13 Public Sector Management and Not-for-Profit

Competitive Session

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 causal link between 'support facilities and infrastructure' and 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 the 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.

Palihawadana (1999) states that an increased level of competition in the education environment has led to institutions of higher education employing managerial techniques to improve the efficiency and quality of services and switching from a passive to a more active market approach (Ivy, 2008). If universities are to satisfy student requirements they must be aware of their own offerings and how these 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 (Moogan, Baron and Bainbridge, 2001). Maringa (2005) argues that current higher education environments are replicating the forces that have driven marketization in the developed world some two decades ago. He continues by stating that the evidence indicates that universities are responding by employing a variety of strategies that borrow heavily from the marketing philosophy that is practised in the business sector.

Along similar lines Jain, Sinha and Sahney (2011) contend that it is imperative that institutions of higher education monitor the quality of their services and commit to continuous improvements in an effort to respond to customer needs. Identifying dimensions which signal quality and consequently the achievement of excellence in higher education have emerged as key issues facing academia. Service quality serves to meet the basic objective of retention and enrolment of students in universities (Jain et al., 2011). The authors confirm the value of providing acceptable services to students in order to maintain the stature and academic reputation of an institution. Calvo-Poral, Levy-Mangin and Novo-Corti (2013) state that the competitive advantage through high quality services is increasingly important for the survival of any company. The imperatives of the knowledge society that affects higher education almost everywhere aims to transform most countries into competitive knowledge economies through amongst others expanded access to education, maintaining exceptional support facilities and infrastructure; ensuring that the reputation and image is maintained through effective marketing communication and lifelong learning opportunities such as providing all the necessary learning resources. Consequently, measuring quality is becoming increasingly important in higher education to ensure that expectations are being met and that a competitive advantage is utilised to attract and retain customers. According to Sunanto, Taufiqurrahman and Pangemanan (2007) traditionally institutions of higher education endeavoured to deliver high quality

programs throughout their curriculums, processes and resources. In doing so these institutions should view their students as primary clients and seek to maximise their satisfaction based on identified services rendered that has the most influence in satisfying students. The influence of selected service offerings on satisfaction in higher education such as infrastructure, access and location and image and reputation through effective marketing is examined in this paper.

THE STUDY

Objectives of the Study

The primary objective of the study is to determine the impact of different variables on customer satisfaction in the higher education sector. More explicitly, this study has the following aims:

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 finalised after receiving input from several related questionnaires and 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 et al., 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 many 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 like 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 in order to enhance the satisfaction of customers, especially in 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 and 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 and Otter, 2003; Chan and 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

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

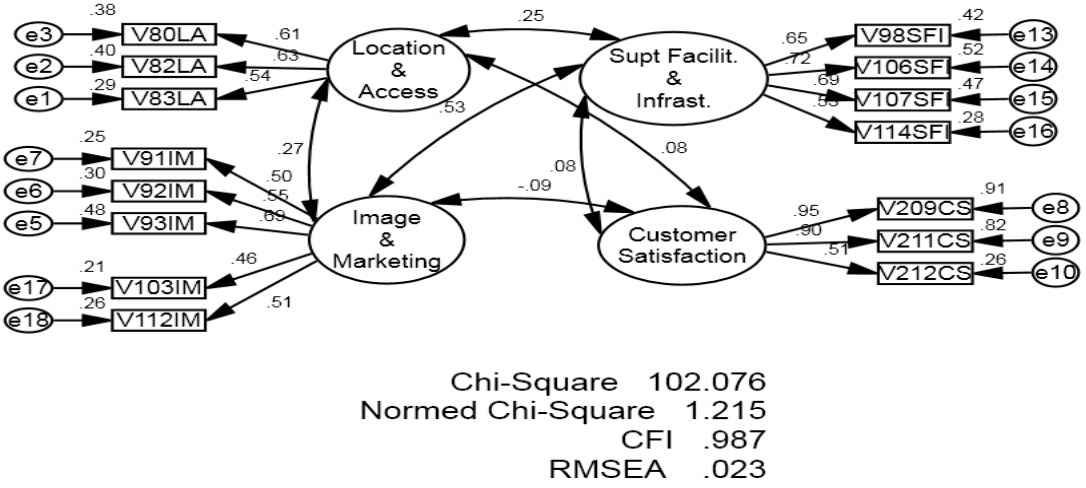

Figure 2: Standardised coefficients of the hypothesised model