

The 'Inside-out' and 'Outside-in' Approaches on Students' Perceived Service Quality:

An Empirical Evaluation

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Abstract: Competition for student enrollment has intensified with the liberalization of the private higher education industry in Malaysia. This has prompted the higher private education institutions to pay more attention in assessing the overall students' perceived service quality of the respective institution. The aim of this research is to evaluate and validate the determinants of the overall students' perceived service quality for a private higher education institution in Malaysia, based on the combination of both the 'inside-out' and 'outside-in' approaches. A total of 458 undergraduate business students from a private university in Malaysia participated in this research. The research found that contact personnel, quality of librarians, access to facilities, curriculum, staff responsiveness from the Division of Examinations and Awards, reputation of the tertiary institution and academic program, amount of recreational activities, and cost of courses offered were positively related to the overall students' perceived service quality.

Keywords: inside-out approach; outside-in approach; perceived service quality; Malaysia

1. INTRODUCTION

Intensive competition in the higher education sector (Ford, Joseph and Joseph, 1999), internationalization of higher education (Marzo-Navarro, Pedraja-Iglesias and Rivera-Torres, 2005),

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* Received on March 2, 2010; accepted on May 14, 2010.

higher expectation towards higher education institutions (Marzo-Navarro, et. al., 2005), increase of full fee payment students (Oldfield and Baron, 2000), and the classification of education as a marketable service (Cuthbert, 1996; Mazarrol, 1998) have prompted the higher education institutions to pay more attention in assessing the overall students' perceived service quality. The ability to meet customer-perceived service quality will affect the sustainability of an organization (Canic and McCarthy, 2000). This phenomenon is particularly true for private higher education institutions in Malaysia. Therefore, there is a need to identify what are the determinants for the overall students' perceived service quality. The aim of this research is to evaluate and validate the determinants of the overall students' perceived service quality for a private higher education institution in Malaysia, based on the combination of both the 'inside-out' and 'outside-in' approaches.

2. LITERATURE REVIEW

2.1 Characteristics of Services

Lovelock (2001, p.3) defines service as "an act or performance offered by one party to another". Intangibility, perishability, inseparability, and heterogeneity are the main characteristics of any service industry (Hill, 1995; Lovelock, 2001; Shank, Walker and Hayes, 1995).

2.2 Classification of Services

Due to the inability of existing goods typologies to describe the unique nature of services (Albers-Miller and Stafford, 1999), different researchers introduce various service classification schemes in the extant literature (Nelson, 1970; Dabry and Karni, 1973; Lovelock, 1983; and Mills and Margulies, 1980). The classification of services that is adopted in this research is based on the work of Nelson (1970) and Dabry and Karni (1973).

The attributes of services that include search, experience and credence qualities, will influence the outcomes of consumer's decision making (Mitra and Capella, 1997; Nelson, 1970; Darby and Karni, 1973). Nelson (1970) uses search and experience qualities to distinguish between products and services. Search qualities are attributes that can be evaluated before a purchase (Mitra and Capella, 1997; Mattila, 1999; Mitra, Reiss and Capella, 1999; Mattila and Wirtz, 2002). Many physical goods are strong in search qualities, therefore consumers can easily evaluate the qualities of these goods before making any purchases (Mattila and Wirtz, 2002). Experience qualities are those attributes that can be discerned only after the service has been delivered or consumed (Mitra and Capella, 1997; Mitra, et. al., 1999; Pires and Stanton, 2000; Hansen, 2005). Most of the services exhibit experience qualities because of the four characteristics of services, which are, intangibility; perishability; inseparability; and heterogeneity (Bennett, et. al., 2003). As a result, consumers would have to experience the services before they are able to assess the services. Darby and Karni (1973) have extended the Nelson's framework by incorporating credence qualities as part of the attributes of services. Credence qualities are defined as "service attributes that cannot be evaluated by consumers with any certainty even after they have experienced the service process" (Bennett, et. al., 2003, p.25). Most of the professional services exhibit credence qualities because the consumers do not have the capabilities to objectively evaluate the standard of the services performed (Bennett, et. al., 2003). Services high in credence qualities pose higher levels of perceived risk (Ostrom and Iacobucci, 1995). Therefore, personal influence and word of mouth publicity play important roles in influencing consumer's decision process in experiencing professional services (Robertson, cited in Stafford, 1996; Perry and Hamm, 1969).

In conclusion, products with high search qualities provide more product information to consumers in the purchasing decision making process (Mitra, et. al., 1999). Similarly, products with high credence

qualities provide less product information to consumers in the purchasing decision making process (Mitra, et. al., 1999). Consumers may doubt about the credence claims because these claims cannot be assessed and proven even after they have purchased or consumed these products (Nelson, 1974).

2.3 Services Marketing and Higher Education

Higher education sector is selected in the study because it possesses the characteristics of a service industry such as intangibility, perishability, inseparability, and heterogeneity (Hill, 1995; Lovelock, 2001; Shank, et. al., 1995). Like most of the professional services, higher education exhibits and possesses credence qualities because the students do not have the capabilities to objectively evaluate the standard of the services performed (Bennett, et. al., 2003). Higher education should be part of services marketing because it meets the criteria of services marketing (Mazzarol, 1998). The criterions highlighted by Mazzarol (1998, p.164) include: “(1) Education as a service is directed to the people. Students’ participation in the learning process can be critical to success; (2) Education involves a lengthy and formal relationship between the education providers and the students. Students have a “membership” relationship with the service providers (Lovelock, 1983), offering the providers opportunities to develop strong loyalty and enhance client service features; (3) The extent to which education services are customized varies. Teaching can vary from individual tutorials and seminars to mass lectures. Thus, quality control will be problematic. Educational services, as with any service, cannot be stored for use on another day; (4) In education the demand is subjected to relatively narrow fluctuations over time, yet supply can be difficult to manage, with limitations placed on staff availability and places on courses. Resources can create potential problems in respect of lecture theatres, seminar rooms, accommodation and other on-campus facilities; and (5) The service encounter and location assume greater importance for on-campus delivery, with satisfaction influenced by the interaction with the service providers, facilities and peers. Services must be transformed to tangible offerings for evaluation and comparison with the competition. If the institution does not do this itself, students will form their own judgment”.

2.4 Disconfirmation of Expectations Theory

The core concept of service quality is the disconfirmation of expectations theory (Dawes and Rowley, 1999). Disconfirmation will be formed as a result of comparing the expectations and perceptions of the services consumed (Ruyter, Bloemer and Peeters, 1997) and subsequently the outcome of the disconfirmation affects the perceived service quality (Gotlieb, Grewal and Brown, 1994; Philip and Hazlett, 1997). Customers will be satisfied if the service delivery falls into the range of zone of tolerance (Parasuraman, 2004). Zone of tolerance is defined as “the extent to which customers recognize and are willing to accept” the variation of the service performance (Zeithaml and Bitner, 2003, p.63). The two types of disconfirmation are positive disconfirmation and negative disconfirmation. When the performance of the services exceeds the prior expectations, customers will form positive disconfirmation and satisfaction. Whereas, when prior expectations exceed performance of the services, customers will form negative disconfirmation and dissatisfaction (Ruyter, et. al., 1997). Negative disconfirmation of expectations will create the negative impact towards the perceived quality of the services offered (Gotlieb, et. al., 1994). This relationship is supported both theoretically (Fishbein and Ajzen, cited in Gotlieb, et. al., 1994) and empirically (Brown and Sawartz, Parasuraman, et. al., both cited in Gotlieb, et. al., 1994).

