Are Higher Education Institutions Delivering Customer Satisfaction?

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ABSTRACT

Higher education institutions are realising the importance of a customer centred approach to survival in the face of increased domestic competition and the globalisation of higher education. The objective of the study is to determine the impact of different variables on customer satisfaction in the higher education sector. More explicitly, this study aims to identify the effects of: support facilities and infrastructure; location and access; and image and marketing on customer satisfaction. A random sample of 390 students was chosen. A review of the structural model indicates that only the impact of 'support facilities and infrastructure' on customer satisfaction can be supported statistically.

Keywords: service quality, customer satisfaction, higher education, institutional policy makers

BACKGROUND

Institutions of higher education (IHE) are being driven towards commercial competition imposed by economic forces. Competition, often as a result of the development of global education markets and the reduction of public funds, urges IHE to ensure that customers (students) receive what they expect. Delivering services more effectively and ensuring that customers receive what they expect contributes to overall satisfaction and service quality. This paper investigates the role that access and location; support facilities and infrastructure; and marketing and image play in satisfying customers.

LITERATURE REVIEW

Service Quality and Customer Satisfaction in Higher Education

There is considerable discussion on the notion of educational quality and how it is defined (Venkatraman, 2007). Over time the definition of quality has evolved from the very narrow perspective of "the degree of conformance to a standard" to include a customer focus. Sallis (1993), for example, describes quality from a customers' perspective as that which best satisfies and exceeds customer needs and wants. Petruzzellis, D'Uggento and Romanazzi, (2006), contend that the importance of delivering a high level of service quality as provided by higher education, is heightened by the presence of many stakeholders and their varying interests, either social or economic and calls for a strategy of continuous quality improvement. According to Chahel and Devi (2013), service quality serves to meet the basic objective of retention and enrolment of students in universities whereas Jain, Sinha & Sahney (2011) maintain that the value of providing acceptable services to students is required to protect the stature and academic reputation of an institution. Calvo-Poral, Levy-Mangin and Novo-Corti (2013) suggest that obtaining a competitive advantage through delivering high quality services is increasingly important for the survival of any organisation. Therefore, ongoing measurement of service quality in higher education institutions to ensure retention and attraction of new customers is vital.

Customer satisfaction is a key factor for business success but what constitutes customer satisfaction differs widely from business to business. According to Tsai, Chung Lin and Chang (2010), customer satisfaction is an evaluation between quality awareness and expectation of a product and service or can be seen as a combination of feelings before and after use of a product and service. Sharma and Boaku (2013) contend that loyal customers are more forgiving than non-loyal customers of temporary setbacks in service encounters. Loyal customers have a wider level of tolerance, thereby experiencing higher levels of satisfaction than non-loyal customers. Due to this phenomenon, the greater the loyalty to

a service provider, the higher the level of both service encounter and overall satisfaction with the provider.

Institutions of higher education should not only monitor the quality of their services but also commit to continuous improvements to respond to changing customer needs and wants (Jain et al., 2011). More specifically, identifying the dimensions which signal quality and consequently the achievement of excellence in higher education needs to become common practice. Institutions of higher education that endeavour to deliver high quality throughout their curriculums and processes should view their students as primary clients and seek to maximise their satisfaction based on identified services rendered that have the most influence in satisfying needs (Sunanto, Taufiqurrahman & Pangemanan, 2007). The influence of selected service offerings on satisfaction in higher education is examined in this paper.

Marketing in Higher Education a Global Perspective

Mazarol and Souter (2012) state that an increased level of competition in the education environment has led to institutions of higher education employing increased levels of managerial techniques to improve the efficiency and quality of services and are switching from a passive to a more active market approach (Ivy, 2008). If universities are to satisfy student requirements they must be aware of how their own offerings are perceived in the market place. Being aware of the influential factors and the associated impact on potential students is important for institutional policy makers (Petrozellis et al., 2006). Maringa (2005) argues that current higher education environments are replicating the forces that have driven marketization some twenty years ago and are employing a variety of strategies that borrow heavily from the marketing philosophy practised in the business sector.

Selected Choice Factors that may Influence Satisfaction

Past studies focussed on choice factors contributing to the satisfaction of students' needs (Trivellas and Dargenidou, 2009; Akoojee and Nkomo, 2007) have found factors such as access to facilities, physical evidence (Ivy, 2008) and institutional reputation (Jarvinen & Suomi, 2011) important

for institutions of higher education. Preliminary studies conducted by Lagrosen, Seyyed-Hashemi and Leitner (2004); de Jager and Gbadamosi (2008); de Jager and Gbadamosi (2010) within South African institutes of higher education suggested that "support facilities and infrastructure", "image and marketing communication" as well as "location and access" are variables that play a critical role in satisfying the needs of learners attending institutions of higher education in South Africa. These variables are expanded upon below.

