of facilities				0.58		0.63
	Dining room environment				0.80		0.83
	Level of comfort in the dining				0.78		0.80
F5	**Convenience**						
	Convenient location					0.89	0.87
	Short walking distance					0.90	0.88
% of Variance explained		23.05	17.62	14.81	13.77	12.54	Total variance explained 81.79
Cronbach's Alpha		0.9039	0.8947	0.8825	0.8601	0.8772	
Eigenvalue		3.79	3.68	3.05	2.51	2.01	

Note: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA): 0.915; Bartlett's Test of Sphericity" $\chi^2 = 11253.371$, significance at p=0.001

Regression analysis

The mean, standard deviation and intercorrelations of all variables are presented in Table 4 before the results of regression analyses are presented. The correlation table indicates that service quality dimensions are intercorrelated and strongly correlated with customer satisfaction and return patronage. To investigate whether the service quality dimensions could influence customer satisfaction and return patronage, the simple sub-scale was regressed on the factor scores of service quality dimensions. Due to relatively high correlations among five predictor variables, factor scores of five service quality dimensions were used as predictor variables in subsequent regression analysis. Using simple sub-scale scores could possibly have resulted in serious multicollinearity problems in the analysis.

Table 4: Mean, standard deviation, and intercorrelations of all measures

	Mean	SD	1	2	3	4	5	6	7
Food quality	3.94	0.72	1.00						
Service quality	3.61	0.78	0.57	1.00					
Price	3.29	0.68	0.51	0.41	1.00				
Atmosphere	3.11	0.55	0.49	0.46	0.43	1.00			
Convenience	3.23	0.62	0.44	0.35	0.39	0.40	1.00		
Customer satisfaction	3.78	0.87	0.68	0.66	0.64	0.54	0.37	1.00	
Return intention	4.01	0.93	0.62	0.52	0.52	0.43	0.33	0.82	1.00

Note: *N*=62. All correlation coefficients are significant at the level of 0.01 in the two-tailed test.

The result of regression analysis, shown in Table 5, reveals that service quality has a significant relationship with customer satisfaction, R = 0.84. The adjusted R^2 of this model is 0.69, which indicates that the five dimensions explained 69% of the variation in customer satisfaction. The significant F-ratio (F = 269.41, p = 0.001) indicates that the regression model results could hardly have occurred by chance. Thus, the goodness-of-fit of the model is satisfactory. To detect the presence of multicollinearity, the variance inflation factor (VIF) was calculated and presented in Table 5. No significant collinearity was detected.

Table 5: Determinants of customer satisfaction

Dependent variable			Customer satisfaction		
Independent variables			Service quality dimensions		
Multiple *R*			0.84		
R^2			0.69		
Adjusted R^2			0.69		
Standard error			0.46		
F			269.41		
N			62		
Independent variable	***b***	**Beta**	***t***	**Sig.**	**VIF**
Constant	3.77		199.54	<0.001**	
Food quality	0.51	0.59	24.30	<0.001**	2.10
Service quality	0.39	0.44	20.72	<0.001**	2.23
Price	0.34	0.37	18.01	<0.001**	1.90
Convenience	0.19	0.22	10.04	<0.001**	1.19
Atmosphere	0.12	0.14	6.76	<0.001**	2.10

**$p \leq 0.01$

All five underlying dimensions (food quality, service quality, price and value, atmosphere, and convenience) were significant independent variables that influenced customer satisfaction in an SOR. Based on the beta coefficient of each independent variable, it is possible to assess the impact of each variable on the dependent variable, customer satisfaction. According to Table 5, the variable ‘‘food quality’’ was the most important determinant of customers’ overall satisfaction; it had the highest standardised coefficient value, 0.59, and the highest t-value, 24.30. Service quality, beta = 0.44, price, 0.37, convenience, 0.22, and atmosphere, 0.14, followed in descending order of importance. Another regression analysis was conducted to investigate the influence of service quality dimensions on the return patronage of customers in SORs. The adjusted R^2 of this model, which is a more conservative estimate of the variance by considering error variance, is 0.54. Thus, the explanatory power of the model is satisfactory.

