University foodservice: An overview of factors influencing the customers' dining choice

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Abstract

On-campus foodservices were thought to be the first choice for university students to dine in. However, these seemingly captive consumers have been opting for off-campus foodservice as their preferred outlet. This paper aims to uncover specific factors that motivate undergraduate students to dine-in at university foodservice facilities using Profile Accumulation Technique (PAT). PAT is a semi-quantitative method that provides freedom for informants to answer in their own terms and words, alternatively the data could be analyzed statistically. 115 questionnaires were distributed to students and staff of a local university. Findings include a list of factors (positive perception, negative perception and expectations) that the students considered to be significant in determining their choice of food outlet. These factors are then descriptively analyzed to determine attributes influencing university customer preferences. This paper significantly contributes in providing a deeper insight into factors that influences dining choice of university foodservice's customers in Malaysia.

Introduction

As of the 21st century, Webber (2004) reported that internationally, the foodservice industry engenders a turnover of about $1.3 trillion (US dollars), which is almost RM4.4 trillion (Malaysian ringgit), and increases at the rate of 5% each year (Rodgers, 2007). Evidence to the increasingly demanding needs of the customers of the university foodservice is given with the gradual high enrollment (College & University, 1997; Knutson, 2000; Kim *et al*., 2004), with the overall university population predicted to increase to 22 million students by 2015 (Wolburg and Pokrywczynski, 2001). This in turn contributes to increasingly more unique demands and also invokes fiercer competition amongst foodservice operators from within the institutions as well as the off-campus commercial sector (Martin *et al.*, 1992). With the anticipation of high profitability in the foodservice industry, one would expect for the industry to catch up with the higher customer expectation and needs. However, it did not.

In Malaysia, university foodservice operators have the most difficult task of serving a community of individuals that is typically diverse, dynamic, and confined in universities. Majority of the university campus populations are at least temporarily limited to on-campus food outlets to satisfy their day-to-

day nutritional requirements. Although tempted by the convenience of dining facilities on campus, discontent with the current food and service quality of on-campus foodservice may encourage customers to search for alternative dining experiences off-campus (Gassenheimer *et al.*, 1998). Thus, university foodservice units face the everyday challenge of fulfilling the immediate needs and demands of these consumers. Therefore, the objective of this study is to uncover the overall customer perception and expectation of the institutional foodservices, hence gaining better understanding of customer needs especially within Malaysia's tertiary educational institutions.

Literature Review

Perception is the progression of experiences being examined and classified, in which the exact same situation can be interpret differently from one individual to another based on their personal construct systems (Johns and Lee-Ross, 1995). Boulding *et al.* (1993) have noted that the available model on perceived service quality as the gap between perception and expectation, and do not differentiate between different types of expectation.

The effect of normative expectations on experiences in service quality was supported by the

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SERVQUAL model by Parasuraman *et al.* (1988) and the satisfaction-service quality model developed by Oliver (1993). There are various researches carried out on consumer opinion and eating behavior in institutional foodservice facilities based on the models above (examples Knutson, 2000; Kim *et al.*, 2004; Joseph *et al.*, 2005; Estepa *et al.*, 2005; Wilcoxa *et al.*, 2008). Various attention-capturing factors were involved in meeting the college students' expectations, where each differs in importance from one location to another. When these factors were perceived to be of more negative than positive, it would automatically register as a bad experience which will taint the whole service experience, resulting in negative repatronagebehavior and word-of-mouth; thereby loose customers to the competition (Mensah, 2009).

For the purpose of this study, the factors that emerged during the coding processwere categorized into four (4) main categories, which are 'Service Delivery', 'Servicescape', 'Product', and 'Technology Application'. Any other factors were categorized in as 'Others'.

'Service Delivery' takes place during interaction between frontline employees and customers (the service encounter), attitudes and behaviors of the frontline employees which can influence customers' perceptions of service quality (Singh, 2000). Service employees whom are portrayed as attentive, pleasant and responsive to customers' needs, would in turn, leads to better customer service (Dienhart *et al.*, 1992). Estepa *et al.* (2005) discovered that attributes related to service delivery were given the highest expectations by students in a Midwestern university foodservice operation.