Support facilities and infrastructure

The state of higher educational institutions' support facilities and infrastructure can influence the ability of the institution to create suitable learning environments and favourable student perceptions of the learning environment (Trivellas & Dargenidou, 2009; Price, Fides, Smith & Agahi, 2003; Petrozellis et al., 2006). Computer and library facilities, campus security and accommodation are also seen as a major considerations when choosing an institution of higher education (Sharma & Baoku, 2013). In examining the influence of facilities and location factors on the decision making process of undergraduates when choosing where to study, Price et al. (2003) found that all aspects relating to learning and teaching facilities, especially library facilities and the availability of computers were regarded as relatively important influences of overall satisfaction. Finally, one of the three dimensions of service quality in higher education proposed by Jain et al. (2011) was "physical quality" which referred to items such as the condition of the building and enabling equipment. Based on the above literature it is hypothesised that:

H_1: Support facilities and infrastructure have a positive impact on satisfaction

Location and access

The location of a university and the geographic surroundings are often perceived as aspects which will influence the choice of a particular institution. Campus atmosphere, access to public transport and parking availability have often been sighted as indicative of a desirable institution of higher education

(Moogan, Baron & Bainbridge, 2001, Souter & Turner, 2002). In South Africa, location and access can be seen as decisive factors in the decision making process of selecting a higher educational institution as high unemployment rates and lack of sufficient funds, often lead to parents sending their children to more accessible locations. It is therefore hypothesized that:

$H_{2:}$ Location and access have a positive impact on satisfaction

Image and marketing communication

Palacio, Meneses and Perez (2002) state that the overall image of an institution statistically and significantly influences students' satisfaction with the institution. The authors refer to image of an institution being formed by cognitive and affective components with the affective component having a greater effect on the image of the institution. Cognitive components include aspects such as university support services, quality of teaching and learning, physical facilities and the general university environment. The study demonstrates that the image of the university influences the satisfaction levels of the students and that an institution with a strong positive image is better able to withstand the competition it faces.

Jain et al. (2011) contend that large numbers of competitors in a global environment are constantly attempting to offer diversified services to distinguish them from the competition. Da Silva and Batisda (2007) point out that relationship building with customers is crucial for survival and that building a positive corporate reputation has become a strategic issue for organisations globally. Furthermore, building favourable reputations require a strong customer-focused orientation, better performance of an organisations day-to-day management and operating activities, more efficient and effective communication with its publics and a greater emphasis on recognition. Alsop (2004) explains that the top managements' own reputation affects corporate reputation and states that a high profile CEO can affect the organisation's image and reputation. This line of thinking can be applied to institutions of higher education. Effective communication with its publics (stakeholders) about achievements will ultimately

raise the image of an institution in the minds of customers and may lead to overall satisfaction. It is

therefore hypothesised that:

H$_3$: Image and marketing have a positive impact on satisfaction

THE STUDY

Objectives of the Study

The primary objective of the study is to determine the impact of selected variables on customer

satisfaction in the higher education sector within South Africa. More explicitly, this study has the

following objectives:

1. To identify the effect of support facilities and infrastructure on customer satisfaction

2. To ascertain the effect of location and access on customer satisfaction

3. To determine the effect of image and marketing on customer satisfaction

Research Hypotheses

With regards to the objectives, the researchers formulated the following hypotheses:

Hypothesis 1. Support facilities and Infrastructure have a positive impact on customer

satisfaction.

Hypothesis 2. Location and Access have a positive impact on customer satisfaction.

Hypothesis 3. Image and Marketing have a positive impact on customer satisfaction.

Research Methodology

The sample framework

A total sample of 390 students at two South African universities was chosen. Fifty-five percent of

the sample (231) was from a university in the north of South Africa and the balance (159) from a

university in the south. The selection process was carried out after the courses of the two universities

management faculties' were listed and randomly selected. The questionnaires were distributed to students

in pre-determined classes that were randomly selected. The sample comprised of 41% male and 59% female students. The two student samples were tested regarding the importance of pre-identified service quality issues when selecting a specific tertiary institution.

The measuring instrument

A structured questionnaire was used as the measurement instrument and included twenty-three variables related to service quality at an institution of higher education. The questionnaire was based on existing questionnaires that was used for similar studies. However it was fine-tuned to make provision for the South African circumstances after feedback from students and lecturers who attended focus groups. A five-point Likert-type scale (one being very important and five not important at all) was used to measure the levels of importance with regards to these variables at the two institutions of higher education in the two regions. The data was gathered and captured over a period of six months. The SPSS version 21 statistical package was used to analyse the data.

Data Analyses and Results

Respondents' profile and questionnaire reliability

In the questionnaire a section on the respondents' profile was included in order to obtain some basic information about them. The first step in the data analysis was to determine the sample's characteristics. For this purpose descriptive statistics were employed.