Table 6: Determinants of return patronage

Dependent variable			Customer satisfaction		
Independent variables			Service quality dimensions		
Multiple *R*			0.68		
R^2			0.54		
Adjusted R^2			0.54		
Standard error			0.70		
F			129.53		
N			62		
Independent variable	***b***	**Beta**	***t***	**Sig.**	**VIF**
Constant	3.92		164.01	<0.001**	
Food quality	0.45	0.49	19.14	<0.001**	2.10
Service quality	0.28	0.31	11.03	<0.001**	2.23
Price	0.29	0.32	12.21	<0.001**	1.90
Convenience	0.15	0.17	6.99	<0.001**	1.19
Atmosphere	0.19	0.21	8.07	<0.001**	2.10

**$p \leq 0.01$

All five factors (food quality, service quality, price, atmosphere, and convenience) were found to be significant predictors affecting return patronage in SORs. The beta coefficient of each predictor variable is used to evaluate the impact of each variable on the criterion variable, return patronage. According to Table 6, the variable ‘‘food quality’’ was still the most important determinant of customers’ revisit intention, which is consistent with the previous finding when customer satisfaction was used as the criterion variable. It is interesting to witness that price became the second most important predictor variable influencing return patronage. Price was found to be a more important driver than service quality, affecting return patronage. Convenience was the least influential determinant, followed by the atmosphere, affecting return patronage. Finally, the results of Pearson correlations for two variables (r1, r2) are presented in Table 7.

Table 7: Pearson correlations for pairs of service quality, customer satisfaction and return intention

Pair	**Coefficients**	**Case**	***p***
Service quality with customer satisfaction	0.71	62	0.000
Customer satisfaction with return intention	0.78	62	0.000

Regarding the relationships among service quality, customer satisfaction and return intention, the results of Pearson correlations for two variables (r1, r2) are presented in Table 7. Service quality has a high and positive relationship (r1=0.71, *p*=0.00) with customer satisfaction. This result indicates that service quality has a strong relationship with customer satisfaction. Customer satisfaction is also highly and positively correlated (r2 = 0.78, *p* = 0.00) with return patronage. This finding implies that customer satisfaction helps enhance the intention to revisit SORs.

Discussion

University-level hospitality management programs regard the student-operated restaurant (SOR) as essential to the curriculum. Despite many restaurants housed in universities, there is a paucity of research on how these restaurants assess quality and promote usage. To bridge this gap, this study uses an Institutional DINESERV model to examine the influence of service quality dimensions on customer satisfaction and return patronage in an SOR. More information about the patrons and the attributes that influence their choices will assist academics as they position their restaurants for optimal support. The findings of ANOVA show that age had a significant effect on customer satisfaction, with the age group 35–44 years having higher overall satisfaction compared to the older age group. The findings corroborate some of the literature findings (Kim et al., 2009; Kwun et al., 2013; Mhlanga & Machingambi, 2016), which found that age has an influence on customer satisfaction. Furthermore, the regression analysis showed that food quality was the strongest predictor of customer satisfaction and revisit intention. Thus, customers found food taste and nutritional content to be an integral part of their SOR experiences. Nies (1993) explored how SOR managers integrate nutritional principles into their programs and found that nutrition principles are taught in most programs and typically emphasised as a major component. West & Farley (1991) found that nutritional competency is important for hospitality students, and its place is often overvalued in education. The presence of nutrition in the hospitality curricula may perpetuate its perceived importance in the restaurant industry (Nies, 1993). Service quality was the second and third most important element affecting customer satisfaction and revisit intention. Specifically, customers found attentiveness to be an integral part of their SOR experiences. Staff empathy and politeness increase customer satisfaction in restaurants. Kim et al. (2009) showed the value of service quality in restaurants in a study which indicated that staff who were more knowledgeable about food increased customer satisfaction than staff without this knowledge. Josiam et al. (2014) further supported the value of service quality by showing that courteous service and staff appearance are positively associated with customer satisfaction. The ability to greet their customers politely, be attentive, provide courteous service, and have menu knowledge is a critical soft skill for hospitality students to deliver better service to customers.

Among the remaining factors, convenience was found to be one of the least ‘‘salient’’ dimensions in the minds of most customers, even if convenience is still found to be important in explaining customer satisfaction and revisiting intention. It is possible that convenient location may have been a more important determinant of satisfaction and return intention if the survey had been conducted at a campus where parking is a big problem. Considering that parking is one of the most common problems on many campuses, a convenient location to the SOR may still add to customer satisfaction and revisit intention. Because most customers have only a short lunch break, dining in the nearest facility would still be an important criterion of restaurant selection. When analysing customer satisfaction with return intention and correlation analysis, the results showed that customer satisfaction is significantly related to return intention. The findings of this study agree to a large extent with the theoretical principles and empirical results espoused in commercial restaurants (Andaleeb & Caskey, 2007; Harrington et al., 2013; Kwun et al., 2013). However, this study is unique because it extensively explored the influence of service quality on customer satisfaction and return patronage in an immersive experiential learning program, the SOR. This area has been underexplored in contemporary literature.