'Servicescape' is the overall atmosphere inside the foodservice facility, which is ambience, space, artifacts (items inside the facility), layout, design, cleanliness, lighting, other patron's behavior, and employee appearance (Bitner, 1992; Hoffman and Turley, 2002). Bitner (1992) also refers 'servicescape' as "all of the objective physical factors that can be controlled by the firm to enhance (or constrain) employee and customer actions" (p.45). The significance of a comfortable atmosphere is growing with time (Dulen, 1998). Bee Lia *et al.* (2010) further clarified that Servicescape can influence customer behaviors of the food service industry and should not be overlooked. This is because customers do evaluate their environment in relation to their satisfaction, as students of a Texas university has ranked social environment and atmosphere, subsets of Servicescape, as the two attributes that they are most satisfied with their campus foodservice venues

(Choi *et al.*, 2011).

Boone and Kurtz (2006) defined 'Product' as physical items, services or symbolic effects that offered to fulfill the needs of customers. Brumback (1998) had discovered that the most important reasons why customers return to a foodservice outlet have been identified as quality of food and fresh ingredients. Estepa *et al.* (2005) also deduced that university customer perception on tangibles and food are directly proportionate to customer satisfaction. A research carried out in a university by Shanka and Taylor (2005) clarified that students' satisfaction on the university foodservice is indeed inherent in the food quality sold in its cafeterias.

Lastly, the support and maintenance of any quality service delivery, servicescape and products would fall on the technological applications within the foodservice facilities. 'Technology' has been offered as an avail service to customers, irrespective of the customer and the service provider being coterminous, according to Sur (2008). Two examples of technology in foodservices are, the usage of computer chips in refrigerators, and the timers that keeps track in a busy kitchen. All these applications reduces over-cooked food and food waste while ensuring the cooked food are safe and perfectly done (Durocher, 2001). Stein (2005) has also recognized the potential cost savings and convenience for institutions such as universities to be a "cashless campus" by using point-of-sale technologies for foodservice, like offering meal plans in ID cards linked to a prepaid account; but the topic has yet to be a prevalent discussion topic in the foodservice literature.

Ruetzler and Meyer (2005) had emphasized that there is an urgent need for continual and integral improvement of campus dining operations in order to compete in the fierce foodservice market. All things considered, students' perceptions and expectations of Service Delivery, Servicescape, Product, and Technology are integral in maintaining the loyalty of these captive customers.

Methodology

The objective of this study was to determine the factors that would affect customer perceptions and expectations towards university foodservices. In order to achieve the objectives of this exploratory study, the factors influencing the customer's dining choice in the university foodservices were identified through literature reviews and a semi-quantitativetechnique called Profile Accumulation Technique (PAT) was employed to collect data. It is a research technique that has been "designed to

measure service quality on the customers' terms, rather than on those of the researcher" (Johns and Lee-Ross, 1995, p.2). The principal advantages of PAT are that the informants are allowed to respond to a questionnaire reasonably freely, and without any prompting by the researcher (Johns and Lee-Ross, 1995), which provides very basic useful information to start research on. This approach was chosen because it would bring forth a list of factors that is significant positively and negatively to the consumers in terms of university foodservice, and their normative expectations based on their experience. Thus, as the study supplies new data regarding the customers from a local university, it also helps in confirming previous researches performed in other tertiary educational institutions. Therefore, the results attained from this study would be enriched with data both from local and international sources.

The chosen location for the research is one of Malaysia's top public higher educational institutions, a research university in Serdang, Selangor. The university was chosen because it was reported by the Ministry of Higher Education (2011) to have some of the highest number of population of students and staff in Malaysia, approximately 30,000 in 2010. The study was conducted in September 2010, with the students and staff of the university as the informants of this study. The inclusion of staff as informants was explained by Andaleeb and Caskey (2007) where customers of on-campus food outlets is not limited to students, but also consist of staff as well as visitors. However, as visitors are classified as non-captive customers in nature, only students and staff were recruited in this study.

