

Full Length Research Paper

Service quality, customer satisfaction in technology-based universities

Amran Rasli¹, Ibrahim Danjuma^{2, 3*}, Lim Kim Yew⁴ and Muhammad Jawad Igbal⁵

¹Faculty of Management and Human Resource Development, Universiti of Teknologi Malaysia.

²Department of Management Technology, School of Management and Information Technology, Federal University of Technology, Yola, Adamawa State, Nigeria.

³Faculty of Management and Human Resource Development, Universiti of Teknologi, Malaysia.

⁴Taylor's College, Subang Jaya, Kuala Lumpur, Malaysia.

⁵Higher Education Commission, Pakistan.

Accepted 9 February, 2011

To achieve the twin objectives of satisfaction and loyalty, service quality in the university sector needs to be evaluated from both the internal (customers) and external (service providers) perspectives. Against this background, this article reviewed issues involved in service quality in universities from the customer satisfaction and attachment points of view, taking students as primary customers, especially in technology-based universities in Nigeria. The review noted that, service quality and customer satisfaction has direct relationship, because the students' expectations of a university education are skewed towards learning experiences and individual preferences, implying students' enrolment decision depends on the service encounters relating to factors like support facilities and infrastructure, image and marketing, academic issues, administrative issues, location and access.

Key words: Service quality, higher education, customer satisfaction, institutional attachment.

INTRODUCTION

Education, especially at the tertiary level has long been linked to marketable service (Cuthbert, 1996; Mazarrol, 1998), thus requiring managers of higher educational institutions to consider their students as primary customers when providing services. This is necessary to achieve customer satisfaction and institutional attachment which will inevitably lead towards long-term loyalty. To achieve the twin objectives of satisfaction and attachment, service quality in the university sector, needs to be evaluated either on an 'outside-inside' perspectives, that is, from the point of view of customers, or on an 'inside-outside' perspectives whereby the point of view of service providers are taken into consideration (Hoffman and Bateson, 2006). However, the outside-inside perspectives seems to have gained favour in recent literatures whereby the proponents of the outside-inside perspectives believe that when it comes to service position,

students should be treated in the same way as other buyers of goods or 'services' since they pay tuition fees to their respective institutions of higher 'education' refer to studies by Bejou (2005), Bennett (2003), Halbesleben et al. (2003) and Kanji and Tambi (1999). However, critics of the inside-outside perspective to service quality evaluation such as Joseph et al. (2005) viewed that if firms do not know what their customers' desires, related to services are, then how can they possibly fulfill customers' expectations of what is perceive as good service? Thus, within the institution of higher education setting, the outside-inside perspective, which takes into consideration the feedback of students as primary customers with regards to the service quality perceptions, would lead to finding out their expectations of the service encounters before providing the service, and how the service providers would work towards meeting these expectations.

Based on the aforementioned premise, the authors seek to present a framework that integrates service quality, satisfaction and attachment within the higher

*Corresponding author. E-mail: ibro.danjuma@gmail.com.

Table 1. Higher education institutions in Nigeria as at 2010.

Type	Public	Private	Number
University	64	40	104
Polytechnic	59	12	71
College of Education	59	4	63
School of Health Technology	40	1	41
Monotechnic	25	2	27
College of Agriculture	36	-	36
Total	283	59	342

Source: www.nuc.edu.ng, Federal Ministry of Education, Abuja, Nigeria (2010).

Table 2. Structure of technological universities in Nigeria.

Ownership	Type	Number
Federal Government	Public	5
State Government	Public	7
Private	Private	4
Total		16

Source: www.nuc.edu.ng, National Universities Commission, (2010).

education perspective from the Nigerian students' point of view. Allegations of the poor quality of graduates churned out from Nigerian Universities, arising from poor infrastructural facilities for teaching and learning, proliferation of programmes, inadequate manpower and among others had affected the reputation of Nigerian universities over the years (Alaneme, 2010). As such, this study is timely to assess whether Nigerian University students are satisfied with the quality of services rendered and to determine their attachment to these institutions.

OVERVIEW OF NIGERIA'S HIGHER EDUCATION SYSTEM

According to Ibukun (1997), the provision of the much-needed manpower to accelerate the growth and development of the economy has been said to be the main relevance of university education in Nigeria. The belief in the efficacy of education as a powerful instrument of development has led many nations including Nigeria to commit much of their wealth to the establishment of educational institutions at various levels. In 2010, the university sector accounts for an enrolment of 1.25 million students or 52% of the total higher education system (National Universities Commission, 2010). The Nigerian higher education system has a long tradition of productive partnership with foreign higher education institutions and service excellence dating back to its colonial beginnings and including a long period from 1951 to 1990 (Jibril, 2003) when service delivery was comparable to

those obtained in the best universities in the world. Today, that service excellence culture has gradually eroded due mainly to decayed and inadequate infrastructure, unstable academic calendar as a result of incessant strikes by lecturers and other staff, insufficient funding, lack of an innovative R & D and weak university-industry linkages (Saint et al., 2004), factors which had adversely affected the service quality perceptions.

The Nigerian higher education system, as of 2010 consist of 104 universities; 71 polytechnics; 63 colleges of education; 41 schools of health technology; 27 monotechnics/specialized institutions and 36 colleges of agriculture as depicted in Table 1. Out of the 104 universities, 16 are technological universities with the following ownership structure (Table 2): Federal Government (5); State Governments (7) and private owners (4).

The Federal Ministry of Education oversees education policy as a whole, while the National Universities Commission regulates the activities in the university sub-sector of the higher education industry (Jibril, 2003). Due to safety and service quality concerns, the number of foreigners studying in Nigeria is small. A system-wide audit of universities in Nigeria (National Universities Commission, 2010; Federal Ministry of Education, 2010) revealed a total foreign enrolment of 10,535 (0.84%) for both undergraduate and postgraduate students. The low enrolment figure was attributed to the decline in educational quality system, poor infrastructure, poor adoption of international best practices in service delivery, growing shortages of qualified academic staff, especially in critical areas of science, technology and engineering and a seemingly dependence on traditional

and outdated teaching methodology (Saint et al., 2003).

ROLES OF NIGERIAN HIGHER EDUCATION

The place of education and training in the political and socio-economic development of any nation cannot be over-emphasized. Theoretical and empirical evidence based on study by Hannum, and Buchmann (2005) has acknowledged that it is only when the citizens of any country are well educated and appropriately trained, will the attainment of rapid national economic and social development be ensured.

Higher education sector, particularly, universities in Nigeria, are expected to play the following roles (FGN, National Policy on Education, 2000, 2005, 2010):

- (i) Acquisition, development and inculcation of proper value-orientation for the survival of the individual and society.
- (ii) Development of the intellectual capacities of individuals to understand and appreciate their environment.
- (iii) Acquisition of both physical and intellectual skills which will enable individuals to transform into useful members of the society.

In trying to perform the aforementioned roles, universities at all times, according to Jibril (2005) require quality resources, adequate and functional processes and efficient and qualitative transactions, for expected results to be appreciated by their (universities) customers. As such, the issue of service quality and customer satisfaction and attachment in the university system, especially in Technological Universities, needs to be addressed accordingly.

SERVICE QUALITY

Because of the increasing debate on service quality issues in universities, the subject has gained special place in the minds of key stakeholders of the higher education industry (De Jager and Gbadamosi, 2010: 251). In the extant literature, discussions on service quality in higher education industry covering different regions can be found in studies by Chua (2004) in Australia, Oliveira-Brachado and Marques (2007), Pareda et al. (2007) and Telford and Masson (2005) in United Kingdom, Srikantham and Dalrymple (2003), Voss et al. (2007) and Kwan and Ng (1999) in China and Hong Kong, Abouchedid and Nasser (2002) in Lebanon, Cloete and Bunting (2000), De Jager and Gbadamosi (2010) in South Africa. But coming to sub Saharan Africa, particularly in Nigeria, there is hardly any study focusing on service quality related issues in technological universities in the extant literature, thus opening a gap for consideration for a research.