Although disconfirmation of expectations theory does provide a good framework to compare expectations and perceptions of the services, it nevertheless lacks the quantitative foundations that can be applied universally across the industries (Baggs and Kleiner, 1996). In addition, the concept of exceeding expectations may be hard to achieve and is difficult to operationalise because there is no economic reasons for providing higher than expected quality (Johnston, 2004; Gronroos, cited in Johnston, 2004). Thus, this may be perceived by the consumers as overpricing of services and may in turn, results in bad publicity (Johnston, 2004; Gronroos, cited in Johnston, 2004). However, the extant

literature does support the relationship between the disconfirmation of expectations theory and the perceived service quality both theoretically (Fishbein and Ajzen, cited in Gotlieb, et. al., 1994) and empirically (Brown and Swartz, 1989; Parasuraman, Zeithaml and Berry, 1988). Therefore, this research will adopt disconfirmation of expectations theory as a platform to evaluate the overall students' perceived service quality.

2.5 Service Quality and Perceived Service Quality

Service quality is defined as "the difference between customers' expectations for service performance prior to the service encounter and their perceptions of the service perceived" (Asubonteng, McCleary and Swan, 1996, p.64) while the perceived service quality is defined as "a global judgment, or attitude, relating to the superiority of the service" (Parasuraman, et. al., 1988, p.16). Kang and James (2004) assert that perceived service quality is the core issue of service quality in the services marketing literature.

There are 19 different service quality models available in the extant literature (Seth, Deshmukh and Vrat, 2005). Among the various service quality models, the Technical and Functional Quality Model (Gronroos, 1984) and the Service Quality Gap Model, also known as SERVQUAL model (Parasuraman, Zeithaml and Berry, 1985) are the two most commonly quoted service quality models in the literature.

2.6 The SERVQUAL Model

Most of the determinants of the overall students' perceived service quality in the extant literature are modified or adopted from the SERVQUAL Model (Soutar and McNeil, 1996; Waugh, 2001; Sohail and Shaikh, 2004). The SERVQUAL model which is developed by Parasuraman, et. al. (1985) has been used to measure the discrepancies between the level of service expected by the customers and the perception of the actual service received by the customer (Bennett, et. al., 2003). There are five key dimensions of the SERVQUAL model which can be used by the consumers to evaluate the overall perceived service quality. The dimensions include: tangibles (which refers to the appearance of physical facilities, equipment, personnel and communication materials), reliability (which refers to the ability to perform the promised service dependably and accurately), responsiveness (which refers to the willingness to help customers and to provide prompt service), assurance (which refers to the knowledge and courtesy of employees and their ability to convey trust and confidence) and empathy (which refers to the provision of caring, individualized attentions to customers) (Parasuraman, et. al., 1988).

2.6.1 Criticisms of the SERVQUAL Model

Basically, the criticisms of the SERVQUAL Model can be divided into two major components: theoretical and operational criticisms (Buttle, 1996).

2.6.1.1 Theoretical Criticisms

The two major theoretical criticisms for the SERVQUAL model are process orientation and dimensionality. In terms of process orientation, the SERVQUAL model has been criticized for concentrating in measuring the functional quality dimension of the service quality because four out of five dimensions of the SERVQUAL model focus on measuring human interaction (Gronroos, cited in Kang and James, 2004; Mangold and Babakus, 1991; Richard and Allaway, 1993). Functional quality is defined as "how the customer experienced the human interactions during the simultaneous production and consumption of the service" (Ferguson, Paulin, Pigeassou and Gauduchon, 1999, p.59). Richard and Allaway (1993) claim that the SERVQUAL model, which heavily evaluates the service quality based on the functional quality dimension, may produce bias information in understanding the consumer

behaviour. The combination of both the functional quality and the technical quality will enable the prediction of consumer behaviour more accurately in the services marketing. This is because the service encounter does not only encompass personal interactions between customers and employees (which refers to functional quality) but also involve interactions between customers and self-service equipment (which refers to technical quality) (Buttle, 1996). Technical quality is defined as “the visible or physical tangibles used or experienced by the customer during the service delivery process” (Ferguson, et. al., 1999, p.58). However, it is difficult to evaluate the technical quality by customers either before or after the service delivery process because they lack technical competencies (Asubonteng, et. al., 1996; Weems, cited in Hausman, 2003; Kang and James, 2004). Therefore, customers may rely heavily on functional quality to evaluate service quality and performance (Hausman, 2003).

On the dimensional criticism, there is still much dispute on the context and the number of dimensions because the five dimensions of SERVQUAL model “do not hold up under statistical scrutiny” (Hoffman and Bateson, 2006, p.347; Brady and Cronin, cited in Kang and James, 2002; Carman, 1990). The five dimensions of the SERVQUAL model are highly interrelated (as measured by the correlations) and “the distinction among the responsiveness, assurance, and reliability dimensions tends to blur under statistical scrutiny”. (Hoffman and Bateson, 2006, p.347). In addition, the five dimensions of the SERVQUAL model may not able to apply universally in measuring the perceived service quality in different industries because the business operation and business environment of the various industries varies (Chen and Ting, 2002; Babakus and Boller, 1992). Therefore, the adoption of the SERVQUAL model without any modification and validity check will create unexpected result due to the problems of construct validity (Carman, 1990). In responding to this criticism, Parasuraman, et. al. (1988) agree that the context of the items in the SERVQUAL model can be modified based on the various industries but the modified items must be similar to the existing SERVQUAL items.

2.6.1.2 Operational Criticisms

The process of administrating lengthy questionnaires and rating scales are the two major operational criticisms of the SERVQUAL model. In terms of administrating lengthy questionnaires, Carman (1990) criticizes the research approach adopted by Parasuraman, et. al. (1988) for requesting respondents to finish two sets of different questionnaires simultaneously that are related to the expectation and perception. Clow and Vorhies (1993, p.28) argue that “when expectations and experience evaluations are measured simultaneously, respondents will indicate that their expectations are greater than they actually were before the service encounter” and “customers who had a negative experience with the service tend to overstate their expectations, creating a larger gap; and customers who had a positive experience tend to understate their expectations, resulting in smaller gaps” (Buttle, 1996, p.23).