The minimum sample size requirement for PAT is fifty informants (Johns and Lee-Ross, 1995), however taking into account of the high population of the chosen university, the number of samples taken for this method was 115 questionnaires, more than twice what Johns and Lee-Ross (1995) has dictated would be sufficient and valid. The sampling method used for this study was purposive sampling, where the informants were those who fulfilled all three criteria as informants for this study and agreed to be part of the research: (1) must be students or staff of the university, (2) must have worked or studied at said university for a minimum of one year, and (3) have experience of being patrons of the university's on-campus foodservice facilities.

The data analysis used was thematic analysis, using QSR NVivo. Braun and Clarke (2006 p.81) had defined thematic analysis as 'a method for identifying, analyzing, and reporting patterns (themes) within data'. Braun and Clarke (2006) further explained that

this method acknowledges how individuals interpret their experience, these meaning would reflect the 'reality' and give impact into the broader social context.Thematic analysis would also enable the large volumes of data in this study to be sifted through with relative precisionin a systematic fashion.

Table 1. Demographic characteristics of informants

Demographics	Frequency	Percentage (%)
Profession		
Staff	12	10.4
Undergraduate Student	90	78.3
Postgraduate Student	13	11.3
Gender		
Male	28	24.3
Female	87	75.7
Races		
Malay	72	62.6
Chinese	39	33.9
Indian	1	0.9
Others	3	2.6

Results

As shown on Table 1, a total of 115 responses were collected from the students and staff of the university. From the data gathered, it is indicated that the number of staff responses are 10.4% of the total responses, in line with the current population for staff which are at 10% of the current students' population, whereas the response rate by undergraduate students and postgraduate students were at 78.3% and 11.3% respectively. For this study, it is acknowledged that the number of female informants are almost triple the number of male informants, at 75.7 and 24.3% respectively. This is because the number of female students in this university greatly outnumbered the male students. In regard to the ethnicity, the majority of the informants are Malays, at 62.6%, followed by Chinese (33.9%), others (2.6%) and Indians (0.9%).
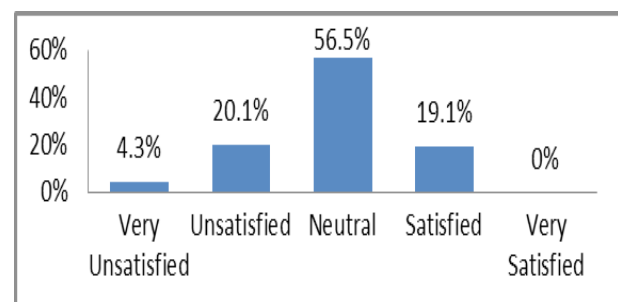

Figure 1. Satisfaction level with current university foodservice

Figure 1 shows the satisfaction level of customer with the current on-site foodservices. In this study, the informants have been asked to rate university foodservice based on their experience, from *Very Unsatisfied* to *Very Satisfied*. The informants' answer has ranged from *Very Unsatisfied* (4.3%), *Unsatisfied* (20.1%), *Neutral* (56.5%), to *Satisfied* (19.1%), but

never *Very Satisfied* (0%), showing that the responses tended to be weighted to the negative.

Table 2. Data coding summary of the PAT responses

Process	Perception		Expectations
	Positive Aspect	Negative Aspect	
Total Response to Factors	315	561	390
Common Factors Shared	20	28	20
Average Factor(s) Mentioned per Respondent	2.74	4.88	3.39

Table 2 reveals that the total responses to negative perception of 561 are higher than that of positive perceptions, which was at 315, with an average of 7.6 perceived responses per informant. A total of 876 perceptions were reported, where 36% are positive perceptions and 64% being negative perceptions. In lieu to their perceptions, informants correspondingly enumerated a total of 390 responses regarding to expectation for improvements, spanning 20 of 28 emerging factors of this study.