The issue of service quality in technological universities is important. They are distinguished from the conventional universities as a result of their specific purpose. Audu (2009) noted that technological universities are established to help produce technocrats for Nigeria's growth in terms of (1) engineering (2) research and development (3) production of knowledge workers to disseminate knowledge through teaching and research (4) Innovations and (5) Production of graduates with the requisite skills needed by industries. These would in turn, lead to rapid industrial development by providing manpower with technical, professional and managerial skills (Audu, 2009). Similarly Hayden et al. (1992) observed that technological universities are meant to provide (1) human capital development, which includes production of scientists and engineers with leadership and entrepreneurial skills, and (2) scientific and technological knowledge development, incubation and dissemination through collaborative research and establishing linkages with industries and other centres of excellence nationally and internationally.

One of the leading indicators of service quality in higher education institutions is the level of satisfaction gained by students with the service encounters. Because of this, they are considered to be external customers of the education industry (Hill, 1995). But in higher education, the definition of a customer is quite different from that of manufacturing or general services, since groups such as students and other stakeholders: employees, academic staff, administrators, government and parents, are all customers of the system with diverse interests (Owlia and Aspinwall, 1996). However, Lagrosen et al. (2004: 63) argue that "understanding quality from the customers' view point is crucial". Although Barnett (1992) had warned on the danger of treating students as 'customers', but in the current dispensation, whereby the trend is towards 'marketization or commoditization' (Sirat and Kaur, 2007) of higher education, and that there is a marketplace for higher education services, then students have to be treated as customers, and as fee payers, they can reasonably demand that their views be heard and acted upon and satisfaction guaranteed.

From a quality management perspective, there is a broader view of customers, where it denotes to all those who are affected by the organisation's activities (Juran and Gryna, 1988; Staskeviciute and Neverauskas, 2008). In this regard, it is more appropriate to use the term stakeholders, which is less controversial when discussing quality issues in the public domain. Although students being primary external customers are at the core of service quality dimension, those other stakeholders are also relevant in the discourse of quality in higher education institutions. There are various groups of customers in higher education industry. The college or university refers to students as their main customers who are directly receiving the educational services, parents as customers who pays tuition fees for the students, companies as customers who employ the graduates. Harvey and Green

1993) argues that it is necessary to define as clearly as possibly, the criteria that each stakeholder uses when judging quality, and take all these competing variables into account. In satisfying Harvey and Green's (1993) observations, Srikantham and Darlymple, (2003), presented four main stakeholders, and related the interpretations of quality by Harvey and Green (1993) to them in the following manner: (1) providers (funding bodies and community at large) where quality is interpreted as 'value for money' as good return on investment is the issue involve.(2) Users of products-both current and prospective students in which quality is interpreted as 'achieving excellence', as they want to ensure a relative advantage in career prospects.(3) Users of outputs (employers) implies 'fitness for purpose', as employers are looking for competencies that would match function.(4) Employees (academic and administrative) quality is about 'perfection or consistency', and the behavioural norms and core ethos are not only met, but upheld to achieve satisfaction (Lagrosen and Leitner, 2004).

This article is more concerned with the second interpretation to pave way for building appreciable levels of satisfaction to facilitate loyalty. This is in line with Cheong-cheng and Ming-Tam's (1997) argument of defining students as dominant customers for higher education services; since higher education is first and foremost, about the enhancement and empowerment of students as participants in the learning process (Katillite and Kazlauskienė, 2010). Therefore, as further observed by Mazzarol (1998), the participation of students in the learning process can be critical to higher education institutions' success. Students' views on all aspects of their higher education experiences are, today, widely sought after and regarded as essential to effective monitoring of quality in universities. This, in the opinion of Hill et al. (2003) will enable provision of data that would be useful to members of the various higher education stakeholder groups, to make judgments and informed decisions about levels of service performance in particular universities. What this implies is that, students' feedback provides up to date information from which comparisons can be made on the different higher education institutions with regard to quality and standards of academic factors, non-academic/administrative factors and the support services rendered in a university environment.

SERVICE QUALITY AND HIGHER EDUCATION

Service quality issues, over the years, has become an important consumer trend (Parasuraman et al., 1985) and has gained ground in service marketing literature in general and the extant literature on Higher education in particular (Tan and kek, 2004; Telford and Masson, 2005; Smith et al., 2007). The constructs of quality as conceptualised in the extant literature was based on perceived

'perceived quality' (Fitri et al., 2008). According to Zeithaml et al. (1987) and Zammuto et al. (1996), perceived quality is defined as the consumer's judgment about an entity's overall experience or superiority. Similarly, Parasuraman et al. (1994: 43) also concluded that "consumer perceptions of service quality result from comparing expectations prior to receiving the service, and their actual experience of the service". Perceived quality is also seen as a form of attitude, related to, but not the same as satisfaction, and resulting from a comparison of expectations with perceptions of performance (Rowley, 1996). Cronin and Taylor (1992) argued that it was unnecessary to evaluate customer expectation in service quality, but measuring perceptions was sufficient.

Higher education exhibits all the characteristics of a service provider. It is intangible and heterogeneous, meets the criterion of inseparability by being produced and consumed at the same time, satisfies the perishability criterion and assumes the students' participation in the delivery process (Cuthbert, 1996). Seymour (1993) stated that higher education institutions serve students and can be considered as service organizations similar in characteristic to other service industries. The concepts of service quality are therefore directly applicable to higher education. As such, higher education institutions are increasingly attracting more attention to service quality initiatives mainly due to the social requirement for quality evaluation in education and the competitiveness in the higher education market place.

Despite the fact that service quality is more difficult to measure than product quality (Parasuraman et al., 1985), several instruments for measuring service quality within the higher education setting have been developed and validated, such as SERVQUAL (Parasuraman et al., 1985, 1986; Shahin, 1988, 1991, 1994; Zeithaml et al., 1990), SERVPERF (Cronin and Taylor, 1992; Carrilat et al., 2007; Abdullah, 2005; Awan et al., 2008); HEDPERF (Firdaus, 2005, 2006). However, the SERVQUAL instrument has been widely used (Rasli and Shekarchizadeh, 2010; Zeshen, 2010) to measure consumers' gaps based on expectations and perceptions of service quality. Arising from the gaps model of service quality as shown in Figure 1. Parasuraman et al. (1985) proposed the SERVQUAL instrument as a standardized tool for measuring service quality with the 5 dimensions (tangibles, reliables, assurance, empathy and responsiveness). It was tested for reliability and validity in multiple service sector settings, including HEIs and it was found to be a concise multi-item scale with good reliability (0.92) and validity (Cuthbert, 1996; Souther and McNeil, 1996; Saaditul et al., 2000). Thus in determining service quality, customer satisfaction and attachment in Nigeria's technology-based universities, the SERVQUAL instrument will suffice.