Overall, 59.3 percent of the females responded to the survey followed by 40.4 percent of males, indicating a higher influence of the female group. The figures also reveal that 31.5 percent of the respondents are 20 years old whereas the category, 21 – 22 years old is the second major age group with a 25.1 percent response. In terms of respondents' education, the majority (170 or 43.5%) are in their second year of study followed by fourth year students with a total contribution of 23 percent. Almost 39 percent of the respondents fall in the educational grade of 60% to 69% in their current courses. Lastly, the majority of the students (186 or 47.6%) state the main reason of their study is to get better job opportunities.

Cronbach's alpha reliability coefficient and the item-to-total correlation were calculated to examine the stability and consistency of the research instrument, which was 0.77 (see table 1 for details).

Insert Table 1 about here

Exploratory factor analysis

The next important step in the analyses was an exploratory factor analysis (hereafter, EFA), in order to explore the dimensions underlying the data set. For this purpose EFA with Varimax rotation was employed. During EFA all those items were deleted which did not satisfy the criteria of above 0.4 loading and below 0.35 cross loading (Hair, Black, Babin & Anderson, 2010). Moreover, the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity was examined to investigate the correlations among variables. In this case, KMO was 0.75 and Bartlett's Test of Sphericity was significant at $p < 0.001$, indicating that the present data was suitable for factor analysis and there is sufficient correlation between the variables.

The result of EFA indicated a clean four-factor structure using the criteria of an eigenvalue greater than 1. The extracted factors accounted for 51.36 percent of the total variance. Factor loadings were all higher than 0.4 on its own factor and therefore, each item loaded higher on its associated construct than on any other construct; supporting discriminant validity of the measurement. The results of EFA are shown in Table 2.

Insert Table 2 about here

Confirmatory factor analysis

After EFA, the next stage deemed necessary is to confirm those extracted factors. For this purpose a two-stage Structural Equation Modelling (SEM) technique was adopted, with the first stage as

confirmation and the second; hypotheses testing. The confirmation stage, technically called Confirmatory Factor Analysis (hereafter, CFA), was performed using AMOS software with Maximum Likelihood Estimation (MLE). All the extracted factors were tested in a single measurement model, as depicted in Figure 1. The measurement model was assessed based on the fit measures recommended by different scholars (Byrne, 2010; Hair et al., 2010; Kline, 2011). For example, chi-square (χ^2), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Further, given that the chi-square is highly susceptible to sample size, Byrne (2010) and Hair *et al.* (2010) recommended using normed chi-square (χ^2/df), as is the case of the present study.

Insert Figure 1 about here

A review of the measurement model, depicted in figure 1, shows that all the fit indices used were above the recommended threshold. For example, the normed chi-square (χ^2/df) value is below 5.0. Similarly, the value of CFI is also well above the threshold value of 0.90. Lastly, the value of RMSEA below the threshold value of 0.08 also indicates a good fit of the measurement model.

Structural Equation Modelling:
The next stage after CFA was to test the fitness of the full-fledged structural model and hypotheses. Figure 2 summarises the results of full structural model. This model yielded consistency of the hypothesised causal relationship with the data (Normed Chi-square = 1.215; CFI = 0.987; RMSEA = 0.023). All these fit indices satisfied their critical thresholds; the results, therefore, indicated a good fit of the hypothesised structural model. This structural model was tested based on the measurement model previously validated from CFA.

The parameter estimates of the hypothesised model were free from offending values. A review of the structural model indicates that only one hypothesis can be supported statistically, i.e., the causal link from support facilities and infrastructure to customer satisfaction. The standardised regression weight of this link is 0.16 and is significant at $p < 0.05$ level. Moreover, location and access also resulted in a slight positive impact on customer satisfaction; however, we did not find enough statistical evidence to support this linkage. In this case, the standardised regression weight of 0.94 attests the same. Lastly, to our surprise the impact of image and marketing resulted in a negative significant effect on customer satisfaction. This link resulted in statistical significance at $p < 0.05$ level, but as the impact is negative, we cannot support it.

Insert Figure 2 about here

Table 3 shows the complete result of hypotheses testing.

Insert Table 3 about here

IMPLICATIONS

Given the insufficiency of empirical studies within customer satisfaction in the South African higher education context, this research has three main implications, namely, theoretical, methodological, and managerial. From a theoretical perspective, this study has tested the impact of a number of selected variables on customer satisfaction, while previous studies mainly focused on attitude. Methodological contribution of this research is two-fold: first, the use of complex modelling technique such as structural equation modelling (SEM), and second, re-conceptualization and operationalization of three main constructs, namely, support facilities and infrastructure, location and access, image and marketing, and their impact on customer satisfaction.