Conclusion and implications

This research endeavour aimed to examine the influence of service quality dimensions (i.e., food quality, atmosphere, service quality, convenience, and price) on customer satisfaction and return patronage in a SOR. The findings show that all dimensions significantly positively affected customer satisfaction and revisit intentions. Thus, it provides a justification for the continued use of SORs in the future. The study should also help industry personnel better understand what universities are trying to accomplish with these facilities and, perhaps, identify ways the industry can contribute to maximising the potential of this curricular approach. The results presented hold several important implications for future research. One such implication involves the service quality–satisfaction-return intention relationship. The conceptual model of the service quality–satisfaction–retention link presented in this article can be used as a theoretical basis for the development of appropriate measurement designs. This may enable researchers and marketers to deliver more realistic estimations of the impact of satisfaction on customer retention. Measurement approaches considering the aspects included in the model can be expected to result in more valid predictions of customer retention rates on the basis of satisfaction and quality measures than isolated approaches. Perhaps the most important implication of the work reported here is the contributions that the replication can make of research efforts. Studies such as the Cronin & Taylor (1992) article that question a prevailing exemplar as important as the SERVQUAL scale should be replicated. The current study supports the conclusions reached by Cronin & Taylor (1992) that service quality is an antecedent of consumer satisfaction. Thus, the results support the conceptualisation of service quality as an antecedent of consumer satisfaction. Furthermore, the current study validates the Institutional DINESERV model as a reliable tool for measuring service quality, customer satisfaction and post-purchase behaviour in the institutional food service industry. Replications are necessary to ensure that the conclusions reached are accurate. The importance of this implication should not be overlooked.

The paper holds some practical implications. Since age significantly affects customer satisfaction, training instructors should recognise the customers' characteristics, such as age groups, that impact SORs. Market research regarding customers' favourite menus and their eating habits may reveal that there may be distinct patterns in their preference and satisfaction between younger and older age groups. Therefore, SORs should develop strategies that appeal to different customer segments based on the various age groups. Since five service quality dimensions have a critical impact on customer satisfaction and revisit intention with a different magnitude, SORs should set priorities and pay more attention to and continue improving the important aspects of their operation to increase customer satisfaction. These results suggest that hospitality programs that use restaurants as labs to teach restaurant service and food production principles should concentrate their efforts on these areas. Particularly, training instructors should continue integrating nutrition into the hospitality curricula to better equip students to meet industry needs.

Limitations and suggestions for future research

This study has limitations in terms of both methodology and application. Due to time, access, and budgetary constraints, the study used a non-random convenience sample. In addition, no attempt was made to sample non-customers and identify barriers to their patronage. Non-customers may be different from the convenience sample both behaviourally and demographically. In addition, the investigation was conducted at one university. Customers' perceptions may be different in other places. Furthermore, for future research, more attributes specifically related to the SOR experience should be developed to the Institutional DINESERV dimensions to make the survey more precise and applicable to teaching restaurants.

Acknowledgements

The authors express gratitude to all those who contributed to this research, particularly the respondents who participated willingly.

References

Akbaba, A. (2006). Measuring Service Quality in the Hotel Industry: A Study in a Business Hotel in Turkey. *International Journal of Hospitality Management*, 25(2), 170–192. https://doi.org/10.1016/j.ijhm.2005.08.006.

Andaleeb, S.S. & Caskey, A. (2007). Satisfaction with Food Services: Insights from a College Cafeteria. *Journal of Foodservice Business Research*, 10(2), 51-65. https://doi.org/10.1300/J369v10n02_04.

Babakus, E. & Boller, G.W. (1992). An Empirical Assessment of the SERVQUAL Scale. *Journal of Business Research*, 24(3), 253-268. https://doi.org/10.1016/0148-2963(92)90022-4.

Bitner, M.J. (1990). Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses. *Journal of Marketing*, 54, 69–82. https://doi.org/10.2307/1251871.

Bolton, R.N. & Drew, J.H. (1991). A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes. *Journal of Marketing*, 55(1), 1–9. https://doi.org/10.2307/1252199.

Churchill, G. A. & Surprenant, C. (1982). An Investigation into the Determinants of Customer Satisfaction. *Journal of Marketing Research,* 19(4), 491–504. https://doi.org/10.5267/j.uscm.2016.5.002

Cronin, J.J. & Taylor, S.A. (1992). Measuring Service Quality: A Re-Examination and Extension. *Journal of Marketing*, 56(3), 55–68. https://doi.org/10.2307/1252296

Cronin, J.J., Brady, M.K. & Hult, G.T. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioural Intentions in Service Environments. *Journal of Retailing*, 76, 193-218. https://doi.org/10.1016/S0022-4359(00)00028-2

Harrington, R.J., Ottenbacher, M.C. & Way, K.A. (2013). QSR Choice: Key Restaurant Attributes and the Roles of Gender, Age and Dining Frequency. *Journal of Quality Assurance in Hospitality and Tourism*, 14(1), 81-100. https://doi.org/10.1080/1528008X.2013.749380