From Figure 1, Zeithmal et al. (1987) noted that discrepancies existed between the service providers and customers perceptions of the service quality delivered. In

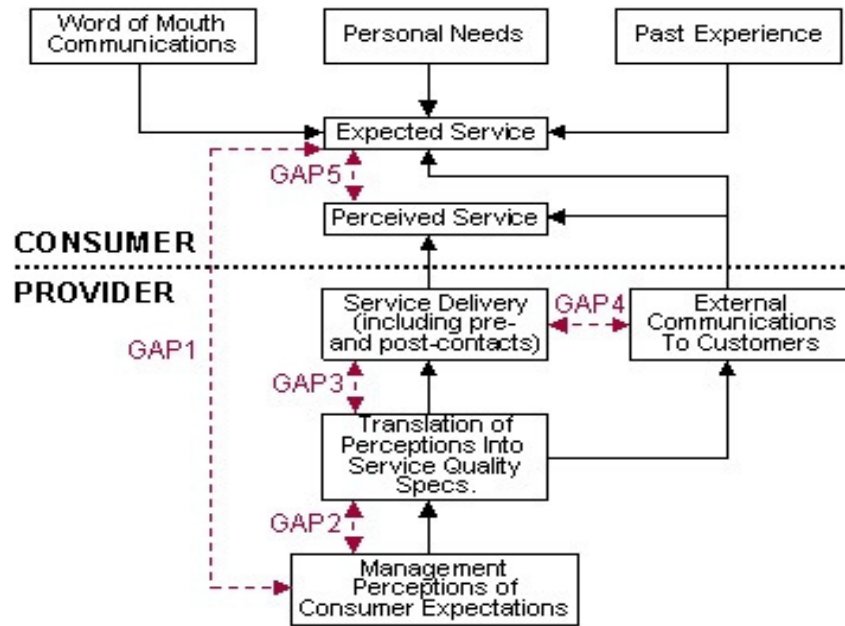


Figure 1. Perceptions expectations model. Source: Zeithmal et al. (1987).

investigating these differences, they asserted that service quality can be assessed by measuring the “gaps” between what the customer expects and what he (customer) perceives he receives. They further argue that the size and direction of these gaps directly affects the service quality that the consumer receives, and concluded that consumers would have perceptions of high service quality to the extent that their expectations are lower than the perceived service performance.

CUSTOMER SATISFACTION AND SERVICE QUALITY IN HIGHER EDUCATION

In reviewing the theories on satisfaction, three elements are common: (1) type of responses that is (cognitive or emotional) (2) whether the response concerns a particular focus (for example expectations and consumption experience); (3) if the satisfaction occurs at a given time (Giese and Cote, 2000). However, there seems to be no general agreement on the definitions of satisfaction within the higher education perspective. Some scholars consider students as customers in higher education who should be satisfied (Chadwick and Ward, 1987; Christenses and Philbrick, 1993, Franklin and Shemwell, 1995) and others, uses the disconfirmation theory to measure antecedents of satisfaction, that is satisfaction depends on the size and direction of the disconfirmation experience, where disconfirmation is a function of a person’s initial expectations (Churchill and Suprenant, 1982; Ise and Wilton, 1988; Powers and Valentine, 2008;

Henning-Thurau, 2001; Brady and Robertson, 2001). Oliver (1980) argued that satisfaction has a cognitive component and an affective component. He associated the concept of satisfaction to attitudes. Through this connection, Oliver (1980) links the satisfaction construct to post-purchase behaviour intentions.

Service quality has been noted as a major prerequisite for establishing and sustaining satisfying relationship with customers. In this regard, the association between service quality and customer satisfaction has been a topical issue addressed by researchers, and it has significant and strategic concern (Cronin and Taylor, 1992). According to Lassar et al. (2000) perceived service quality is an antecedent to satisfaction, and as such, a proper understanding of the antecedents and determinants of customer satisfaction may result in high value for service organisations, including higher education, in a competitive environment.

There has been continuous debate in the extant literature on the relationship between service quality and satisfaction. While Bitner, (1990) and Parasuraman et al. (1988) argued that customer satisfaction is an antecedent of service quality, others, maintained that it is service quality that leads to customer satisfaction and behavioural intentions (Chia et al., 2008; Ott 2008; Molinari et al., 2008). Service quality and customer satisfaction are associated closely. Does satisfaction leads to service quality judgement or does service quality judgement cause satisfaction? From empirical findings, reseachers have a consensus that quality judgement cause satisfaction or service quality is the antecedent of satisfaction

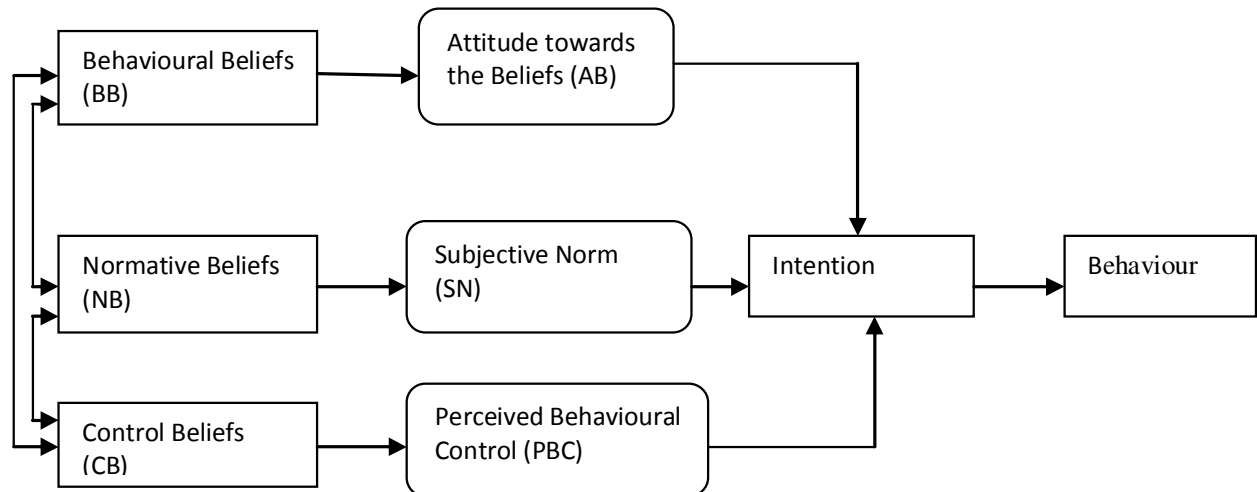


Figure 2. TPB model.

Source: Adopted from Siragusa L and Dixon CK (2009).

(Cronin and Taylor, 1992; Gotlied et al., 1994; Parasuraman et al., 1994a; Loveman, 1998; Anderson and Sullivan, 1993). Be as it may, the importance of students' (as customers) satisfaction will be appreciated by asking: What follows if students, as customers, are dissatisfied? It is apparent that, in a competitive service environment, students who are dissatisfied may tend to withdraw or transfer (Hayes, 1977; Souter and McNeil, 1996). But in the event that, the students, because of absence of a viable alternative, which is seldom the case, decide to remain in the institution, they may not speak well of it, and thus affecting positive word of mouth referrals to future students. Such behavioural orientations need to be studied accordingly.

THEORY OF PLANNED BEHAVIOUR (TPB) AND CUSTOMER ATTACHMENT

Gatfield and Chen (2006) identified a number of intervening variables related to consumer behavior. Included amongst these are environmental influences (Engel et al., 1990); social classes (Kindra et al., 1994); the family (Hawkins et al., 1994) and consumer resources (Assael, 1987). But in terms of understanding consumer attitudes and attitudinal links between intention and behavior, Fishbein and Ajzen (1975) developed the Theory of Planned Behaviour (TPB). The TPB, which have been developed and tested for three decades, is both descriptive and predictive.

The basic characteristic of TPB is that to understand individuals' choice behavior, it is vital to examine intentions. The prerequisite of understanding intention is to examine attitudes. However, at any given time there are a number of consumer attitudes towards a service. This is considered in the TPB model, which make it to be

referred to as the multi-attribute model. In order to enhance prediction, attitude according to Fishbein and Ajzen (1975) can be factored into three major groups. These are attitudes towards behaviour, subjective norms and perceived behavioural control. The three attributes are not constant, as they change from service to service or product to product. Thus attitudinal variables have to be determined for each situation. The above inter-relationship in TPB is illustrated in Figure 2.