In terms of the criticism on rating scales, there is no consensus towards how to allocate the number of scale points in the Likert scale to maximize the reliability in the SERVQUAL model (Philip and Hazlett, 1997). Based on the extant literature, some studies argue that the reliability does not have the relationship with the number of scale points, while other studies claim that the reliability of the research outcome will be affected by the use of various scale points (Chang, 1994). Some researchers argue that the adoption of the seven-point Likert scale in the SERVQUAL model proposed by Parasuraman, et. al. (1988) cannot distinguish the variations in the consumer expectations and perceptions. Gilmore and Garson (cited in Philip and Hazlett, 1997, p.271) argue that “a consumer may feel that their expectations lie between 4 and 5 on the scale, and that their perceptions lie somewhere between 5 and 6; however, the recorded measurements would show no difference between expectations and perceptions, whereas there would be an actual difference”.

2.7 The SERVQUAL Model and Higher Education

The SERVQUAL model is frequently used and adopted in the extant literature to evaluate the overall students' perceived service quality in the education industry (Russell, 2005). The SERVQUAL model that is developed by Parasuraman, et. al. (1985) is adapted in this research to measure "the gap between customers' expected level of service and their perceptions of the actual service perceived" (Bennett, et. al., 2003, p.84). However, there is no consensus in the extant literature pertaining to the development and definition of the determinants of the overall students' perceived service quality in higher education. The different determinants that have been adapted from the five dimensions of the SERVQUAL model in evaluating the determinants of the overall students' perceived service quality for higher education institutions are illustrated in Table 1.

2.7.1 "Outside-in" and "Inside-out" Approaches

Based on the summary from the Table 1, there are two approaches adopted by researchers in setting the determinants of the overall students' perceived service quality in higher education. Service quality standards can be evaluated based on the perspective of the customers ('outside-in' approach) or the perspective of the service providers ('inside-out' approach) (Hoffman and Bateson, 2006). The 'inside-out' approach is where the university's academicians and administrators will be setting the determinants of the overall students' perceived service quality. They assume that they know the students' needs as well as the lecturers' contribution (Sander, Stevenson, King and Coates, 2000, p.309). LeBlanc and Nguyen (1997), Nagata, et. al. (2004) and Sohail and Shaikh (2004) are some of the proponents who prefer to adopt the 'inside-out' approach in evaluating the overall students' perceived service quality in higher education. However, 'inside-out' approach leads to the poor performance in service quality because feedback from the students was not taken into consideration (Joseph, et. al., 2005). Joseph, et. al. (2005, p.67) assert that "if firms do not know what their own customers desire in terms of service, then how can they possibly design programmes that match customer expectations of what constitute good service". While the key proponents who prefer to adopt the 'outside-in' approach in evaluating the overall students' perceived service quality in the higher education is Joseph, et. al. (2005). The 'outside-in' approach is where the determinants of the overall students' perceived service quality are determined based on the feedback from the students and outside consultants (Joseph, et. al., 2005). Researchers who have adopted the 'outside-in' approach would "research what customers expect of the service and they then work to provide the service that meets those customer expectations" (Zeithaml, Parasuraman and Berry, cited in Sander, et. al., 2000, p.309). A combination of determinants of the overall students' perceived service quality derived from both the 'inside-out' and 'outside-in' approaches provide a full picture for the administrators of the higher education institutions to understand the overall students' perceived service quality based on the opinions and feedback from the academicians and students. Determinants such as 'contact personnel', 'quality of librarians', 'access to facilities', 'curriculum', 'physical facilities of the tertiary institution', and 'staff responsiveness from the Division of Examinations & Awards' were adopted based on the 'inside-out' approach to evaluate students' perceived service quality (Sohail and Shaikh, 2004; Nagata, et. al., 2004; LeBlanc and Nguyen, 1997); determinants such as 'reputation of the tertiary institution and academic programme', 'amount of recreational activities', and 'cost of courses offered' were adopted based on the 'outside-in' approach to evaluate students' perceived service quality (Joseph, et al., 2005; Kennington, Hill and Rakowska, 1996). Consequently, the objective of this research is to evaluate and validate the nine determinants of the overall students' perceived service quality in Malaysia private higher education based on the combination of these two approaches.

2.7.1.1 Contact Personnel

The quality of services is reflected in the task that is carried out by the respective service providers

through their interaction with the client in the process of delivering such services (Heskett, 1987; Surprenant & Solomon, 1987). This perspective is also supported by Bitner, Booms and Tetreault (1990). The human interaction component will affect the customer's evaluation process in evaluating the perceived service quality (Bitner, et. al. 1990). One of the human interaction components to be investigated is the contact personnel (Sohail and Shaikh, 2004). It is tested as one of the independent variables for the purpose of evaluating the overall students' perceived service quality.

The contact personnel based on the research of Sohail and Shaikh (2004) includes courtesy, politeness and respect shown by the faculty administrators; courtesy, politeness and respect shown by the lecturers; neatness and cleanliness of the lecturers; competencies of the faculty administrators to perform their duties properly; and finally neatness and cleanliness of the faculty administrators. These items were developed based on the 'inside-out' approach and will be utilized to determine the impact of the contact personnel towards the overall students' perceived service quality.

2.7.1.2 Quality of Librarians

The human interaction component will affect the customer's evaluation process in evaluating the perceived service quality (Bitner, et. al. 1990). The quality of librarians is considered as one of the dimensions that determine the customers' evaluation of service quality in academic libraries (Nagata, et. al., 2004). Library services had been theoretically quoted as one of the determinants of the overall students' perceived service quality (Athiyaman, 1997; Hill, 1995). Quality of librarians is speculated or implied as one of the determinants of the overall students' perceived service quality.

Nagata, et. al. (2004) assert that the quality of librarians should include the ability of librarians to deal with students in a concerned or considerate fashion, the reliability and consistency as well as dependability of librarians in handling students' service problems, the readiness of the librarians in responding to students' questions, the competency of librarians in answering students' questions, and finally the efforts of librarians in understanding the needs of students. These items that were developed based on the 'inside-out' approach and will be tested in this research to determine the impact of the quality of librarians towards the overall students' perceived service quality.

2.7.1.3 Access to Facilities

According to LeBlanc and Nguyen (1997) and Sohail and Shaik (2004), the abilities of students to access the facilities offered by tertiary institution will affect the overall students' perceived service quality for a particular tertiary institution. Access to facilities based on the research of Sohail and Shaik (2004) includes the convenience of access to the parking facility, computer facility and study room facility. This 'inside-out' approach is tested in this research to determine the impact of the access to facilities towards the overall students' perceived service quality.

2.7.1.4 Curriculum

Teaching is an important factor in determining the overall students' perceived service quality with course content is one of the teaching components (Hill, 1995). Course content is also known as curriculum. Curriculum has been tested by many researchers in the extant literature as one of the important determinants of the overall students' perceived service quality. (Athiyaman, 1997; LeBlanc and Nguyen, 1997; Sohail and Shaikh, 2004).

According to LeBlanc and Nguyen (1997), curriculum refers to the suitability of the academic programmes and course content, the number of courses offered, and finally the extent to which the objectives of the academic programmes are explained to the students. These items were developed based on the 'inside-out' approach and will be tested in this research.