Josiam, B.M., Malave, R., Foster, C. & Baldwin, W. (2014). Assessing Quality of Food, Service and Customer Experience at a Restaurant: The Case of a Student-Run Restaurant in the USA. *Journal of Services Research*, 14(1), 50-73. https://doi.org/10.1201/9781315366227-6

Joung, H.W., Lee, D.S., Kim, H.S. & Huffman, L. (2014). Evaluation of the On-Campus Dining Services Using Importance-Performance Analysis. *Journal of Foodservice Business Research*, 17(2), 136-146. https://doi.org/10.1080/15378020.2014.902647

Kim, W.G., Ng, C.Y. & Kim, Y-S. (2009). Influence of Institutional DINESERV on Customer Satisfaction, Return Intention, and Word-Of-Mouth. *International Journal of Hospitality Management*, 28(1), 10–17. https://doi.org/10.1016/j.ijhm.2008.03.005.

Kivela, J., Inbakaran, R. & Reece, J. (1999). Consumer Research in the Restaurant Environment, Part 2: Research Design and Analytical Methods. *International Journal of Contemporary Hospitality Management*, 11(6), 269–286. https://doi.org/10.1108/09596119910281766

Kwun, D. J.-W., Ellyn, E. & Choi, Y. (2013). Campus Foodservice Attributes and Their Effects on Customer Satisfaction, Image, and Word-Of-Mouth. *Journal of Foodservice Business Research*, 16, 276-297. https://doi.org/10.1080/15378020.2013.810534

Mhlanga, O. (2015). Electronic Meal Experience: A Gap Analysis of Online Cape Town Restaurant Comments. *African Journal of Hospitality, Tourism and Leisure*, 4(1), 1-18. https://doi.org/7/1/6/3/7163688

Mhlanga, O., Hattingh, Z. & Moolman, H.J. (2014). The Effect of Customers' Expectations and Experiences in Formal Full-Service Restaurants in Port Elizabeth, South Africa. *African Journal of Hospitality, Tourism and Leisure*, 3(1), 1-11.

Mhlanga, O. & Machingambi, S. (2016). The Influence of Demographic Variables on Customers' Expectations in Restaurants in the Eastern Cape Province of South Africa. *African Journal of Hospitality, Tourism and Leisure*, 5(1), 1-16.

Mhlanga, O. (2018). The Fast-Food Industry in South Africa: The Micro-Environment and its Influence. *African Journal of Hospitality, Tourism and Leisure*, 7(4), 1-16.

Mhlanga, O. (2023). A Re-examination of Factors that Influence Restaurant Efficiency in South Africa: A Bootstrapped Meta-Frontier Approach. *African Journal of Hospitality, Tourism and Leisure*, 12(3), 834-847. https://doi.org/10.46222/ajhtl.19770720.402

Nies, J.I. (1993). The Role of Student-Operated Restaurants in the Hospitality Curriculum. *Hospitality Tourism Educator*, 5(3), 21-24. https://doi.org/10.1080/23298758.1993.10685497

Oliver, R.L. (1980). A Cognitive Model of the Antecedents and Outcomes of Satisfaction Decisions. *Journal of Marketing Research*, 17(4), 460–469. https://doi.org/10.1177/002224378001700405

Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (1985). A Conceptual Model of Service Quality and its Implications for Future Research. *Journal of Marketing*, 49(4), 41-50. https://doi.org/10.2307/1251430

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. https://doi.org/10.2307/1252255

Rojas, R.R. (2000). A Review of Models for Measuring Organizational Effectiveness Among For-Profit and Non-Profit Organizations. *Non-profit Management and Leadership*, 11(1), 97-104. https://doi.org/10.1002/nml.11109

Rust, R. T. & Zahorik, A. J. (1993). Customer Satisfaction, Customer Retention, and Market Share. *Journal of Retailing,* 69(2), 193–215. https://doi.org/10.1002/nml.11109

Stevens, P., Knutson, B. & Patton, M. (1995). DINESERV: A Tool for Measuring Service Quality in Restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 36(2), 56-60. https://doi.org/10.1016/0010-8804(95)93844-K

Tse, D. K. & Wilton, P. C. (1988). Models of Consumer Satisfaction Formation: An Extension. *Journal of Marketing Research,* 25(2), 204–212. https://doi.org/10.2307/3172652

West, M. B. & Farley, G. A. (1991). A Cost-Effective Quantity Food Lab Through the Use of Shared Resources. *Hospitality and Tourism Educator*, 4(1), 15–20. https://doi.org/10.1080/23298758.1991.10685430

Zeithaml, V. A., Berry, L. L. & Parasuraman, A. (1996). The Behavioural Consequences of Service Quality. *Journal of Marketing*, 60, 31–46. https://doi.org/10.2307/1251929