Attitudes toward a behavior (AB) are the degree to which a person holds an attitude towards a particular behaviour and is represented by a positive or negative belief. For example students who identified the gaps between service quality expectations and perceptions as positive may tend to become satisfied with their choice of a university and hence remain attached to it and make further recommendations to others about enrolment decision. The implication is for the university's service augmenters to be positioned to exceed students' expectations. A Postgraduate student's preference, for example, to study in a University that has a strong research focus (Assurance) and well-equipped workshops and laboratories (Tangibles) may show a favourable attitude and thus, affects his behavior positively. This will lead to customer satisfaction, and attachment. This is what Fishbein and Ajzen (1975) called 'belief-based sum measure proposition', which aggregates the expectancy values of the attitude model.

Subjective norm (SN) refers to the perceived social pressure associated with performing certain behaviours. It is a function of referent belief, that is, what "important others think is important" (Ajzen, 1991:185). Important others might include parents, friends, religious organizations and the society. In a student as customer perspectives, the 'important others' are the external customers who also have impact on the students' choice

decision. A subjective norm is considered to be a function of believes that external customers approve or disapprove of certain behaviours. For example, SN can be explained by these situations (1) a student choosing to study in a university that is not his first choice, but was made to do so by the pressure from family members and (2) friends of a student who recommends a university in a country that is not the first choice. Hence a belief-based measure of SN is obtained by summing the multiplied values of the strength of each normative belief (NB) by the individual's motivation to comply with the referent others (M) to get the number of beliefs (Ajzen, 1991).

Perceived behavioural control (PBC) according to Ajzen (1991) is a person's perceptions of the ease of performing the behavior in question. These are called 'control beliefs'. Costs (tuition fees), time, financial aids (scholarships), university's competitiveness are examples of control beliefs. If individuals believe that they do not have sufficient resources or opportunities at their disposal, they are not likely to form a strong intention to purchase a service. A university with a high tuition fees may not be appreciated by current and potential students. Their behavioral intentions with regard to loyalty and attachment may tend to be negative. Similarly, financial aids in terms of scholarships or tuition waivers, may elicit favourable behavior from current students who then pass a positive attitude and word-of-mouth referrals to others (Figure 1).

In today's competitive academic environment, higher education institutions, particularly technological universities in Nigeria, needs to look at factors that would enhance their service quality performance to attract and retain students. It should be noted that, what drives customer satisfaction are two-fold, namely, service encounter satisfaction and overall customer satisfaction. While service encounter is transaction specific, overall customer satisfaction is relationship specific (Bitner et al., 2000). Therefore overall satisfaction should be seen as the cumulative effect of a set of discrete service encounters or transactions with the service provider (HEIs) over a period of time.

IMPLICATION OF THE TPB MODEL ON ATTACHMENT

Technology-based universities in Nigeria need to understand the dimensions of the TPB model. The use of the TPB model can help to predict students' (as primary customers) motivations to remain attached to the universities. For example, by projecting a good corporate image to external customers such as parents, friends and industry, the universities stand to gain acceptance by the external customers. As such, they may recommend and influence the choice decisions of the students. Therefore, projecting a good image will serve as a branding tool and a motivator for attachment, as depicted by Figure 2.

Also, technology-based universities need to study

behaviours associated with students' beliefs, and the impacts these would have on their (students) perceptions. For instance, where the Technology-based universities justify an increase in tuition fees due to capital-intensive nature of training, however, this may not be favoured by both students and the external customers. This will result in negative perceived behaviour, which would turn into negative word-of-mouth referrals. In this perspective, attachment to these universities will be low. This has led many Nigerians to seek for and choose foreign universities for their postgraduate studies, especially in science and technology and engineering. Statistics shows that Nigerians are ranked third (School of Postgraduate Studies, 2010) in terms of population of foreign postgraduate students in University Teknologi Malaysia (UTM) alone. This is an indication of low attachment to their universities at home which are mostly Technology-based universities, due mainly to negative perceived behaviour. The low level of attachment can be mitigated by providing scholarships and other financial aids, responsive and courteous services that would ensure satisfaction and attachment and investment in ICT infrastructure. These would change the negative perceptions to positive ones, thereby attracting loyalty/attachment.

MANAGING SERVICE QUALITY FOR CUSTOMER SATISFACTION

In managing service quality, especially at higher education level, it is expedient to understand customers' expectations, how these expectations evolve and their importance in terms of service quality measurement. To this end, Zeithaml et al. (1990: 51) said: "knowing what customers expect is the first, and possibly the most critical step in delivering service quality". Yet, some debates are prevalent in the extant literature as to the exact nature of the expectations' constructs. According to Teas (1994: 135), "Expectations have been variously defined as desires, wants, normative expectations, ideal standards, what the service provider should offer, a pair of normative standards comprising what the consumer hopes to receive, and adequate service". As such, it would be concluded that most consumers enter a service encounter with some form of expectations in mind, ranging from the ill defined in unfamiliar situations to the well defined in familiar ones. What is important here, is whether or not, measuring these expectations will have an impact on perceived service quality. Further, Zeithaml et al. (1990) identified some specific factors that can influence consumers' expectations:

- (i) Tangibles (such as physical facilities, equipment and environment of a university);
- (ii) Competence and credibility of the service provider and the employees (for example, the quality, qualification and competence of faculty); reliability and courtesy.

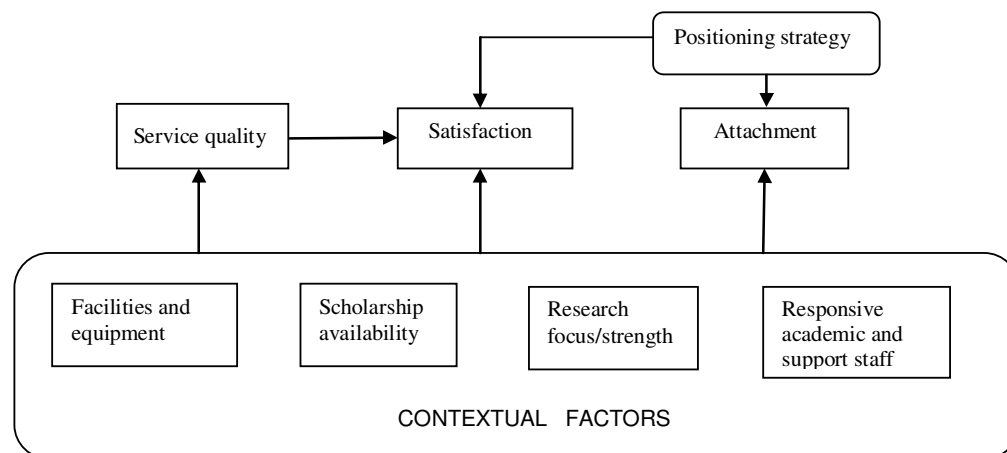


Figure 3. A Conceptual framework explaining the service quality links to customer satisfaction-loyalty paradigm in technology-based universities.