2.7.1.5 Physical Facilities

Bitner (1990, 1992) asserts that the physical facilities are able to indicate the capabilities and the quality offered by the service based company. The physical facilities of the tertiary institution to a certain extent do influence the overall students' perceived service quality because students will associate various tangible elements with the services provided by the higher education institution (Russell, 2005; Oldfield and Baron, 2000). "Students who spend hours every day in a school are likely to have attitudes toward the school system that are strongly influenced by the physical facilities" (Wakefield and Blodgett, 1994, p.68).

The physical facilities of the tertiary institution have been tested by many researchers in the extant literature as one of the important determinants of the overall students' perceived service quality (LeBlanc and Nguyen, 1997; Ford, et. al., 1999; Sohail and Shaikh, 2004; Joseph, et. al., 2005). The physical facilities of the tertiary institution based on the research of Sohail and Shaikh (2004) include the layout of the classrooms, the lighting in the classrooms, the appearance of the campus buildings and ground, the comfort of the classrooms and study rooms, and finally the neatness and cleanliness of the campus. These items were developed based on the 'inside-out' approach.

2.7.1.6 Staff Responsiveness from the Division of Examinations & Awards

Responsiveness is defined as the willingness of the service provider to help customers and to provide prompt services (Parasuraman, et. al., 1985, 1988). Responsiveness as one of the five dimensions of the SERVQUAL model, affects the perceived service quality (Parasuraman, et. al., 1985, 1988). Responsiveness has been tested by many researchers in the extant literature as one of the important determinants of the overall students' perceived service quality (Soutar and McNeil, 1996; Cuthbert, 1996; Pariseau and McDaniel, 1997; LeBlanc and Nguyen, 1997; Ham and Hayduk, 2003; Sohail and Shaikh, 2004). Staff responsiveness in this research will be limited to the staff from the Division of Examinations & Awards in University 'A'. The items in the staff's responsiveness from the Division of Examinations & Awards are adopted from LeBlanc and Nguyen (1997) includes if the students are informed promptly of any changes by the staff, if the examination registration is timely and error free, and finally if the examination records are kept accurately by the staff. These items that were developed based on the 'inside-out' approach are tested in this research to determine the impact of the staff responsiveness from the Division of Examinations & Awards towards the overall students' perceived service quality.

2.7.1.7 Reputation of the Tertiary Institution and Academic Programme

Lethinen and Lethinen (1991) and Gronroos (1984) identify corporate image as one of the main indicators for quality. Paramewaran and Glowacka (1995) argue that the distinctive image will facilitate higher education institution in creating competitive edge in competing with other institutions to recruit students. Solomon (cited in LeBlanc and Nguyen, 1997, p.73) asserts that reputation "is related to tradition, ideology, business name, reputation and variety of services, and to the impression of quality communicated by each person interacting with customers". Reputation may indicate quality and reliability of services offered by the service providers (LeBlanc and Nguyen, 1997). According to Gavin (cited in Russell, 2005, p.66), prestige or reputation for quality is able to project "the university's perceived excellence which, in fact, guided the decisions of prospective students and scholars considering offers". In prior research, reputation was tested by some researchers in evaluating the overall students' perceived service quality (LeBlanc and Nguyen, 1997; Ford, et al., 1999; Sohail and Shaikh, 2004; Joseph, et al., 2005). The reputation of the tertiary institution and academic programme includes the reputation of the academic programme enrolled, the academic reputation of the tertiary institution, and finally the ability of the tertiary institution to provide a well-rounded education (Joseph, et. al., 2005). These items that were developed based on the 'outside-in' approach will be tested in this research to

determine the impact of the reputation of the tertiary institution and the academic programme towards the overall students' perceived service quality.

2.7.1.8 Amount of Recreational Activities

Recreational activities have been tested by some researchers in the extant literature as one of the important determinants of the overall students' perceived service quality for higher education institution. (Athiyaman, 1997; Ford, et. al., 1999; and Joseph, et. al., 2005). The amount of recreational activities includes opportunities to participate in a variety of sports, offering of sports teams for entertainment, student organizations are offered as extra-curricular activities, extra-curricular activities are offered to students, and finally recreational facilities and programmes are offered to students (Joseph, et. al., 2005). These items that were developed based on the 'outside-in' approach (Joseph, et. al., 2005) are tested in this research to determine the impact of the amount of the recreational activities towards the overall students' perceived service quality.

2.7.1.9 Cost of Courses Offered

According to the research carried out by Ford, et. al. (1999), reasonable cost of education influences the overall students' perceived service quality. In addition, the provision of financial services such as scholarship is indicated as one of the important determinants of the overall students' perceived service quality (Hill, 1995). The cost of courses offered has been tested by some researchers in the extant literature as one of the important determinants of the overall students perceived service quality (Hill, 1995; Ford, et. al., 1999; and Joseph, et. al., 2005). The items in the cost of courses offered in this research are adapted from Joseph, et. al. (2005) and Kennington, et. al., (1996). The items that are tested in this research include a variety of scholarships offered to students, whether the cost of the academic program is reasonable and finally whether the miscellaneous service charges are reasonable. These items that were developed based on the 'outside-in' approach will be tested in this research to determine the impact of the cost of courses offered towards the overall students' perceived service quality.

2.8 Hypotheses

Prior discussion has led to a brief examination of the existing literature and the resultant research gaps led to the development of the hypotheses in this research. The nine hypotheses are:

'Inside-out' Approach:

- H1: The contact personnel is positively related to the overall students' perceived service quality.
- H2: The quality of librarians significantly contributes to the overall students' perceived service quality.
- H3: The access to facilities is positively related to the overall students' perceived service quality.
- H4: There is a positive relationship between the curriculum and the overall students' perceived service Quality.
- H5: There is a positive relationship between the physical facilities of the tertiary institution and the overall students' perceived service quality.
- H6: There is a positive relationship between the staff responsiveness from the Division of Examinations & Awards and the overall students' perceived service quality.

‘Outside-in’ Approach:

H7: There is a positive relationship between the reputation of the tertiary institution and academic programme and the overall students’ perceived service quality.

H8: There is a positive significant relationship between the amount of recreational activities and the overall students’ perceived service quality.

H9: There is a positive significant relationship between the cost of courses offered and the overall students’ perceived service quality.

3. RESEARCH METHOD

3.1 Research Design

Positivism approach was adopted in this research because this approach: (1) allowed the researcher to search for truths of the observation by empirical evidence via the hypothetico-deductive method; and (2) many researches and observations on the students’ perceived service quality had been conducted and the extant literature was well developed (Jankowicz, 2005). Furthermore, descriptive research design was adopted as the study has clear problem statements, specific hypotheses and detailed body of knowledge (Malhotra, 2004).