Table 3 displays a total of 32 attributes that were identified, which were distributed into the five specific categories researched on. These 32 attributes were perceived positively and negatively, as well as expectations for improvement. Positive perception was identified in 26 attributes, negative perception in all 32 attributes and expectations in 30 attributes. Frequency analysis revealed that the informants' highest concern goes to Products (37.9%), followed by Servicescape (29.7%), Service Delivery (17.8%), Technology (13.2%) and Others (Location Convenience) (1.3%).

Discussion

The perception of informants reflects their observation of the current foodservice operations. In this study, a pattern of higher negative perception towards university foodservices was observed, which is consistent with the findings of Johnston (1994, p. 99), who stressed that 'the impact of negative experiences is stronger than that of positive experiences and situations are easier to be recalled when things did not go as expected'. This result also corroborates with other studies on university foodservices in Malaysia, indicating that this finding is not an isolated event (Abd Ghani, 2009; Tudin et al., 2010; Abd Ghani et al., 2011; Raman and Chinniah, 2011; Othman et al., 2012). Perception consequently influences customer satisfaction, where evident negative perception contributes to dissatisfaction amongst the informants. Although most of the informants were leaning to being *Neutral*, compared to the 19.1% who were satisfied with the current catering facilities, a total of 24.4% of responses actually expressed that the existing campus dining operations as unsatisfactory. This indicates that the operators and management of the university must take action in enhancing its standards because it is important to have continual and integral improvement of on-campus university foodservices, as emphasized by Ruetzler and Meyer (2005).

In lieu to the uncovering of 28 emerging factors in this study, the factors that hold the highest concern of the customers would be first on discussion, sorted

Table 3. The frequency and percentage of emerging factors in university foodservice, by positive perceptions, negative perceptions and expectations

Categories	Perceptions						Expectations		Total	
	Positive Aspect		Negative aspect		Differences					
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Service Delivery										
Time Management	25	1.6	51	3.3	-26	-1.7	31	2.0	107	6.8
Service Effectiveness	23	1.5	22	1.4	1	0.1	23	1.5	68	4.3
Employee-Customer Interaction	41	2.6	33	2.1	8	0.5	18	1.2	92	5.9
Method of Service	6	0.4	2	0.1	4	0.3	4	0.3	12	0.8
Category Total	95	6.1	108	6.9	-13	-0.8	76	4.9	279	17.8
Servicescape										
Comfort	4	0.3	5	0.3	-1	-0.1	0	0.0	9	0.6
Cleanliness of Environment	19	1.2	79	5.0	-60	-3.8	59	3.8	157	10.0
Physical Appearance	37	2.4	17	1.1	20	1.3	16	1.0	70	4.5
Employee Appearance	15	1.0	24	1.5	-9	-0.6	21	1.3	60	3.8
Ambience	15	1.0	44	2.8	-29	-1.9	23	1.5	82	5.2
Lighting	17	1.1	2	0.1	15	1.0	1	0.1	20	1.3
Other Patron's Behavior	2	0.1	8	0.5	-6	-0.4	2	0.1	12	0.8
Space	9	0.6	11	0.7	-2	-0.1	4	0.3	24	1.5
Sitting Availability	2	0.1	9	0.6	-7	-0.4	10	0.6	21	1.3
Layout Effectiveness	3	0.2	4	0.3	-1	-0.1	3	0.2	10	0.6
Category Total	123	7.9	203	13.0	-80	-5.1	139	8.9	465	29.7
Product										
Product Variety	37	2.4	48	3.1	-11	-0.7	48	3.1	133	8.5
Product Availability	7	0.4	16	1.0	-9	-0.6	17	1.1	40	2.6
Taste	30	1.9	29	1.9	1	0.1	9	0.6	68	4.3
Serving Temperature	7	0.4	6	0.4	1	0.1	5	0.3	18	1.2
Menu Standardization	3	0.2	12	0.8	-9	-0.6	11	0.7	26	1.7
Portion Size	4	0.3	10	0.6	-6	-0.4	5	0.3	19	1.2
Nutritious Products	2	0.1	12	0.8	-10	-0.6	16	1.0	30	1.9
Food Safety	2	0.1	28	1.8	-26	-1.7	23	1.5	53	3.4
Product Appearance	6	0.4	16	1.0	-10	-0.6	5	0.3	27	1.7
Price	19	1.2	60	3.8	-41	-2.6	48	3.1	127	8.1
Product Quality	4	0.3	16	1.0	-12	-0.8	20	1.3	40	2.6
Food Ingredients	0	0.0	10	0.6	-10	-0.6	2	0.1	12	0.8
Category Total	121	8	263	17	-142	-9	209	13	593	38
Technology										
Technological Convenience	43	2.7	11	0.7	32	2.0	3	0.2	57	3.6
Technological Speed	10	0.6	7	0.4	3	0.2	1	0.1	18	1.2
Technological Reliability	2	0.1	26	1.7	-24	-1.5	11	0.7	39	2.5
Technological Intangibility	0	0.0	13	0.8	-13	-0.8	2	0.1	15	1.0
Technological Applications	16	1.0	23	1.5	-7	-0.4	39	2.5	78	5.0
Category Total	71	5	80	5	-9	-1	56	4	207	13
Others										
Location Convenience	7	0.4	2	0.1	5	6.9	12	0.8	21	1.3
Column Total	197	26.5	328	44.1	-131	-15.9	219	29.4	744	100.0