In discussing the subject matter of service quality, particularly in higher education institutions, one important issue to note is the disparity between consumers' expectations and perceptions of service encounters. This in itself is referred to as disconfirmation in service quality literature. But there is no substantial agreement in the extant literature, as to whether the disconfirmed expectation variable is a predictor of consumer satisfaction or dissatisfaction (Parasuraman et al., 1988; Teas and Bitner, 1990; Cronin and Taylor, 1992; Teas, 1993). The disagreement was a product of unresolved issues relating to the nature of relationship between service quality and customer satisfaction. For instance while Cronin and Taylor (1992:62) posits that "service quality leads to customer satisfaction", others such as Parasuraman et al. (1988) concluded that, customer satisfaction leads to perceived service quality. Bitner (1990: 73) attempted to resolve this disagreement by saying that, "Customers' satisfaction assessments relate to specific service transactions, while service quality is a general attitude relating to the service provider's overall excellence or superiority". Therefore we conclude that, perceived service quality could result from evaluation of a host of service encounters. In the case of students as customers in higher education institutions, these could range from encounters with faculty staff such as lecturers, tutors, Heads of Departments, Deans and to encounters with non academic staff such as clerks, administrative officers, and other supported staff, in the service provision process.

THE SERVICE QUALITY-SATISFACTION-ATTACHMENT FRAMEWORK

Parasuraman et al. (1985) argued that when service quality is high, it will lead to customer satisfaction. This

argument has found support in Saravana and Rao (2007) and Lee et al. (2000) who acknowledged that customer satisfaction depends on level of service quality of organizations. Fen and Lian (2005) found that both service quality and customer satisfaction have a positive effect on customers' repurchase intentions, thus leading to loyalty. Similarly, a study by Magi and Julander (2009) showed a positive relationship between perceived service quality, customer satisfaction and attachment. Thus customer satisfaction results from high perceived service quality and this makes customers loyal.

Within the higher education setting and technology-based universities in particular, the relationship between service quality and customer satisfaction can be explained based on some contextual factors as in Figure 3. Technological universities that offer state of the art equipment, boast of renowned and competent academics, provide financial aids in terms of scholarship and grants and differentiates through research focus and strength may not only satisfy its customers, but also enjoy loyalty.

FACILITIES AND EQUIPMENT

Availability of adequate facilities and equipment are vital for technological universities to fulfill their service delivery in terms of effective teaching, learning and research. The specialized nature of technological universities means that adequate classrooms, seminar rooms, laboratories, workshops and well-equipped libraries are critical tangibles that would affect their service quality perception. In Nigerian higher education context, these facilities and equipment are inadequate, and mostly obsolete (Donwa, 2006). Some of the major problems affecting service delivery in technological universities in Nigeria are inadequate classrooms, semi-functional workshops

and laboratories. As such, students, especially postgraduate students tend to switch to other conventional and foreign universities where these facilities are comparatively better. The net effects are negative service quality perceptions and unfavourable word of mouth recommendations to future students.

Effective deployment and utilization of ICT facilities is another challenge to technology-based universities in Nigeria. The ICT facilities are inadequate, computers are few and investment on ICT is at a minimum. Where the ICT facilities are in place, the universities are unable to maintain them. The high cost of bandwidth, especially dedicated bandwidth to improve internet connection speed is high, which the universities, due to poor funding, cannot afford to contend with. In this era of technology-driven services, these problems tend to elicit negative disconfirmation for students as far as satisfaction is concerned.

Therefore, technology-based universities in Nigeria need to invest in ICT to ensure students' satisfaction. The satisfaction would make them remain attached to the universities and make referrals to others. But this is predicated on the increased funding from Government as well as the universities' ability to generate more revenues for their services. If current students are satisfied, then they would become loyal repeat consumers who may want to come back for future studies, or engage in any other relationship such as alumni activities, giving financial assistance and endowments to the universities.

RESEARCH FOCUS/STRENGTH

Research strength is an important parameter that would differentiate technological universities from others. As supported by Ikharehon (2007), the amount and volume of research carried out by technological universities is what will distinguish them from other types of higher education institutions. However, this still depends on the availability, adequacy and condition of the aforementioned facilities and equipment. For instance, the current situations in these universities in terms of library facilities are inadequate collections, few current journals and limited subscription to online databases. All these are factors of negative disconfirmation, which leads to negative service quality perception. Improvements in providing these critical facilities are necessary for building a strong research focused universities as well as branding tools.

RESPONSIVE ACADEMIC AND ADMINISTRATIVE STAFF

Availability and quality of academic staff are important tangible factor that impact on the perception of service quality in higher education setting (Oni and Abiodun, 2010). In the context of technological universities in Nigeria, two fundamental problems exist that adversely affects service quality. These are: shortage of academic staff, especially in critical areas of science and technology and engineering and low number of faculty with PhD. As observed by Bienenstock (2006) these problems are

problems are caused by inability to recruit and retain quality academic staff, brain drain to overseas countries, better salaries in the private sector that increases staff turn-over rate and the low turn-over of postgraduate students. These problems are mutually inclusive. While the low turn-over of postgraduate students may be linked to the shortage of qualified staff with PhDs, unresponsiveness and lack of personalized care (empathy) seems to also contribute to disenchantment by students.

Therefore strengthening postgraduate training, especially through sponsorship schemes to reputable universities abroad and better incentives to academic staff are measures that would help solve the aforementioned problem. The effect would be the turn out of high quality faculty devoted to teaching and research. Research intensive nature of technological universities requires that faculty should have proven research and mentoring capabilities, especially for the benefits of graduate students. Faculty's knowledge and expertise in their subject area are tools of attraction and attachment to universities. As such, students' perception can be influenced by building scholarly strength and exploring new fields of studies such as bioinformatics, biomedical engineering, and biotechnology. These types of courses have the potentials of attracting attachment from students.

GOVERNMENT POLICY AND REGULATION

Service quality perceptions of universities in Nigeria are also affected by Government policies in the higher education sector. For instance, the policy of accommodating only 30% (Federal Ministry of Education, 2010) of the students' population in any university leaves many of the students without accommodation facility, to read 'as a result' of inadequate hostels. This is more evident in the technology-based universities, where majority of the students are required to provide their own alternative accommodation.

In order to increase satisfaction, partnership with the private sector and estate developers can help ameliorate this problem. Also regulation concerning establishing foreign private universities need to be revisited. The availability of expatriate faculty, who may come with foreign private universities, would help in transfer of knowledge and intellectual capital to the country. It will also provide options for students in terms of university choice for their educational pursuits.

UNIVERSITY LEADERSHIP

Visionary and committed leadership are important antecedents for universities to provide quality services to its various customers (Yizengaw, 2003). The complexity of university system is such that requires both administrators and faculty to provide intellectual leadership that

would positively impact both students and the national economy. Leadership of Universities needs to have administrative and political capability that would guide their institutions to greater intellectual strength. To attract quality faculty and students, the leadership in universities must strive towards pursuing ideas in a free and encouraging environment.

DISCUSSION AND CONCLUSION

Positioning is an important tool that requires “designing an organisation’s offerings and image so that it occupies a distinctive and valued place in the target customers’ mind relative to competitors’ offerings” (Kerin and Peterson, 2001: 711). Hence, technological universities in Nigeria need to strategically differentiate from other higher education institutions by focusing on investment in facilities, equipment, IT infrastructure and vigorous internationalization drive (open-houses, road shows, use of marketing committees). Robust R&D linkages with industry will also stand to differentiate them from other universities, thereby enhancing their service quality perceptions. Further, technology-based universities in Nigeria can attract loyalty by introducing innovative programmes such as Bioengineering, Biomedical engineering, Biotechnology and Bio-processing system. The absence of these types of programmes is partly responsible for the movement of students to foreign universities in search of satisfaction in terms of course offerings.

Technology-based universities in Nigeria need to create a branded image in higher education industry by improving on the perceptions of their service quality by primary customers (students), external customers (community and society), and internal customers (employees). In this regard, Berry and Parasuraman (1997) argue that organizations can improve the quality of what they offer by listening to their external customers, competitors, customers and their own employees. In the same vein with ‘Also’, Lin et al. (2001) reports that the quality of service is affected by the personality traits of employees, while Shao et al. (2004) were of the opinion that the appropriateness of the personnel’s dress affects perceived quality.