3.2 Questionnaire Design

The questionnaire is divided into three parts in this research. The first part of the questionnaire provides general information as to who are eligible to take part in this survey. The second part of the questionnaire elaborates the independent variables and dependent variable that would be tested in the survey. The third part of the questionnaire identifies the personal information of the respondents. Questionnaire in the form of scaled-response questions was adopted in the second part of the questionnaire because “scaling permits measurement of the intensity of respondents’ answers” (Churchill and Brown, 2004, p.329). The items of the questionnaire in this research were adopted from different sources of the extant literature. The items for the independent variable ‘quality of librarians’ are adopted from Nagata, et. al. (2004). The items for independent variables such as ‘contact personnel’, ‘access to facilities’, and ‘physical facilities of the tertiary institution’ are adopted from Sohail and Shaik (2004). The items for the independent variables such as ‘curriculum’ and ‘staff responsiveness from the Division of Examinations & Awards’ are adopted from LeBlanc and Nguyen (1997). The items for independent variable ‘amount of recreational activities’, ‘reputation of the tertiary institution and academic programme’ and ‘cost of courses offered’ are adapted from Joseph, et. al. (2005) and Kennington, et. al. (1996). Lastly, the items for dependent variable “overall students’ perceived service quality” are adopted from Lee, Lee and Yoo (2000). Interval scale was adopted for the measurement scales in this research because the scale allowed “the comparison of the size of the differences among and between members” (Churchill and Brown, 2004, p.324). Likert scale format was applied in this research because the scale was suitable for self-administered survey method (Hair, Bush and Ortinau, 2004). A 7-point Likert scale anchored by “much less than expected” (1) to “much better than expected” (7) was adopted as the attitude measurement for independent variables (adopted from LeBlanc and Nguyen, 1997). Three types of 7-point Likert scale anchored by “very low” (1) to “very high” (7), “poor” (1) to “excellent” (7), and “unlikable” (1) to “likable” (7) were adopted as the attitude measurement for dependent variable (adopted from Lee, et. al, 2000).

3.3 Sampling

The target population in this research covered all the undergraduate students enrolled in University 'A' and the sampling unit included all the current full-time undergraduate business students in University 'A'. Students who had completed at least one semester in University 'A' were targeted for this study because they are familiar with the business school faculty and services in comparison with those newly enrolled students. The sample size was 500 and convenience sampling technique was used to select potential respondents in this survey.

3.4 Administration of Survey

Self-administered survey method in the form of drop-off surveys technique was adopted in this research to ensure the confidentiality and non-obligation aspects of participating in the survey. Questionnaire survey would be conducted in University "A" and this survey was conducted in the lecture hall where respondents could return the questionnaires into the box allocated in the lecture hall. The voluntary nature of the participation was explained verbally as well as being indicated in the survey questionnaire. Potential student participants were invited to complete an anonymous survey questionnaire that would take approximately 15 minutes of the student respondent's time. During the process of administering the questionnaire survey, all information collected would be treated in strict confidentiality and stored securely. At no time would any individual be identified in any reports resulting from this research.

In addition to the verbal communication with the potential student respondents, a covering Survey Information Sheet was attached together with the questionnaire. The covering Survey Information Sheet informed potential student respondents that: (1) they have the right to decide for themselves whether or not they wanted to be part of the research; (2) the survey would not invade their privacy; (3) they should not feel obligated, pressured or coerced to participate; (4) all information collected would be strictly confidential; (5) they were selected on a convenience sampling basis, and (6) consent for participating in this anonymous questionnaire survey is implied when the student respondents return the completed questionnaire.

4. RESEARCH RESULTS

A total of 500 sets of questionnaires were distributed to the potential student respondents in the lecture hall with a total of 479 questionnaires collected. Out of this, 21 sets of questionnaires were considered unusable because they were incomplete whereby over 25 percent of the questions in Part Two of the questionnaire were not answered (Sekaran, 2003). It was assumed that the respondents were either unwilling to cooperate or not serious with the survey. Therefore, only a total of 458 usable sets of collected questionnaires were subsequently used for data analysis. In conclusion, the response rate was 91.60 percent.

4.1 Respondents' Demographic Profile

Male respondents represented 32.5 percent of the total respondents while the female respondents represented 67.5 percent. This is a normal phenomenon because most of the tertiary students in Malaysia are female. Based on the internet report from the Ministry of Higher Education (2009) in Malaysia, the male and female student population in the public universities are 52,423 and 76,416 respectively. In other words, the female student populations are more than male student populations.

As for the age distributions, the following were the breakdown: between the age of 20-22 years old (83.2 percent); less than 20 years old (10 percent); between 23-25 years old (6.3 percent); over 28 years

old (0.4 percent); and between 26-28 years old (0 percent).

In terms of the ethnic groups, the majority were Chinese (84.5 percent), followed by Malay (10 percent), other races (0.7 percent), and Indian (4.6 percent). The respondents were skewed towards Chinese ethnic group because the survey was conducted in a private higher education institution, which traditionally enrolled more ethnic Chinese students compared to other races.

Based on the categories of current years of study, the distribution of the respondents was fairly spread. This consists of 30 percent currently enrolled in year 1, 40 percent currently enrolled in year 2, 30 percent currently enrolled in year 3. On the question of whether students received financial aid to support their education, 73.4 percent of the respondents did receive some forms of financial aid and only 26.6 percent did not receive any forms of financial aid. It is important for tertiary students to secure sufficient financial assistance for their higher education because "the cost of acquiring a Diploma or Bachelor's degree qualification can be rather costly in particularly when it is projected to increase at a compounded rate of 5% - 10% per year" (Education Guide Malaysia, 2006, p.364).

4.2 Reliability Test

All the constructs were tested for the consistency reliability of the items within the constructs by using Cronbach's alpha reliability analysis. Based on Table 2, the results indicated that the Cronbach's alpha for all the ten constructs were well above 0.7 as recommended by Cavana, Delahaye and Sekaran (2001). Cronbach's alpha for the constructs ranged from the lowest of 0.780 (access to facilities) to 0.932 (quality of librarians). In conclusion, the results showed that the scores of the Cronbach's alpha for all the constructs used in this research exceeded the preferable scores of 0.70 and this indicated that the measurement scales of the were stable and consistent in measuring the constructs.

4.3 Validity Test

Construct validity and subsequently factor analysis was adopted in this research as validity measurement (Cavana, et. al., 2001). The details of the factor analysis results were presented in Table 2.

Based on the principal components analysis and VARIMAX procedure in orthogonal rotation that were adopted in the factor analysis, the results showed that the Eigenvalues for all the constructs were greater than 1.0, ranging from the lowest of 1.087 (access to facilities) to the highest of 11.830 (quality of librarians). In term of convergent validity, the factor loadings for all items within a construct were more than 0.50. Furthermore the discriminant validity indicated that all items were allocated according to the different constructs. Therefore, the items were not overlapping and they supported respective constructs.

4.4 Regression Analysis

4.4.1 Multiple Regression Analysis

Multiple regression analysis was carried out to test the hypotheses that were identified. The results were presented in Table 3. The p value of the t-test ($p = 0.000$) for contact personnel is less than the alpha value of 0.05. Therefore, the research study concludes that contact personnel are positively related to the overall students' perceived service quality. Hypothesis 1 is supported. According to Heskett (1987) and Surprenant & Solomon (1987), the quality of the services can be indicated through the task carried out by the contact personnel and his or her interaction with the client in the process of delivering services. The extant literature suggests that the interaction between the contact personnel (academicians and faculty administrators) and the students will affect the overall students' perceived service quality towards the higher education institution enrolled (LeBlanc and Nguyen, 1997; Sohail and Shaikh, 2004). Thus, the finding supports the existing literature.

