STUDENT SATISFACTION WITH THE SERVICE QUALITY OF CAFETERIA: A STRUCTURAL APPROACH

Mui Ling Dyana, Chang
Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah

Norazah Mohd Suki
Labuan School of International Business & Finance, Universiti Malaysia Sabah
azahsuki@yahoo.com

Yin Ling Adeline, Tam
Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah
adetam@ums.edu.my

ABSTRACT

This objective of this study was to assess the relationship between the food quality, price fairness, staff performance, and ambiance of the university cafeteria with students' satisfaction. A quantitative survey was conducted with the aims to testing the proposed hypotheses via a structured self-administered questionnaire. A total of 79 undergraduates from Institut Pendidikan Guru Gaya Sabah campus, Malaysia were selected for questioning via convenience sampling method. Structural equation modeling (SEM) technique via AMOS 21.0 computer program with maximum likelihood estimation was performed to generate the results. The empirical results provided strong support for the hypothesis that students' satisfaction with the university cafeteria is very much influenced by food quality than staff performance, price fairness and degree of ambiance. Implications of the study from managerial and theoretical perspectives together with directions for future research are also indicated.

Keywords: Students Satisfaction, Services Quality, Price Fairness, Food services, Cafeteria

Introduction

University cafeteria which offers a varied menu and comfortable surroundings enables students to experience a sense of "home" while on campus where they can engage in leisurely conversation and interactive activities with their peers (Norhati & Nur Hafisah, 2013; Raman and Chinniah, 2011).

Companies keep on improving their service quality in order to increase customer satisfaction and retain their existing customers while devoting additional resources to chasing new ones (Cacioppo, 1995; Gilbert and Veloutsou, 2006; Noel-Levitz, 2010). It would appears sensible to explore cafeteria service expectations in relation to level of students' satisfaction. Thus, the objective of this study was to assess the relationship between the food quality, price fairness, staff performance and degree of ambiance at the university cafeteria with students perceptions of satisfaction.

This paper is structured into six sections. After the introduction, a literature review with proposed theoretical model presented in section two. The ensuing section details the methodology used to collect data in study while empirical findings are elaborated in Section 4 and discussion of findings in Section 5. The last section, Section 6 contains the conclusion, study implications and direction for future research.

Literature Review

Service Quality and Customer Satisfaction

Customer satisfaction is related to customers' fulfillment response i.e. pleasurable fulfilment by which consumers perceive that "consumption fulfils some need, desire or goal (Lengnick-Hall, 1996; Oliver, 1999). Customer satisfaction is influenced not only by service quality perceptions but also by personal and situational factors and price (Aldridge and Rowley, 1998; Patterson and Johnson, 1993; Robinson, 1999; Rowley, 1997; Zeithaml et al., 2008).

Food Quality

Food quality is related to customers satisfaction with the quality of fast-food served to them (John and Howard, 1998; Law et al., 2004; Kivela et al., 1999). Furthermore, Hwang et al. (2003) and Qin and Prybutok (2009) noted that food properties were found to be the best predictor of customer satisfaction as compared to reliable interpersonal service and environment presentation. Students can enjoy a wide variety of fresh food selections when local area vendors frequently provide fresh food for the students' monthly menu (Cohen, 2009). The degree of satisfaction with university cafeteria depends mostly on the quality of meals, diversity of food, food hygiene and environment (Kim & Kim, 2004). Hence, the following hypothesis is posited.

H1: Food quality has a positive influence on the level of student satisfaction with the university cafeteria.

Staff Performance

Employees' behavior (i.e. reliable, responsive and competent service rendered by the staff) affects customers' perceptions of service quality (Hensley and Sulek, 2007; Herrmann et al., 2007). The interaction between the cafeteria staff and students, such as friendly gestures e.g. smiles and greeting and high levels of responsiveness, cleanliness and quick service is important as it influences student satisfaction with the service quality (Barlett and Han, 2007). The following hypothesis is hence developed:

H2: Staff performance has a positive influence on the level of student satisfaction with the university cafeteria.