Investment in technology, especially in ICT will serve to differentiate technological universities in Nigeria from others. This will result in students’ satisfaction who, would be attached to the universities and make referrals to others. As observed by Greenberg (2001) and Peppers and Rogers (1999), customer satisfaction can be increased through the improved capabilities of information technology. The implication here is that, satisfied current customers would become repeat loyal customers, thereby increasing retention rate (Al-Hawari, 2005; Liang and Wang, 2006). This is also supported by Anderson and Mittal (2000), Bennett and Rundle-Thiele (2005), Rust et al. (2000) and Zeithaml et al. (1996) who view

better quality as antecedent to customer satisfaction, loyalty and retention.

Conclusion

One thing to note in this article is that, service quality and customer satisfaction has direct relationship. The students’ expectations of a university education are skewed towards “learning experiences and individual preferences” (De Jager and Gbadamosi, 2010: 253). This means the students’ enrolment decision will depend on the service encounters relating to factors like support facilities and infrastructure, image and marketing, academic issues, administrative issues, location and access.

The choice impact factors associated with selecting a university to study may depend on quality as an integral tool of service delivery. By this, it will ensure continuous patronage and retention of students. Also, students’ perceptions are important factors for universities to consider, in trying to being competitive in the higher education marketplace. This view is supported further by Maringe and Gibbs (2009) who identified a dependent relationship between service quality and universities’ ability to not only attract, but also retain students. Thus, universities needs to evolve competing marketing strategies that would attract customers’ loyalty, in this case, students’ retention, by improving on their service quality, taking into cognizance, the contextual factors in Figure 1.

State of the art teaching facilities required to provide efficient services to produce competent human resource adequate for innovation, comparable to what obtains in other developed (e.g. Singapore) and developing countries (e.g. Malaysia and Indonesia) are not in place in technological universities in Nigeria (Sanni et al., 2000). Similarly, decayed infrastructure for teaching/learning activities, unproductive research and development, and the low morale of academic and support staff lead to poor academic quality. Also incentives for academic staff are poor. This has led to brain drain of qualified Nigerian scientists and engineering faculty to other countries. The implication is that, technological universities in Nigeria are left with unmotivated and less qualified teaching faculty who are perceived as rendering poor and unsatisfactory service to customers in the university sector, thereby attracting less loyalty. Improved facilities for teaching/learning, research and salaries in universities have the capacity to not only check brain drain to foreign universities and the private sector where the payment is better, but also enhance academic quality. An established scholarship scheme especially at the postgraduate level may tend to provide positive word of mouth referrals to others, thus enhancing the service quality perceptions of students positively. Government need to establish student scholarship/loan schemes for students of technology-based universities to enable them pay fees, since studies at these technological universities are expensive compared to conventional universities.

The issue of autonomy for universities in Nigeria is a matter that is unclear. This needs to be clarified and resolved, as it is crucial in repositioning the technological universities to face the challenges of the knowledge economy and internationalisation. Increased autonomy for the universities will lead to more financial and administrative leverage. This will give them opportunities to freely engage in knowledge production that would generate technological human capital for economic development. We conclude that, provision of up to date facilities, motivated academic and support staff, investment in new technologies such as ICT, provision of scholarships by both Government and the universities, introduction of new innovative academic programmes (Bioengineering, Medical engineering, Biotechnology and Bio-processing system), internationalization drive, industry-adaptive curricular and greater research focus and strength are necessary for technology-based universities in Nigeria to create a branded image and prestige that would satisfy students as primary customers and make them (students) remain attached to the universities.

REFERENCES

- Abdullah F (2005). HedPERF vs. SERVPERF: The quest for ideal measuring instrument of Service Quality in Higher Education Sector. *Qual. Assur. Educ.*, 13(4): 305-328.
- Abouchedid K, Nasser R (2002). Assuring quality service in higher education: Registration and advising attitudes in a private university in Lebanon. *Qual. Assur. Educ.*, 10(4): 198-206.
- Ajzen I (1991). The Theory of Planned Behaviour. *Org. Behav. Hum. Decis. Proc.*, 50(12): 179-211
- Alaneme E (2010). Nigeria: NUC tackles universities over standards. <http://allafrica.com/stories/201002260555.html>
- Al-Hawari M (2005). The effect of automated service quality on bank financial performance and the mediating role of customer retention. *J. Financial Serv. Mark.*, 10(3): 228-243
- Anderson EW, Mittal V (2000). Strengthening the satisfaction-profit chain. *J. Serv. Res.*, 3(2): 107-120.
- Anderson E, Sullivan M (1993). The antecedents and consequences of customer satisfaction for firms. *Mark. Sci.*, 12(2): 125-144
- Assael H (1987). *Consumer behavior and marketing action*. 6th ed. Cincinnati, Ohio: South-Western College Pub.
- Audu MS (2009). "Moving the citadel forward: Strategic plan for 2004-2008, vol.1", also available at www.futminna.edu.ng/unisplan.htm
- Awan MU, Azam S, Asif M (2008). Library Service Quality Assessment. *J. Qual. Technol. Manage.* 4(1): 51-64
- Barnett R (1992). *Improving higher education*. SRHE/ Open University Press, Buckingham, London. 30-37
- Bejou D (2005). "Treating students like customers". BZ (ed.) March-April: 44-47. www.aacsb.edu/publications/archives/MarApr05/p44-47.pdf
- Bennett R (2003). Determinants of undergraduate students drop-out rates in a University Business Studies Department. *J. Further Higher Educ.*, 27(2): 123-129.
- Bennett R, Rundle-Thiele S (2005). The brand loyalty cycle: implications for marketers. *Brand Manag.*, 1(12): 250-263.
- Berry LL, Parasuraman A (1997). Listening to the customer; the concept of a service-quality information system. *Serv. Manag. Rev.*, Spring: 15(4): 65-76.
- Bienestock A (2006). Essential characteristics of Research Universities. UNESCO forum of Higher education, Research and Knowledge, Nov. 29 to Dec. 1. Available at www.unesco.org/education/en/files/51613/Bienestock-EN.pdf
- Bitner MJ (1990). Evaluating service encounters: the effects of physical surroundings and employees responses. *J. Mark.* 54(4): 69-82.
- Bitner MJ, Brown SW, Meuter ML (2000). Technology infusion in service encounters. *J. Acad. Mark. Sci.*, 28(1): 138-149.
- Brady MK, Robertson CJ (2001). Searching for a consensus on the antecedent role of service quality and satisfaction. *J. Bus. Res.*, 51(1): 53 – 60.
- Carillat AF, Jaramilo F, Mulki PJ (2007). The validity of the SERVQUAL and SERVPERF Scales: A Meta-analytic view of 17-years of research across 5 continents. *J. Serv. Ind. Manag.*, 18(5): 472-490.
- Chadwick K, Ward J (1987). Determinants of customer satisfaction with education: implications for college and university administrators. *Coll. Univ.*, 62(3): 236-246.
- Cheong-Cheng Y, Ming-Tam W (1997). Multi-models of quality in education. *Qual. Assur. Educ.*, 15(1): 23-31.
- Chia J, Hsu J, Hsu CM (2008). The relationship between service quality and customer satisfaction in a leading Chinese web 2.0 company. *Bus. Rev.*, 11(1): 84-89.
- Christenses AL, Philbrick D (1993). Business and Universities: Similar challenges, shared solutions. *J. Educ. Bus.*, 69 (3): 6-9.
- Chua C (2004). Perception of Quality in Higher Education', in Carmichael R (Ed.) *Quality in time of Change*. AUQA Occasional Publication, Proceedings of Australian Universities.
- Churchill GA, Suprenant C (1982). An investigation into the determinants of customer satisfaction. *J. Mark. Res.*, 19(4): 491 – 504.
- Cloete N, Bunting I (2000). *Higher education transformation: Assessing performance in South Africa*. Pretoria: Centre for Higher Education Transformation.
- Cronin JJ, Taylor SA (1992). Measuring service quality: a re-examination and extension. *J. Mark.*, 56(7): 55-68.
- Cuthbert PF (1996). Managing service quality in HE: Is SERVQUAL the answer? *Manag. Serv. Qual.*, 6(2): 11-16.
- De Jager J, Gbadamosi G (2010). Specific remedy for specific problem: measuring service quality in South African Higher Education. *Higher Educ.*, 60(3): 251-267.
- Desoff A (2006). Quality and cost in education abroad: Balancing act. *Int. Educ.*, 15(4): 24-30.
- Donwa PA (2006). Funding of Academic Research in Nigerian Universities. UNESCO forum of Higher education, Research and Knowledge, Nov. 29 to Dec. 1. Available at www.unesco.org/education/11634301905Donwa/Donwa-EN.pdf
- Engel J, Blackwell R, Miniard P (1990). *Consumer Behaviour*. 6th ed. Sydney: Harcourt, Brace Jovanovich Publishers.
- Federal Ministry of Education (2010). www.fmegovng.org.
- Fen YS, Lian K (2005). Service quality and customer satisfaction: Antecedents of customers're-patronage intentions. *Sun. Acad. J.*, 4(1): 60-73.
- Federal Government of Nigeria (FGN) (2000). *National Policy on Education*. Abuja, Nigeria.
- Federal Government of Nigeria (FGN) (2005). *National Policy on Education*. Abuja, Nigeria.
- Federal Government of Nigeria (FGN) (2010). *National Policy on Education*. Abuja, Nigeria.
- Fishbein AJ, Ajzen I (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, M.A: Addison Wesley.
- Fitri HA, Ilias A, Abd Rahman R, Abd Razak MZ (2008). Service Quality and Student Satisfaction: A Case study at Private Higher Education Institutions. *Int. Bus. Res.*, 1(3): 163-175.
- Franklin KK, Shemwell DW (1995). Disconfirmation Theory: An Approach to Student Satisfaction in Higher Education. A Paper presented at the meeting of Mid-South Educational Research Association Conference. Available at http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?Nfb=t&Nfb-t_rue&ERICExtSearch_SearchValue_0=ED388199&ERICExtSearch_SearchType_0=no&accno=ED388199.
- Gatfield T, Chen C (2006). Measuring Student Choice Criteria Using the Theory of Planned Behaviour: The case of Taiwan, Australia, UK and USA. *J. Mark. Higher Educ.*, 16(1): 77-95.
- Giese JL, Cote JA (2000). Defining consumer satisfaction. *Acad. Mark. Sci. Rev.*, 15(4): 43-48.
- Gotlieb JB, Grewal D, Brown SW (1994). Consumer satisfaction and perceived quality: Complementary or divergent constructs? *J. Appl. Psychol.*, 79(6): 875-885.