Table 3 also indicated that the p value for quality of librarians ($p = 0.045$) is less than the alpha value of 0.05. Therefore, the study concludes that the quality of librarians is positively related to the overall students' perceived service quality. Hence, H2 is supported. According to Bitner, et. al. (1990), human interaction component will affect the customer's evaluation process in evaluating the perceived service quality. In the present literature, quality of librarians had been tested as one of the dimensions that determine the customers' evaluation of service quality in academic libraries (Nagata, et. al., 2004). Library services had been theoretically quoted as one of the determinants of the overall students' perceived service quality (Athiyaman, 1997; Hill, 1995). The current finding suggests that quality of librarians is positively related to the overall students' perceived service quality and thus add new knowledge to the extant literature.

The research also concludes that the access to facilities is positively related to the overall students' perceived service quality (the p value of the t-test ($p = 0.031$) is less than the alpha value of 0.05). As a result, hypothesis 3 is supported. According to LeBlanc and Nguyen (1997) and Sohail and Shaik (2004), the ability to access facilities offered by the tertiary institution will affect students' perceived service quality for a particular tertiary institution. Students are required to access certain facilities offered by the tertiary institution in order to complete their assignments.

In the case of curriculum, the p value of the t-test ($p = 0.046$) is less than the alpha value of 0.05 and this suggest that curriculum is positively related to the overall students' perceived service quality. Based on this H4 is supported. The existing literature suggests that curriculum will affect the overall students' perceived service quality towards the higher education institution enrolled (Athiyaman, 1997; LeBlanc and Nguyen, 1997; Sohail and Shaikh, 2004). Thus, the finding supports the extant literature.

The p value of the t-test ($p = 0.231$) for physical facilities of the tertiary institution is more than the alpha value of 0.05. Therefore, the research concludes that there is no significant relationship between the physical facilities of the tertiary institution and the overall students' perceived service quality. H5 is not supported. Bitner (1990, 1992) asserts that physical facilities are able to indicate the capability and quality offered by the service-based company. Physical facilities of the tertiary institutions to a certain extent do influence the overall students' perceived service quality because students will associate various tangible elements with the services (Russell, 2005; Oldfield and Baron, 2000; LeBlanc and Nguyen, 1997; Ford, et. al., 1999; Sohail and Shaikh, 2004; Joseph, et. al., 2005). However, the finding in this research does not support the existing literature. The student samples were drawn from the branch campus of University 'A' and were aware that the campus that they enrolled in does not have proper campus physical facilities. They may have found other criterions such as reputation of the tertiary institution and academic programme to be of more importance as compared to the presence of physical facilities when they are evaluating the service quality of the education institutions.

Based on Table 3, the p value of the t-test ($p = 0.016$) for staff responsiveness from the Division of Examinations & Awards is less than the alpha value of 0.05. Hypothesis 6 is therefore supported. The extant literature suggests that staff responsiveness from higher education institutions will affect the overall students' perceived service quality towards the enrolled higher education institution (Soutar and McNeil, 1996; Cuthbert, 1996; Pariseau and McDaniel, 1997; LeBlanc and Nguyen, 1997; Ham and Hayduk, 2003; Sohail and Shaikh, 2004). Thus, the finding supports the existing literature.

The p value of the t-test ($p = 0.000$) for the reputation of the tertiary institution and academic programme is less than the alpha value of 0.05. Hypothesis 7 is supported. According to Gavin (cited in Russell, 2005, p.66), prestige or reputation for quality is able to project "the university's perceived excellence which, in fact, guided the decisions of prospective students and scholars considering offers". The extant literature suggests that the reputation of the tertiary institution and academic programme will affect the overall students' perceived service quality towards the higher education institution enrolled (LeBlanc and Nguyen, 1997; Ford, et. al., 1999; Sohail and Shaikh, 2004; Joseph, et. al., 2005). Thus, the finding supports the current literature.

Hypothesis 8 is supported based on the p value of the t-test for the amount of recreational activities (p

= 0.038) is less than the alpha value of 0.05. Therefore, the study concludes that the amount of recreational activities is positively related to the overall students' perceived service quality. The extant literature suggests that the amount of recreational activities will affect the overall students' perceived service quality towards the higher education institution enrolled (Athiyaman, 1997; Ford, et. al., 1999; and Joseph, et. al., 2005).

The p value of the t-test ($p = 0.001$) for cost of courses offered is less than the alpha value of 0.05. Therefore, the cost of courses offered is positively related to the overall students' perceived service quality. Hypothesis 9 is hence supported. The extant literature suggests that the cost of courses offered will affect the overall students perceived service quality (Hill, 1995; Ford, et. al., 1999; and Joseph, et. al., 2005). Thus, the finding supports the extant literature.

Based on the SPSS output, the following multiple regression equation was formed:

Overall Students' Perceived Service Quality = 0.485 + 0.158 (Contact Personnel) + 0.047 (Quality of Librarians) + 0.086 (Access to Facilities) + 0.100 (Curriculum) + 0.120 (Staff Responsiveness from the Division of Examinations & Awards) + 0.189 (Reputation of the Tertiary Institution and Academic Programme) + 0.049 (Amount of Recreational Activities) + 0.132 (Cost of Courses Offered)

The values of unstandardized Beta coefficient among the independent variables tested in the hypotheses ranged from the weakest relationship of 0.047 (quality of librarians) to the strongest relationship of 0.189 (reputation of the tertiary institution & academic programme). It may be concluded that the "reputation of the tertiary institution & academic programme" is the most important and influential antecedent in affecting the overall students' perceived service quality. Based on the multiple regression analysis as shown in Table 3, the change of the overall students' perceived service quality explained 41.7 percent by a combination of various independent variables ($r^2 = 0.417$), including contact personnel, quality of librarians, access to facilities, curriculum, staff responsiveness from the Division of Examinations & Awards, reputation of the tertiary institution and academic programme, amount of recreational activities and cost of courses offered. Table 4 shows the summary of hypotheses and outcomes of the research

5. CONCLUSION

5.1 Implications of the Research

The research findings and contributions have brought some implications to the various stakeholders. The implications can be divided into three different categories: theoretical implication, managerial implication and methodological implication.

For the theoretical implications in this research, researchers in the existing literature either use the 'inside-out' or 'outside-in' approach to evaluate the overall students' perceived service quality. It is discovered in the research findings that the formation of determinants based on the combination of both the 'inside-out' and 'outside-in' approaches could be used concurrently by researchers to evaluate the overall students' perceived service quality. In addition, the quality of librarians can also be classified as one of the determinants of the overall students' perceived service quality.