Price Fairness

Price fairness or "payment equity" refers to the perceived fairness of the price/usage trade-off (Martin-Consuegra et al., 2007; Oliver and Swan, 1989). Customers compare their current payment with the normative expectation and evaluate whether the payment is higher or lower than what they perceive. The more equitable a customer believes the price/usage trade-off to be, the more satisfied he/she will be with the service (Oliver and Swan, 1989). Price perceptions influence satisfaction judgments directly as well as indirectly through perception of price fairness (Herrmann et al., 2007). Martin-Consuegra et al. (2007) found that perceived price fairness positively influences customer satisfaction. The subsequent hypothesis is thus proposed:

H3: Price fairness has a positive influence on the level of student satisfaction with the university cafeteria.

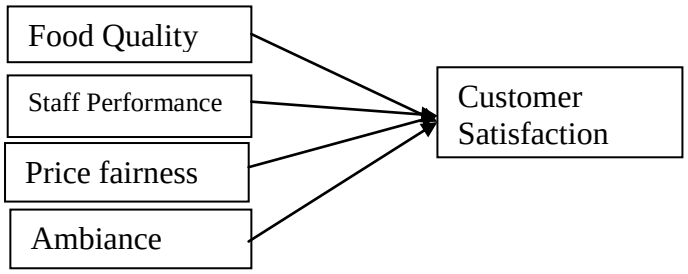
Ambiance

Cafeteria ambiance is determined by the spatial arrangement of the seating, quality of the interior design, and the suitability of the background music, which are important contributors to the high satisfaction of diners (Namkung and Jang, 2009). Moreover, food packaging, plate size and design, lighting and dining companions at the cafeteria influence the individual's immediate setting (Story et al., 2008). The design of the cafeteria environment influences the consumer's food choices and eating behaviors which call the personal food environments to promote wellness, combat obesity and complement interventions at higher levels (Raman and Chinniah, 2011; Wansink et al., 2001). Further, the physical setting influences customers' perceptions of service quality (Hensley and Sulek, 2007; Norhati & Nur Hafisah, 2013). Prior research by Flegal et al. (2010) found that there are relationships between food information, food quality, eating behavior, eating environments, and food distribution environments. Hence, it is posited that:

H4: Ambiance has a positive influence on the level of student satisfaction with the university cafeteria.

The suggested research framework is demonstrated in Figure 1.

Figure 1 Research Model



Methodology

A Structured self-administered questionnaire survey was successfully conducted among 79 undergraduates from Institut Pendidikan Guru Gaya Sabah campus, Malaysia via convenience sampling method. Initially, 100 questionnaires were distributed in May 2013 of which 21 were returned incomplete. The questionnaire was prepared in English and then translated into Malay by the author and reviewed by two bilingual linguists. Section A of the questionnaire contained demographic questions relating to gender, age and race, while Section B required respondents to indicate levels of agreement on factors such as food quality (9 items), staff performance (5 items), price fairness (3 items), ambiance (6 items) and students' satisfaction (5 items). These variables were adapted from Kim and Kim (2004); Martin-Consuegra et al. (2007); Story et al. (2008); Raman and Chinniah (2011) and were measured using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Data was analyzed via Structural equation modeling (SEM) technique using as AMOS 21.0 computer program with maximum likelihood estimation as it has the ability to ensure the consistency of the model with the data and to estimate effects among constructs instantaneously.

Data Analysis

Table 1 details the descriptive statistics of the demographic profiles of respondents. Female respondents represented 67 per cent of the sample, while male respondents represented the remaining 33 per cent, with 3 per cent aged 17, 86 per cent aged 18, 10 per cent aged 19 and 1 per cent aged 20. In terms of race, the majority were Kadazandusun (39.7 per cent), followed by Malay (32.1 per cent), Chinese (1.3 per cent), and others (26.9 per cent). The science and non-science streams represented about 1.3 per cent and 98.7 per cent, respectively.