- Greenberg P (2001). CRM at the speed of light: Capturing and keeping customers in internet real time. Berkley, CA: Osborne/McGraw-Hill
- Gronroos C (1984). Service Quality Model and its Marketing Implications. *Eur. J. Mark.*, 18(4): 36-44.
- Halbesleben JRB, Becker JA, Buckley MR (2003). Considering the labour contributions of students: an alternative to the student-as-customer metaphor. *J. Educ. Bus.*, 78(5): 255-257.
- Hannum E, Buchmann C (2005). Global Educational Expansion and Socio - Economic Development: An assessment of findings from the social sciences. *World Dev.*, 33(3): 333-354.
- Harvey L and Green D (1993). Defining quality. *Assess. Eval. Higher Educ.*, 18(1): 9-34.
- Hawkins D, Neal C, Quester R (1994). Consumer behavior: Implications for marketing strategy. Sydney: The McGraw-Hill Companies, Inc.
- Hayden MA, Suleman IY, Gomper S (1992). Technology Education in Nigeria: The views of Practitioners. *Int. J. Tech. Des. Educ.*, 2(3): 61-64.
- Hayes SC (1977). Dropouts' dissatisfaction with the university. *Austr. J. Educ.*, 21(2): 141-149.
- Henning-Thurau T (2001). A Relationship marketing perspective of complaint satisfaction in service settings: Some empirical findings. Paper presented at the conference on enhancing knowledge development in marketing. Available at [http://www.uniweimar.de/medien/marketing/mitarbeiter/thtpdf/\[15\]HenningThurau AMA 2001.pdf](http://www.uniweimar.de/medien/marketing/mitarbeiter/thtpdf/[15]HenningThurau AMA 2001.pdf) (Accessed on 22 September, 2010).
- Hill FM (1995). Managing service quality in higher education: the role of the student as primary consumer. *Qual. Assur. Educ.*, 3(3): 10-21.
- Hill Y, Lomas L, McGregor J (2003). Students' perceptions of quality in higher education. *Qual. Assur. Educ.*, 11(1):15-20.
- Hoffman KD, Bateson JEG (2006). Services marketing: concepts, strategies and cases, 3rd ed. Mason, OH: Thomson south-western.
- Ibukun WO (1997). Educational Management: Theory and Practice. Ado-Ekiti: Green Line Publishers.
- Ikharehon JI (2007). Capacity building for National Development: The Nigerian Experience. *J. Soc. Sci.*, 15(1): 25-29.
- Jibril M (2003). "Nigerian Higher Education". In: Altbach, P.G and Teferral, D. (ed.), African Higher Education. Bloomington: Indiana University Press.
- Jibril M (2005). The Knowledge Economy and the size and shape of Nigerian Higher Education System. In: Jibril, M. (2005) (ed.) Perspectives and reflections on Nigerian Higher Education. Ibadan: Spectrum Books, Nigeria.
- Joseph M, Yakhou M, Stone G (2005). An Educational Institution's Quest for Service Quality: Customers' Perspectives. *Qual. Assur. Educ.*, 13(1): 66-82.
- Juran JM, Gryna FM (1988). Juran's quality control handbook. 4th ed. McGraw-Hill, New York.
- Kanji GK, Tambi MA (1999). Total Quality Management in UK Higher Education Institutions *Total Qual. Manag.*, 10(1): 129-153
- Katiliute E, Kazlauskienė I (2010). The Model of Studying Quality Dimensions from Students' Perceptions. *Econ. Manage. J.*, 15(1): 590-586.
- Kerin RA, Peterson RA (2001). Strategic Marketing Problems: Cases and Comments, 9th edition, Upper Saddle River, New Jersey: Prentice-Hall.
- Kindra G, Laroche M, Muller T (1994). The Canadian perspective consumer behaviour. Ontario: International Thomson Publishing.
- Kwan PYK, Ng PWK (1999). Quality indicators in higher education: Comparing Hong Kong and China's students. *Manage. Auditing J.*, 14(2): 20-27.
- Kwek CL, Lau TC, Tan HP (2010). Education Quality Process Model and its influence on Students' Perceived Quality. *Int. J. Bus. Manage.*, 5(8): 154-165.
- Lagros S, Seyyed-Hashemi R, Leitner M (2004). Examination of the dimensions of quality in higher education. *Qual. Assur. Educ.*, 12(2): 61-69.
- Lassar WM, Manolis C, Winsor RD (2000). Service quality perspectives and satisfaction in private banking. *J. Serv. Mark.*, 14(3): 244-271.
- Lee H, Lee Y, Yoo D (2000). The determinants of perceived service quality and its relationship with satisfaction. *J. Serv. Mark.*, 14(3): 217-231.
- Liang C, Wang WH (2006). The behavioural sequence of the financial service industry in Taiwan: Service quality relationship, quality and behavioural loyalty. *Serv. Ind. J.*, 26(2): 119-145.
- Lin NP, Chui HC, Hsieh YC (2001). Investigating the relationship between service providers' personality and customers' perceptions of service quality across gender. *Total Qual. Manag.*, 12(1): 57-67.
- Loveman GW (1998). Employee satisfaction, customer loyalty and financial performance: An empirical examination of the service profit chain in retail banking. *J. Serv. Res.*, 1(1): 18-31.
- Magi A, Julander CR (1996). Perceived service quality and customer satisfaction in a store performance framework. An empirical study of Swedish grocery retailers. *J. Retailing Consum. Serv.*, 3(1): 33-41.
- Maringe F, Gibbs P (2009). Marketing higher education: Theory and Practice. New York: McGraw-Hill Education.
- Mazarrol T (1998). Critical success factors for international education marketing. *J. Educ. Manage.*, 12 (4): 163-175.
- Molinari LK, Abratt R, Dion P (2008). Satisfaction, quality, value and effects on repurchase and positive word-of-mouth behavioural intentions in B2B Services context. *J. Serv. Mark.*, 22(5): 363-373.
- Norman P, Conner M, Bell R (1999). The Theory of Planned Behaviour and Smoking Cessation. *Health Psychol.*, 18(1): 89-94
- National Universities Commission (2010). Available at www.nuc.edu.ng
- Oliveira-Brachado A, Marques RC (2007). Comparing alternative instruments to measure service quality in higher education. FEP Working papers, No. 258, Dec. Available at <http://ideas.repec.org/fepwps/258.html>
- Oliver RL (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *J. Mark. Res.*, 17(1): 460-469.
- Oni AA, Abiodun AI (2010). Towards improving the status of higher education in Nigeria. *Acad. Leadersh. J.*, 8(3): 1-15.
- Ott M (2008). An analysis of the impact of service quality on satisfaction, value and future intentions within campus recreation using performance-based measures. Unpublished PhD Thesis, University of New Hampshire.
- Owlia MS, Aspinwall EM (1996). A framework for the dimensions of quality in higher education. *Qual. Assur. Educ.*, 4(2): 12-20.
- Parasuraman A, Zeithaml VA, Berry LL (1994). Alternative scales for measuring service quality: A comparative assessment based on psychometric and diagnostic criteria. *J. Retailing*, 70(3): 201-230.
- Parasuraman A, Zeithaml VA, Berry LL (1988). SERVQUAL: A multi-item scale for measuring consumer perceptions of quality. *J. Retailing*, 64(1): 12-40.
- Parasuraman A, Zeithaml VA, Berry LL (1985). A Conceptual model of service quality and its implication for future research. *J. Mark.*, 49(4): 41-50.
- Pareda M, Airey DW, Bennett M (2007). Service quality in overseas education: The experience of overseas students. *J. Hosp. Leisure Sport Tourism Educ.*, 6(2): 55-67.
- Peppers D, Rogers M (1999). Enterprise one-to-one: Tools for competing in the interactive age. New York: Doubleday.
- Powers TL, Valentine DB (2008). A Review of the role of satisfaction, quality and value on firm performance. *J. Consum. Satisfac. Dissatisfac. Complaining Behav.*, 1(1): 80-101.
- Quine L, Rubin R (1997). Attitude, subjective norm and perceived behavior control as predictors of women's intention to take hormone replacement therapy. *Br. J. Health Psychol.*, 2(1):199-216.
- Rowley JE (1996). Customer compatibility management: an alternative perspective on student-to-student support in higher education. *Int. J. Educ. Manag.* 10(4): 15-20.
- Saaditul I, Shamsinar MS, Wong CM (2000). Customer satisfaction towards service quality of higher education in Malaysia. Seminar FEP 2000 Pulau-Pinang, 20-23 October. <http://www.econ.upm.edu.my/report/mgm11b.html>.
- Saint W, Harnett TA, Strassner E (2004). Higher Education in Nigeria: A status report. <http://www.wes.org/ewenr/pf/04/sept/pffeature.htm>
- Sanni SA, Ilori MO, Opaleye AO (2001). Nigeria's Technology Policy: Is it adequate in the globalizing world? *Technovation*, 21(4): 237-243.
- Saravanan R, Rao KSP (2007). Measurement of service quality from the customer's perspective: An empirical study. *Total Qual. Manag.*, 18(4): 435-449.
- Seymour D (1993). Quality on campus: Three institutions, three beginnings. *Change*, 25(3): 14-27.
- Shao CY, BAKER J, Wagner JA (2004). The effects of appropriateness