In term of managerial implication, the research findings do provide some insights and feedback for the administrators of the higher education institutions in drafting various managerial strategies on how to increase the level of the overall students' perceived service quality. The administrators should adopt an integrated approach (by combining the 'inside-out and 'outside-in' approaches) to develop determinants in evaluating the overall students' perceived service quality. In addition, the administrators should be aware that students do associate certain determinants in evaluating the overall students' perceived service quality and these determinants are always ignored by the administrators. These determinants are

the cost of courses offered, the quality of librarians, and the staff responsiveness from the Division of Examinations & Awards. Therefore, it is wise to incorporate these determinants into the process of evaluating the overall students' perceived service quality. Since the reputation of the tertiary institution & academic programme is the most important antecedent to the overall students' perceived service quality, the university administrators may need to formulate and implement various strategies to uphold the overall reputation. The suggested strategies may include collaboration of academic and industry partnership in developing academic programme, engaging in intensive research and development activities, and obtaining accreditation from the reputable institutions and professional bodies to accredit the academic programme [such as The Institute of Chartered Accountants in England and Wales (ICAEW), The Association of Chartered Certified Accountants (ACCA), The Engineering Council UK, and Association to Advance Collegiate Schools of Business (AACSB)].

The findings also provide some methodological implications to the extant literature. The research has refined the measurement scales for some constructs that lack the Cronbach Alpha's reliability measures in the previous studies. These revised constructs include quality of librarians (Nagata, et. al., 2004), reputation of the tertiary institution and academic programme (Joseph, et. al., 2005), amount of recreational activities (Joseph, et. al., 2005) and cost of courses offered (Joseph, et. al., 2005 and Kennington, et. al., 1996). In addition, the items for the construct 'cost of courses offered' were also revised and improved upon. The revised and improved items for 'cost of courses offered' in this research were: (1) A variety of scholarships are offered to the students; (2) The cost for the academic programme is reasonable; and (3) The miscellaneous service charges are reasonable.

5.2 Limitations of the Research

Although the research findings provide some new insights to researchers, these findings should be viewed in light of some limitations. The study in this research is based on cross-sectional data that is only able to reveal the net effect of predictor variable towards a particular criterion variable at a specific point in time (Cavana, et. al., 2001). Due to the inherent limitation of cross-sectional study, the research findings are not able to "explain why the observed patterns are there" (Easterby-Smith, Thorpe and Lowe, 2003, p.p.45). In other words, this research is not able to describe satisfactorily in portraying the observed changes in pattern and the causality of the overall students' perceived service quality. Although the current research findings indicate that the physical facilities of the tertiary institution do not have significant relationship with the overall students' perceived service quality, the observed dependence effect may no longer be valid in the long run if a longitudinal study is carried out in the future research. In addition, the restriction of the boundary set in selecting the undergraduate business students in University 'A' as samples implied that the findings cannot be generalized across all private higher education institutions in Malaysia.

5.3 Recommendations for Further Research

Due to the limitations of this research, two recommendations are suggested for further research for the purpose of enhancing the study of the overall students' perceived service quality. Perception of service quality is the individual psychological judgment of the differences between performance and customer's expectation because perceived service quality is defined as "a global judgment, or attitude, relating to the superiority of the service" (Parasuraman, et. al., 1988, p.16). Psychological judgement will change over time. Therefore, cross-sectional study may not be able to portray the observed changes in patterns and the causality of the overall students' perceived service quality (Easterby-Smith, et. al., 2003). Longitudinal study, which can capture the temporal dynamics of perception change that affect the determinants of the overall students' perceived service quality, is proposed to be adopted in the future research in order to help researchers to identify the cause and effect relationships among the various constructs (Cavana, et. al., 2001). Besides, it is recommended to broaden the research setting by incorporating more private higher education institutions and drawing more respondents who are enrolled

in various undergraduate degree programmes may be able to enhance the validity and generalization of this research findings. Since the current research reveals that only 41.7% of the existing independent variables contributed to the overall students' perceived service quality, it is suggested to incorporate other independent variables for further empirical evaluation. These additional independent variables may include language enhancement programme, university counseling service and academic support program..

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TABLES

Table 1: Determinants of the Overall Students' Perceived Service Quality in Higher Education

Author(s)	Country	Determinants of Perceived Service Quality	Sample Frame	Approach
Hill (1995)	UK	<i>Managing Service Quality in Higher Education: the Role of the Student as Primary Consumer:-</i> Teaching, Student Involvement in Curriculum; Joint Consultation; Work Expertise (Placements); Computing Facilities; Library Service; University Bookshop; Careers Service; Counseling/Welfare; Financial Service; Health Service;	62 students	'Inside-out' approach

To be continued...

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Author(s)	Country	Determinants of Perceived Service Quality	Sample Frame	Approach
		Accommodation Service; Students' Union; Catering Service; Physical Education; Travel Agency.		
Soutar and McNeil (1996)	Australia	<i>Measuring Service Quality in a Tertiary Institution:-</i> Academic and Non-Academic Variables; Reliability; Tangibles; Responsiveness; Assurance; Empathy; Knowledge; Communication.	109 students	'Inside-out' approach
Cuthbert (1996)	UK	<i>Managing Service Quality in HE: is SERVQUAL the answer? Part 1:-</i> Tangibles; Reliability; Responsiveness; Assurance; Empathy.	134 responses comprising 64 from level two and 70 from level three.	'Inside-out' approach
Pariseau and McDaniel (1997)	USA	<i>Assessing Service Quality in Schools of Business:-</i> Assurance; Tangibles; Reliability; Empathy; Responsiveness.	498 student responses and 43 faculty responses	'Inside-out' approach
Athiyaman (1997)	Australia	<i>Linking Student Satisfaction and Service Quality Perceptions: the case of University Education:-</i> Teaching Capability; Staff Availability; Library Service; Computing Facilities; Class Sizes; Subject Content; Student Workload; Recreational Facilities.	497 students	'Inside-out' approach
LeBlanc and Nguyen (1997)	Canada	<i>Searching for Excellence in Business Education: an Exploratory Study of Customer Impressions of Service Quality:-</i> Contact personnel: faculty; reputation; physical evidence; contact personnel: administration; curriculum; responsiveness; access to facilities.	388 students	'Inside-out' approach

To be continued...

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Author(s)	Country	Determinants of Perceived Service Quality	Sample Frame	Approach
Ford, et. al. (1999)	US and New Zealand	<i>Importance-Performance Analysis as a Strategic Tool for Service Marketers: the Case of Service Quality Perceptions of Business Students in New Zealand and the USA:-</i> Programme Issues; Academic Reputation; Physical Aspects/Cost; Career Opportunities; Location; Time; Others (Peer/Family Influence and Word-of-Mouth).	616 students in New Zealand and 206 students in U.S.A.	'Inside-out' approach
Oldfield and Baron (2000)	UK	<i>Student Perceptions of Service Quality in a UK University Business and Management Faculty:-</i> Requisite Elements; Acceptable Elements; Functional Elements.	333 undergraduate business and management students	'Inside-out' approach
Ham and Hayduk (2003)	USA	<i>Gaining Competitive Advantages in Higher Education: Analyzing the Gap between Expectations and Perceptions of Service Quality:-</i> Reliability; Responsiveness; Assurance; Empathy; Tangible.	126 respondents (60% response rate) from Southern Wesleyan University and 83 respondents (40% response rate) from Western Michigan University	'Inside-out' approach
Sohail and Shaikh (2004)	Saudi Arab	<i>Quest for Excellence in Business Education: A Study of Student Impressions of Service Quality:-</i> Contact Personnel; Physical Evidence; Reputation; Responsiveness; Access to Facilities; Curriculum.	310 responses	'Inside-out' approach
Nagata, Satoh, Gerrard and Kytomaki (2004)	Japan, England and Finland	<i>The Dimensions that Construct the Evaluation of Service Quality in Academic Libraries:-</i> Effect of service –personal; library as 'Ba'; Collection and Access; Effect of service-organizational.	2328 subjects responded	'Inside-out' approach