Table 1: Demographic Profile of Respondents

		Frequency	Percentage (%)
Gender	Male	26	33.3
	Female	52	66.7
Age (years olds)	17	2	2.6
	18	67	85.9
	19	8	10.3
	20	1	1.3
Race	Malay	25	32.1
	Chinese	1	1.3
	Kadazandusun	31	39.7
	Others	21	26.9
Academic Stream	Science	1	1.3
	Non Science	77	98.7

Structural Equation Modeling

Structural equation modelling is performed via two-steps: a measurement model and a structural model. The first aims to test the validity of each construct in the model, including item loading, construct reliability, and average variance extracted (AVE), whereas the latter aims to examine variance-explained estimates based on the effects among constructs.

Table 2 details the standardised items loadings, composite reliability and average variance extracted for each factor. All standardised items loadings are beyond 0.50 on their expected factor after the removal of items that do not meet the threshold value, signifying the construct validity is adequate. The results also show that the composite reliability scores for all constructs surpassed the satisfactory level of 0.70, specifying a relatively high level of constructs reliability. Next, all average variance extracted values are above the benchmark value of 0.50, implying that the current data have a excellent convergent validity.

Table 2: Reliability and Factor Loadings

	Estimate	Composite Reliability	Average Variance Extracted
Food Quality		0.855	0.545
FQ5	.739		
FQ6	.770		
FQ7	.728		
FQ8	.841		
FQ9	.589		
Price Fairness		0.924	0.859
PR1	.983		
PR2	.867		
Staff		0.880	0.649
ST1	.873		
ST2	.818		
ST3	.808		
ST4	.715		
Ambiance		0.916	0.644
AM1	.772		
AM2	.777		
AM3	.827		
AM4	.775		
AM5	.807		
AM6	.855		
Students Satisfaction		0.849	0.532
S1	.817		

	Estimate	Composite Reliability	Average Extracted	Variance
S2	.834			
S3	.634			
S4	.682			
S5	.655			

The results in Table 3 reveal that the shared variances of the construct with other constructs are lower than the squared root of average variance extracted from the individual factors, endorsing discriminant validity that each construct was statistically different from the others.

Table 3: Correlation Matrix

	Food Quality	Price	Staff	Ambience	Students Satisfaction
Food Quality	0.738				
Price Fairness	0.433**	0.927			
Staff	0.479**	0.004	0.806		
Ambience	0.424**	-0.027	0.755**	0.803	
Students Satisfaction	0.720**	0.520**	0.321**	0.329**	0.729

** Correlation is significant at the 0.01 level (2-tailed).

Table 4 indicates that the χ^2 of the model was 312.612 with 190 degrees of freedom (χ^2/df = 1.645) and a root mean square error of approximation (RMSEA) of 0.063. The fit indices value for CFI, GFI, NFI, CFI, and IFI were above 0.90 and RMSEA below 0.08, designating a satisfactory fit.

Table 4: Goodness-of-fit Indices for Structural Model

Fit Indices	Accepted Value	Model Value
Absolute Fit Measures		
χ^2 (Chi-square)		312.612
df (Degrees of Freedom)		190
Chi-square/df (χ^2/df)	< 3	1.645
GFI (Goodness of Fit Index)	> 0.9	0.965
RMSEA (Root Mean Square Error of Approximation)	< 0.10	0.069
Incremental Fit Measures		
AGFI (Adjusted Goodness of Fit Index)	> 0.80	0.927
NFI (Normed Fit Index)	> 0.90	0.904
CFI (Comparative Fit Index)	> 0.90	0.902
IFI (Incremental Fit Index)	> 0.90	0.905
RFI (Relative Fit Index)	> 0.90	0.901
Parsimony Fit Measures		
PCFI (Parsimony Comparative of Fit Index)	> 0.50	0.742
PNFI (Parsimony Normed Fit Index)	> 0.50	0.649

Figure 2 exhibits that all independent variables accounted for 84% of the total variance in students satisfaction (R^2=0.84), denoting the results are a sign of an adequate model fit between the proposed research model and the empirical data.