by the expectation count to highest five. Expectation in this study is the 'desired' normative expectation, where the informants listed out all that they have wanted the foodservice operators to act on. As perceived throughout the study, the informants' expectations of improvements is gravitated towards improving much of which their negative perceptions. This finding is supported by Boulding *et al.* (1993), where, normative expectations are all about what "should be". For the purpose of this paper, the discussion would comprise of eight attributes: the first five with the highest Consumer Expectation counts ('Cleanliness of Environment', 'Product Variety', 'Price', 'Technological Applications', and 'Time Management'), and three more in the table, which have outcomes distinctive from other findings of this study ('Technological Convenience', 'Technological Reliability', and 'Locational Convenience').

Cleanliness of Environment

In regard to the expectations, the factor 'Cleanliness of Environment' has the highest expectation count in this study (3.8%). The cleanliness of environment was frequently mentioned positively and negatively by the informants at 1.2% and 5.0% respectively. It is also the most frequent factor being repeated in the study (10.0%), and has the most negatively-weighted attribute (5.0%), further presenting the importance of environmental cleanliness to the customers.

'Cleanliness of Environment' has an expectation count of 3.8% was perceived much more negatively (-3.8%) compared to 'Product Variety' (-0.7%). This is because 30 out of 34 perception counts were recorded to be negative, thus tipping the scale more to the left of neutral. This finding is alarming, because a customer's first impression of the quality of a foodservice outlet is from what they can see of the outlets' appearance (Bitner, 1992). The informants reported that the environment to be '*not hygienic enough*', '*not clean*', and with '*poor sanitation*', '*the cleanliness is terrible*', as an informant explained:

"*Poor sanitation of the environment (seating, cutleries, floor). This problem is very obvious in every university foodservice establishments.*" [Staff, 7 years in university]

They also emphasized that apart from the above issues, the foodservice crew took their time in cleaning up. This lead them to finding such as '*dirty plates on the table for a long period of time*', '*litter around the premises*', and '*birds feeding off leftovers*'. One of the informants concluded that:

"*...the cleanliness is not made a concern [by the operators].*" [Undergraduate Student, 7 years in university]

From the customers' observation, 10.8% of their expectations were on the fact that the environmental cleanliness should be improved. Most of the expectations lined out wished that university foodservice would improve their cleanliness in the outlets, and one emphasized on the fact that:

"*…the hygiene level of the university foodservice needs to be improved. We do not expect for the university foodservice establishments to have an excellent hygiene level as in fine dining restaurants. At least, the staff should practice the basics of food sanitation in their outlets.*" [Staff, 3 years in university]