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Author(s)	Country	Determinants of Perceived Service Quality	Sample Frame	Approach
Russell (2005)	UK	<i>Marketing Education: A Review of Service Quality Perceptions Among International Students:-</i> Quality education overseas; facilities/environment overseas; improve/learn languages; language teaching facilities; recognition of qualifications; family influence; academic concerns; homesickness; pastoral support within school; university counseling service; academic support.	43 postgraduate students and 50 undergraduate international students	'Inside-out' approach
Joseph, Yakhou and Stone (2005)	USA	<i>An Educational Institution's Quest for Service Quality: Customers' Perspective:-</i> University staff; recreational activities; facilities; campus environment; reputation; cost; family/friends; size/schedule.	450 freshman students	'Outside-in' Approach

Table 2: Factors Identified by the Principal Components Factor Analysis

Factor's Name	Variable	Factor Loading	Eigen-value	Percentage of Variance Explained	Cronbach's Reliability Coefficients
Quality of Librarians	Ready to respond to student's questions	0.894	11.830	11.257	0.932
	Competent to answer student's questions	0.882			
	Provide service reliably, consistently, and dependably	0.875			
	Deal with students in a concerned or considerate fashion	0.833			
	Make the effort to understand the needs of the students	0.790			
Amount of Recreational Activities	Student organizations are offered as extra-curricular activities	0.847	3.475	9.870	0.893
	Extra-curricular activities are offered to students	0.833			
	Sports teams for entertainment are offered to students	0.825			
	Opportunities to participate in a variety of sports	0.749			
	Recreational facilities and programs are offered to students	0.708			

To be continued...

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Factor's Name	Variable	Factor Loading	Eigen-value	Percentage of Variance Explained	Cronbach's Reliability Coefficients
Contact Personnel	Lecturers are courteous, polite & respectful	0.825	2.263	8.905	0.876
	Faculty administrators are courteous, polite & respectful	0.820			
	Lecturers are neat & clean	0.798			
	Faculty administrators perform their duties properly	0.788			
	Faculty administrators are neat & clean	0.503			
Physical Facilities of the Tertiary Institution	The appearance of the campus buildings and ground	0.777	2.176	7.950	0.828
	Campus is neat and clean	0.735			
	Lighting in the classrooms	0.664			
	The comfort of the classrooms and study rooms	0.660			
Cost of Courses Offered	The miscellaneous service charges are reasonable	0.886	1.940	6.303	0.848
	The cost of the academic programme is reasonable	0.822			
	A variety of scholarships are offered to students	0.748			
Curriculum	The number of courses offered	0.820	1.595	6.249	0.857
	Suitability of the academic programmes and course content	0.782			
	Objectives of the academic programmes are explained to the students	0.722			
Staff Responsiveness from the Division of Examinations & Awards	Examination registration is timely and error-free	0.822	1.412	6.138	0.841
	Examination records are kept accurately	0.764			
	Students are informed promptly of any changes	0.713			
Overall students' perceived service quality	Overall students' perceived S.Q.3	0.813	1.257	6.019	0.890
	Overall students' perceived S.Q.2	0.771			
	Overall students' perceived S.Q.1	0.765			
Reputation of the Tertiary Institution and Academic Program	The academic reputation of the tertiary institution	0.829	1.166	5.904	0.850
	The reputation of the academic programme enrolled	0.775			
	The ability of the tertiary institution to provide a well-rounded education	0.672			
Access to Facilities	The convenience of access to the computer facility	0.790	1.087	5.614	0.780
	The convenience of access to the study room facility	0.757			
	The convenience of access to the parking facility	0.762			

Note:

KMO Measure of Sampling Adequacy = 0.905; $p = 0.000$ ($p < 0.05$); $df = 703$

Cumulative Percentage Rotation Sums of Squared Loadings = 74.209

Table 3: Result of Multiple Linear Regression Analysis

a)	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.485	0.681		0.713	0.476
	Contact Personnel	0.158	0.028	0.247	5.743	0.000
	Quality of Librarians	0.047	0.024	0.083	2.011	0.045
	Access to Facilities	0.086	0.040	0.092	2.169	0.031
	Curriculum	0.100	0.050	0.093	2.005	0.046
	Physical Facilities of the Tertiary Institution	-0.036	0.030	-0.056	-1.200	0.231
	Staff Responsiveness from the Division of Examinations & Awards	0.120	0.050	0.112	2.419	0.016
	Reputation of the Tertiary Institution and Academic Programme	0.189	0.053	0.167	3.583	0.000
	Amount of Recreational Activities	0.049	0.024	0.089	2.080	0.038
	Cost of Courses Offered	0.132	0.040	0.140	3.304	0.001

a Dependent Variable: Overall Students' Perceived Service Quality

Independent variables: contact personnel, quality of librarians, access to facilities, curriculum, physical facilities of the tertiary institution, staff responsiveness from the Division of Examinations & Awards, reputation of the tertiary institution and academic programme, the amount of recreational activities and cost of courses offered.

R = 64.6 per cent;
F = 35.638;

R Square = 41.7 per cent;
P = 0.000 ($p < 0.05$)

Adjusted R Square = 40.6 per cent;

Table 4: Summary of the Nine Hypotheses and Outcomes

Approach	Independent variables tested	Hypotheses	Outcome
“Inside-out”	Contact personnel	H1: The contact personnel is positively related to the overall students’ perceived service quality.	Supported
	Quality of librarians	H2: The quality of librarians significantly contributes to the overall students’ perceived service quality.	Supported
	Access to facilities	H3: The access to facilities is positively related to the overall students’ perceived service quality.	Supported
	Curriculum	H4: There is a positive relationship between the curriculum and the overall students’ perceived service quality.	Supported
	Physical facilities	H5: There is a positive relationship between the physical facilities of the tertiary institution and the overall students’ perceived service quality.	Not Supported
	Staff responsiveness	H6: There is a positive relationship between the staff responsiveness from the Division of Examinations & Awards and the overall students’ perceived service quality.	Supported
“Outside-in”	Reputation of the tertiary institution & academic programme	H7: There is a positive relationship between the reputation of the tertiary institution and academic programme and the overall students’ perceived service quality.	Supported
	Amount of recreational activities	H8: There is a positive significant relationship between the amount of recreational activities and the overall students’ perceived service quality.	Supported
	Cost of courses offered	H9: There is a positive significant relationship between the cost of courses offered and the overall students’ perceived service quality.	Supported