Hypothesis 1 posited that food quality significantly influences the level of students' satisfaction with university cafeteria. This hypothesis was supported with a β_1=0.880, p<0.05 (see Table 5). The rest of the proposed hypotheses had an insignificant relationship with the level of students' satisfaction with university cafeteria, i.e. price fairness (β_2=0.159; p>0.05), staff (β_3=-0.405; p>0.05), and ambiance (β_4=0.153; p>0.05), indicating that H2, H3, and H4 are rejected.

Figure 2: Final Model

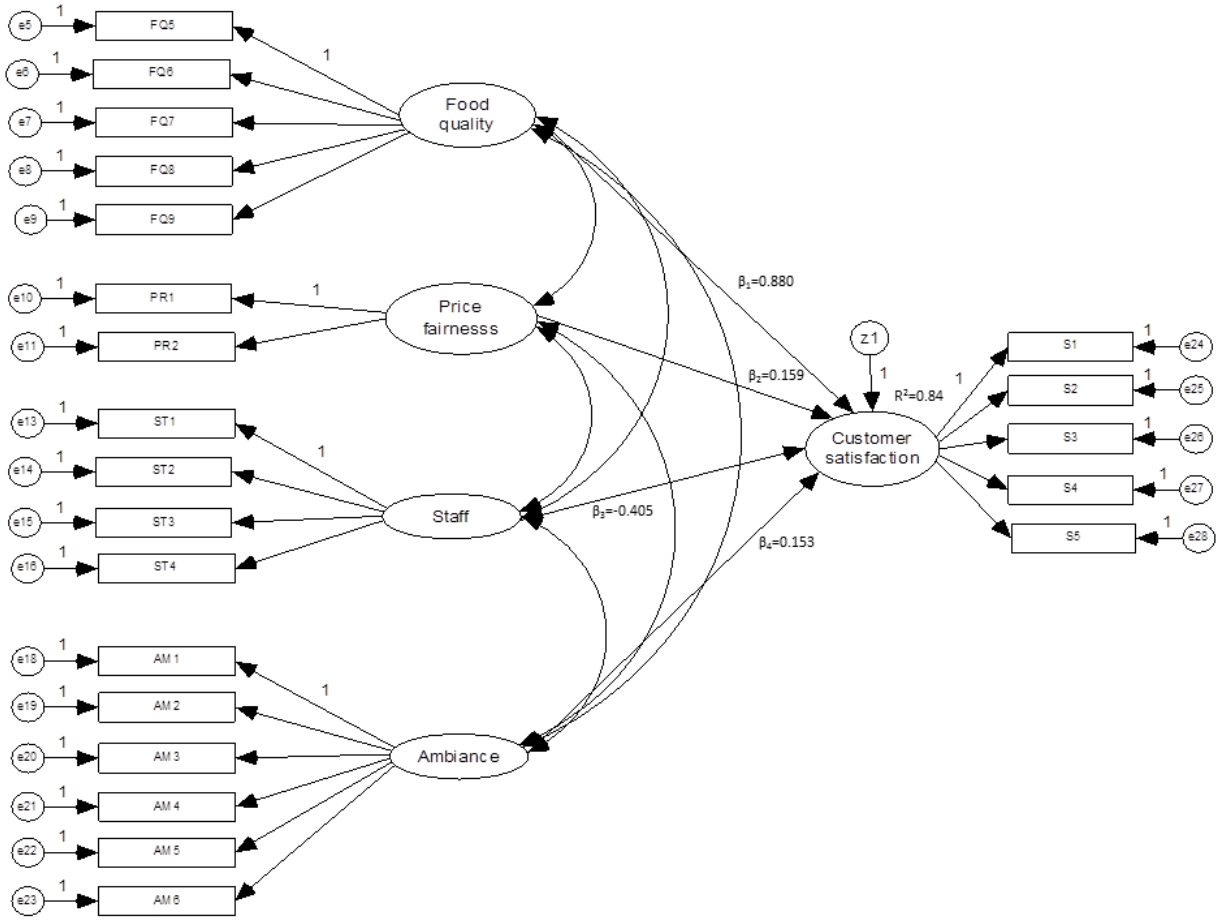


Table 5: Relationships with Students Satisfaction on University Cafeteria

			Estimate	S.E.	C.R.	*p*
Food Quality	--->	Students Satisfaction	0.880*	0.208	4.917	0.000
Staff	--->	Students Satisfaction	-0.405	0.200	-1.777	0.076
Price Fairness	--->	Students Satisfaction	0.159	0.080	1.515	0.130
Ambiance	--->	Students Satisfaction	0.153	0.158	1.521	0.128