Lastly, with regard to the managerial contribution, the concerned authorities may use the findings of this research as a guideline for developing strategies to enhance the satisfaction of customers, within institutions of higher learning. It is also of high import to note that our findings revealed that support facilities and infrastructure have a significant positive impact on the satisfaction of customers. This particular finding is also in congruence with previous studies, where it was attested that correct support facilities and infrastructure would make the firm better positioned relative to the competition (Zhu, 2004). Further, Ravichandran & Lertwongsatien (2005) also considered infrastructure as one of the critical areas to a firm's success. It was found that the location and access positively affected satisfaction of the relevant parties. This is aligned with the previous studies, where it was found that one of the important variables for the customers is 'location' (Dolnicar & Otter, 2003; Chan & Wong, 2006). These findings have significant implications for institutions of higher education, as well as, for other customer-centric organizations. Institutions of higher learning should consider the importance of support facilities and infrastructure before selecting a location for their institution.

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Tables

Table 1: Reliability Statistics of the Questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.75	0.77	21

Table 2: Results of Factor Analysis

Items (Variables)	Component			
	Factor 1	Factor 2	Factor 3	Factor 4
	Support Facilities & Infrastructure	Image & Marketing	Customer Satisfaction	Location & Access
V107SFI	.77			
V106SFI	.72			
V114SFI	.70			
V98SFI	.69			
V90SFI	.49			
V91IM		.73		
V103IM		.68		
V88IM		.63		
V92IM		.62		
V93IM		.52		
V112IM		.47		
V209CS			.89	

V211CS			.88	
V212CS			.72	
V214CS			.55	
V83LA				.74
V80LA				.74
V82LA				.72
Initial Eigenvalues	3.67	2.50	1.65	1.42
% of Variance	14.54	13.61	13.48	9.74
Cumulative %	14.54	28.15	41.63	51.37

Support facilities and infrastructure includes items such as: Dining halls, tuck shops, recreation facilities, sport facilities.

Image and marketing include items such as: Academic reputation of the institution; reputation of the study program; information about the faculty/study program; career advisors.

Customer satisfaction includes items such as: favourable future of institution; prefer to stay at institution and promise what is committed to.

Location and access refers to: public transportation; location and distance to the institution.

Table 3: Estimates of the Hypothesised Model

Structural path	Hypothesised Relationship	Std. Reg. Weight	S. E.	C. R.	P
Customer Satisfaction ← Support Facilities & Infrastructure	H1[s]	.16	.15	1.97	.05*
Customer Satisfaction ← Image & Marketing	H3[ns]	-.20	.27	-2.32	.02*
Customer Satisfaction ← Location & Access	H2[ns]	.09	.13	1.31	.19

s = Supported, ns = Not supported, *= $p < 0.05$

Figures

Figure 1: Measurement Model

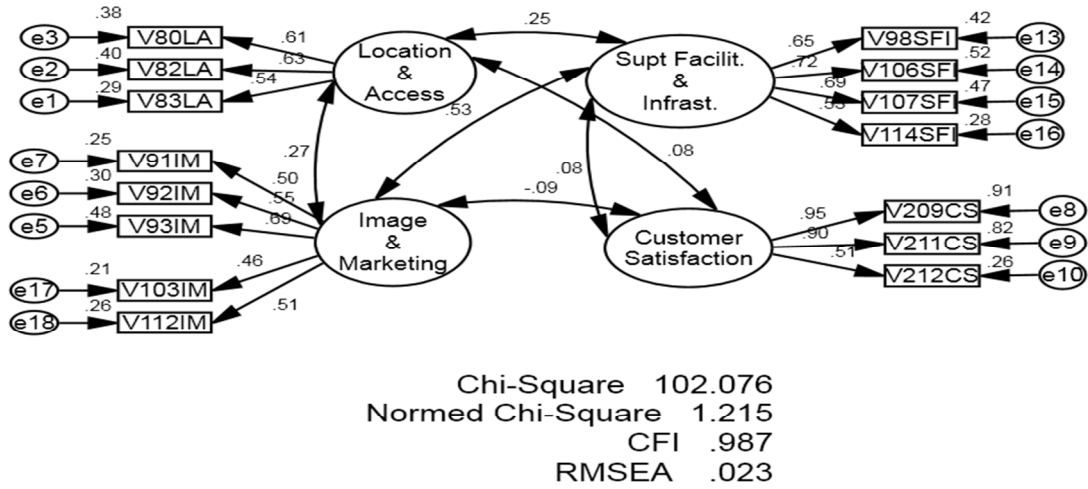Chi-Square   102.076
Normed Chi-Square   1.215
CFI   .987
RMSEA   .023

Figure 2: Standardised coefficients of the hypothesised model

Chi-Square   102.076
Normed Chi-Square   1.215
CFI   .987
RMSEA   .023