Product Variety

'Product Variety' was mentioned repeatedly as customers were able to choose from a 'lot kinds of food' with a 'wide range of choices'. After 'Cleanliness of Environment', 'Product Variety' has the second highest expectation count at 8.5%. This finding is supported by Shanka and Taylor (2005) that students' satisfaction on the university foodservice is inherent in the quality of food sold in its cafeterias. With the positive and negative perception at 2.7% and 3.1% respectively, product variety of on-campus foodservice can also be seen as almost neutral (-0.7%). This is because along with positive perceptions, some informants also mentioned the negative perception of food variety, as this informant explained that university foodservice provides:

"*Almost the same menu item around the food courts on campus.*" [Undergraduate Student, 4 years in university]

This makes product variety as one of the most highly expected factors to be improved on. As mentioned above, most food are repetitively offered by different operators, which was mainly seen as '*Malay food*', and lacking of other ethnic food variety like Chinese food and Western food, which this informant explains:

"*Since I am a Chinese, I hope that more variety of Chinese food can be found in other cafeterias (not only in Kolej Serumpun). The examples can be Chinese soup, congee.*" [Postgraduate Student, 3 years in university]

"*All stalls seemed to offer same range of menu items. For instance, almost all stalls (are) selling*

Fried Rice, Fried Yellow Noodle and Fried Vermicelli Noodle. Nospecialties in food items, such as ethnic food: Wanton Noodle, Chicken Chop, etc." [Postgraduate Student, 3 years in university]

More so, some informants also mentioned the negative perception on the food variety, as this informant explain that the on-site operators:

"*...provide a wide range of choice of menu items, (but there is) overlap in providing the same menu items.*" [Postgraduate Student, 3 years in university]

This informant clearly explained that although food variety was clearly perceptible, the recurrence of similar food offered by different operators made the comprehensive menu items offered perceived as repetitive. As suggestions, they expect '*more food choices*', '*new menu items*', and '*changing menu*' on a rotatory basis. Thus, this makes product variety rated as one of the most highly expected factors to be improved on in this study at 3.4%.

Price

Following product variety at number three in the list is 'Price', which was also one of the customers' main concerns in university foodservices. It is included under the 'Product' category, instead of the 'Others' category, as informants have placed it under the category of products. The price was perceived by the informants to negatively weighted at -2.6%. This is understood because even when some informants deemed the price as '*affordable*' and '*cheap*', most of the informants who are students buy food on limited funds. Thus, the prices were perceived to be '*high*', '*too expensive*', and '*not fixed*' at a single rate, compared to off-campus foodservice; which this informant explained:

"*The prices are high for students. We can get cheaper price from outside.*" [Postgraduate Student, 4 years in university]

There are also reports of the value or quality of the food served was not in proportion with the price. They explained that 'the prices are not reasonable', where the portion is 'not appropriate' for the price the food is being sold. As these informants summarized:

"*The product that was given is not matched with the value.*" [Undergraduate Student, 4 years in university]

"*The price should be fair enough to the food quantity because some of it is expensive but the amount (portion) is too little.*" [Undergraduate Student, 2 years in university]

Price is a very important factor to focus on, as it is clearly stated by the informants that off-campus foodservice is offering food products that is less expensive compared to on-campus foodservice, which in turn would make them choose off-campus food outlets over on-campus ones. Thus, the expectations for less pricey products in university foodservice were at 3.1%, where the informants voiced expectations that university foodservice should change, or '*lower the price*' of food products, to '*which is expected by all*' and make it '*affordable*', so that they can afford to buy the food. Some suggested that the foodservice operators should adjust the food items on the menu and offer food items with a more affordable price, as '*not everyone could afford the price offered*'. Thus the campus foodservice should focus on the:

"*...pricing factor. (Operators) should lower the price so that students could afford to consume food (on-campus).*" [Undergraduate Student, 2 years in university]

Technological Application

The fourth in the list is 'Technological Applications'. This factor considers the utilization of technology observed by the customers in the university foodservice operations. The finding also suggests that most of the informants utilized the meal plan debit card provided by the university. They mentioned that the application of such technology in university foodservice as '*good*' and '*appropriate for students*', where:

"*The meal plan card is good in order to nurture the students on how to plan their expenditures.*" [Postgraduate Student, 5 years in university]