- service contact personnel dress on customer expectations of service quality and purchase intention: The moderating influence of involvement and gender. *J. Bus. Res.*, 57(10): 1164-1176
- Sirat M, Kaur S (2007). "Transforming Higher Education into a global commodity: Pressures for developing countries". Update on Global Higher Education, National Institute of Higher Education Research, Malaysia, April, No. 4.
- Smith G, Smith A, Clarke A (2007). Evaluating Service Quality in Universities: A Service Department Perspective. *Qual. Assur. Educ.*, 15(3): 334-350.
- Souther G, McNeil M (1996). Measuring service quality in a tertiary institution. *J. Educ. Adm.*, 34(1):72-82
- School of Postgraduate Studies (2010). Universiti Teknologi Malaysia, JB.
- Srikantham G, Dalrymple J (2003). Developing alternative perspectives for quality in higher education. *Int. J. Educ. Manage.*, 17(3):126-136.
- Staskeviciute I, Neverauskas B (2008). The intelligent University's conceptual model. *Eng. Econ.*, 4(1): 53-58.
- Tan KC, Kek SW (2004). Service Quality in Higher Education using an enhanced SERVQUAL approach. *Qual. High. Educ.*, 10(1): 17-24
- Teas RK (1994). Expectations as a comparison standard in measuring service quality: an assessment of a reassessment. *J. Mark.*, 58(1): 132-139.
- Telford R, Masson R (2005). The congruence of quality values in higher education. *Qual. Assur. Educ.*, 13(2): 107-119.
- Tse DK, Wilton PC (1988). Models of customer satisfaction formation: An Extension. *J. Mark. Res.*, 25(2): 204 – 212.
- Voss R, Gruber T, Szmigin I (2007). Service quality in higher education: The role of students' expectations. *J. Bus. Res.*, 60(9): 949-959.
- Wells C (2000). "An integrative model of psychological and economic factors to better predict consumer saving behavior: Theoretical foundations and an empirical investigation". www.huayinet.org/culture/culture_chinese_dispora.htm
- Yizengaw T (2003). Improving Tertiary Education in Sub-Saharan Africa: Things that work. Regional Training Conference, Accra, Ghana, (23-25 Sep.): 1-19.
- Zammuto RF, Keaveney DM, O'Connor EJ (1996). Rethinking student services: assessing and improving service quality. *J. Mark. High. Educ.*, 7(1): 45-69.
- Zeithaml VA, Berry LL, Parasuraman A (1996). The behavioural consequences of service quality. *J. Mark.*, 60(2): 31-36.
- Zeithaml VA, Berry LL, Parasuraman A (1990). Delivering quality service in balancing customer perceptions and expectations. The free press, New York.
- Zeithaml VA, Berry LL, Parasuraman A (1987). Defining and relating price, perceived quality and perceived value. Cambridge, MA: Marketing Science Institute.
- Zeshen A (2010). Assessing Service Quality in Business Schools: Implications for improvement, 3rd international conference on assessing quality in higher education, 6th -8th Dec. Lahore, Pakistan.