* $p<0.05$

Discussion

This study assessed the relationship between the food quality, price fairness, staff performance, and ambiance of the university cafeteria with students' satisfaction. The SEM results shown that students' satisfaction with university cafeteria is highly affected by food quality, implying H1 is persistent. This finding is in tandem with those of earlier researchers (Hwang et al., 2003; Kim and Kim, 2004; Qin and Prybutok, 2009; Raman and Chinniah, 2011). Food quality aspects such as careful handling, cleanliness while serving to customers, quality offered and menu variation are considered important by university students dining at the cafeteria.

H2 is not retained as it proved to have an insignificant effect on students' satisfaction with the university cafeteria. The unsatisfactory services rendered by the university cafeteria operators, staff unfriendliness, unresponsiveness (lack of smiles and greetings) slow service and unreasonable product prices contribute to this finding. The results are inconsistent with preceding research (e.g. Barlett and Han, 2007; Herrmann et al., 2007).

Likewise, H3 showed that price fairness had no significant influence on the level of students' satisfaction with the university cafeteria. This is inconsistent with prior findings (Herrmann et al., 2007; Martin-Consuegra et al., 2007; Oliver and Swan, 1989), implying price fairness becomes less important to students as they acquire more information from the menus to make price comparisons and judgments whether the payment is higher or lower in relation of their expectations of the services rendered.

The final hypothesis, H4 is not supported by the data, indicating that the spatial arrangement of seating, quality of interior design, and suitability of background music do not influence students' satisfaction level with the service quality of the university cafeteria operators besides the food packaging, plate size and design, lighting and dining companions. This finding is parallel with those from earlier research (Hensley and Sulek, 2007; Namkung and Jang, 2009; Norhati & Nur Hafisah, 2013; Story et al., 2008).

Conclusion

In short, students' satisfaction with the university cafeteria is influenced more by food quality than staff, price fairness and ambience. It is therefore appropriate for university cafeteria operators by staff to keep on enhancing the quality of food serve to the customers to maximize their satisfaction level. They should also offer a varied menu at a reasonable price restaurant offer a reasonable price on the food variations and serve them in a proper ambiance that can arouses their interest in dining at the cafeteria.

This research has implications for research and practice. In terms of theoretical implications, food quality is the only dominant factor in stimulating students' satisfaction with the university cafeteria. Surprisingly, staff, price fairness and ambience factors do not affect satisfaction of the students' with the university cafeteria. Hence, students have different perceptions based on their experience of services from the university cafeteria staff, price fairness and ambience, which in turn affects their behavioral patterns.

With regards to practical implications, foodservice providers could use this empirical results to improve their service quality in order to meet and maximize students' satisfaction. They should focus on providing appropriate mechanisms to increasing the service delivery from the staff, beside focusing on food quality and an attractive and cozy ambiance provided at the university cafeteria. They should invest in these issues through staff training and development, using fresh foods in the menu choices and choosing furniture suitably designed at university cafeteria. Clearly, food quality is a critical factor that university cafeteria providers should consider regardless of their target market is whether students, academicians, or the public who visit and dine at the cafeteria.

Finally, it is recommended that future studies expand the number of respondents and include more respondents from other age groups such as university academicians and administrative staff in order to provide more representative results and improve sample since generalizability. Since the study was carried out in Malaysia the results may not be fully generalizable for other countries, as beliefs and perceptions may differ e.g. between developed versus developing countries and Islamic versus non-Islamic countries. This study can be further expanded using demographics, market environment, and the ideology and culture of the students as mediating and moderating variables.

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