However, there were no other customer-interactive technology was implemented by the university as observed in the results, tilting the scale to the negative at a modest -2.5%. In regard to the first two factors discussed, 'Technological Application' has a much lower negative perception. This is because the usage of technology in the on-campus foodservice is minimal that their perception score is lower. One informant iterated the fact specifically:

"*Besides meal plan debit card, cannot see other*

technology such as bainmarie." [Undergraduate Student, 2 years in university]

In lieu, the customers have the '*desire*', or need for more technology to be integrated in the university food service, to '*ensure everything run smoothly*', like:

"*...provide the touch screen around the cafe to facilitate the ordering (of food) without having to queue up.*" [Undergraduate Student, 4 years in university]

One informant has even suggested that the university management should maximize the use of students' matrix card as a debit card instead of supplying the students with separate meal plan cards. Other informants also suggested that special prices should be introduced along with the meal plan card to promote the use of this technology, where the university:

"*...should give rebate to those who use the meal plan card.*" [Postgraduate Student, 4 years in university]

Thus, it is shown that the use of technological advances in on-campus foodservice were in demand. Other technological applications in the university foodservices were also coveted by the customers, like *bain marie*, water filter machines, ATM machine and Wi-Fi connections. *Bain marie* was specifically mentioned, as a health-conscious informant has indicated:

"*Get the suitable technology for foodservice so that all food served can be in good condition*". [Undergraduate Student, 3 years in university]

Time Management

Last in the list at number five is 'Time Management' (2.0%). At -1.7%, it is also the second highest negatively-weighted factor in the study. The data shown in Table 3 also indicates that even with fast service, the informants still suffer from occasional delays (3.3%). They described the service as '*too slow*' and sometimes need to wait for a '*longer time*' if there was a long queue or during peak times. More so that:

"*...sometimes, the workers forgot the food that you ordered and need to wait for a very long time.*" [Undergraduate Student, 2 years in university]

Signifying both positive and negative perceptions towards time management, one informant explained:

"*Service is quick...but sometimes the employees purposely delay to take the order and do not realize the customers (are) waiting.*" [Undergraduate Student, 2 years in university]

Thus, the informants lined out recovery expectations that the foodservice providers must serve food '*faster*' with '*more efficiency*' so to '*reduce waiting time*'. One informant suggested that foodservice operators should:

"*Increase number of the workers, and give appropriate training of the workers (in faster service).*" [Undergraduate Student, 2 years in university]

In lieu with the above five attributes with the highest Customer Expectation count, the next part of the result will discuss on other factors deemed to be important, based on the perception weight they conveyed in the study.

Technological Convenience and Reliability

'Technological Convenience' and 'Technological Reliability' go hand-in-hand as a pair of interconnected attributes; the relationship of which was uncovered in this study. 'Technological Convenience' stood out as it has the highest positively-weighted factor at 2.7% and positive perception at 3.9%, with not surprisingly one of the lowest expectation counts (0.3%). The use of technology in university foodservices was full of praises as it brings convenience to the users. The informants may considered that "*the usage of technology is quite good*" because it is '*convenient*' thatthe users are not required to carry cash with them whenever they need to buy food from the university foodservice operators. This advanced mode of payment can also ensure faster service and safer means of transferring money from the buyer to the vendor, as there was '*no need to bring money (cash)*' with them during the transaction, to which these informants explain:

"*...prevents people from carryingmoney (cash) or if meal plan card is accidentally being misplaced, it could be terminated and the money (credits) can be reclaimed.*" [Undergraduate Student, 3 years in university]

"*Usage of meal plan debit card is convenient for consumer. No need to bring too much cash.*" [Undergraduate Student, 2 years in university]

However, the achievements of 'Technological Convenience' are undermined by customers' distrust

in 'Technological Reliability'. This factor was poorly received by the informants at -2.2%. This is due to the customers' comments that the usage of this technology is mostly unreliable, where the number of outlets that uses the meal plan card are '*limited*', and as it cannot be used outside the university, it is '*not convenient*' for those living off-campus. This technology:

"*...has limited number of ways of payment, where only cash and meal plan card are available and acceptable in the university foodservice to date. In fact, the usage of meal plan card is not widely used.*" [Staff, 7 years in university]

"*The meal plan card are not efficient since it discriminate student's choice to eat food at their favorite place...not every premises can use the meal plan.*" [Undergraduate Student, 3 years in university]

"*The machine for meal plan debit card sometimes cannot function properly.*" [Undergraduate Student, 2 years in university]

In summary, there are two definite undesirable implications: (1) not all university food outlets use the debit card system, and (2) the debit card system fails occasionally. These are the two main reasons why the informants do not have full faith in the system. Thus, they had indicated the needs for improvements to increase reliability by implementing the debit card system '*at any food stall inside the university campus*' and ensuring that the system runs efficiently though continuous '*maintenance of the meal plan debit card machine*'.

Location Convenience

Even with all the conveniences of technology, the 'Location Convenience' is also mentioned to be one of the key factors in influencing customer's dining choice, at 1.1% expectation. The location of the foodservice outlets dictates the accessibility of the food outlets to the customers. As most students' mobility is restricted because they travel by foot, they would expect for on-campus foodservice outlets to be '*near to (their) faculties*' and colleges because '*convenience*' was one of the main reason of choosing a foodservice outlet, an informant mentioned, as these informants specifically explains:

"*...accessibility to the places (as convenience is one of the main factors in choosing foodservice establishments).*" [Undergraduate Student, 4 years in university]

"*The location should be placed in the center of population.*" [Undergraduate Student, 2 years in university]

Conclusion

From the findings discussed above, we could conclude that both positive and negative perceptions were suggested by customers in university foodservice, and these experience-based perceptions contributed to explaining their expectations of university foodservice. It is observed that within the categories, customers have experienced more negative factors than there are positive experiences with university foodservice. This may be explained by the discrepancy between the predictive expectation, of 'what will be', with what they have perceived; this study did not delved into predictive expectation as the focus of the project was knowing the current situation and improve from there with the customers' normative expectation of what 'should be' (Boulding *et al.*, 1993).

As this study has indicated, all of the perceptions, negative as well as positive are supplemented with normative expectations, or suggestions for improvement as to facilitate food service operators in improving the quality of their service and facilities in the future. Satisfaction towards the current foodservice is influenced by the perceived experience of the customers. More positive aspects observed would help yield satisfaction amongst the customers and ensure their repatronage at on-campus foodservice. It is imperative that the university foodservice to implement the suggested improvements as expected by the customers, in order to ensure repatronization and avoid their preference of off-campus restaurants over on-campus university foodservice (Gassenheimer *et al.*, 1998).

In conclusion, there are 32 attributes that influences customer perception and expectations of university foodservices. Out of the 32 attributes, the informants perceived that 'Cleanliness of Environment' as the most influential attribute in customer expectations, followed by 'Product Variety', 'Price', 'Technological Applications', and 'Time Management'. This study provided valuable information to the university's foodservice managers and operators in regards to customer perception and expectations of their on-site facilities. Improvements and development of the foodservice operations encompassing the findings of the study would help increase the customers' satisfaction towards on-campus dining experience.

In the area of university foodservice, this

study is significant to both theory and practice. It contributes to the theoretical advancement by exploring and expanding the characteristics of on-campus foodservice that influences customer choice behavior. In view of that, this study goes beyond the conventional close-ended questionnaires that have been widely utilized throughout the years in understanding customer purchasing behavior. PAT technique scrutinizing both customer direct response to university foodservice experience and their expectations towards improving their dining experience, thus add to a relatively new body of knowledge. The results of this study can also be used by university foodservice managers and operators so that they can attain finer understanding of their customer's perception of their organizations, therefore are able improve their operations according to the customer's needs.

However, there are limitations to this study. The responses were collected from only one public university, thus caution is essential in generalizing the findings to the entire university foodservice industry in Malaysia, especially within the context of private universities which have different customer demographics profile compared to public universities (Ministry of Higher Education, 2011). It is recommended that future studies should be expanded throughout the other universities in the country, inclusive of private universities, to improve the generalizability of the findings.

Acknowledgement

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