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## Antecedents of customer satisfaction in the higher education institutions of South Africa

### Abstract

Higher education institutions like most other organisations have realized the importance of customer- centred approach to survive amongst competitors. This is very important keeping in mind the globalisation of higher education and consequent competition. 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; to identify the effect of support facilities and infrastructure on customer satisfaction; to ascertain the effect of location and access on customer satisfaction and to determine the effect of image and marketing on customer satisfaction. A random sample of three hundred and ninety-one students was chosen. 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.

**Keywords:** service quality, satisfaction, higher education.

**JEL Classification:** I23, M31.

### Introduction

Institutions of higher education are being driven towards commercial competition imposed by economic forces. Competition is often the result of the development of global education markets and the reduction of public funds that urges institutions of higher education 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.

#### 1. Service quality in higher education

Jain, Sinha and Sahney (2011) contends 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. It becomes more common practice to identify dimensions which signals quality and consequently the achievement of excellence in higher education have emerged as key issues facing the 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 (Jarvinen&Suomi, 2011). 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 and lifelong learning opportunities such as providing the necessary resources. Consequently measuring quality is becoming increasingly important in higher education to ensure that expectations are met and that a competitive advantage is utilised to attract and retain customers (Vauterin, Linnanen&Martilla, 2011). According Sunanto, Taufiqurrahman and Pangemanan (2007) traditionally institutions of higher education endeavoured to deliver high quality throughout their curriculums and processes. 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 is examined in this paper. Mpinganjira (2011) state that the ability of African countries and their institutions of higher education to attract students wanting to study abroad will depend on their ability to understand the needs and wants of the market and consequently develop strategies that could help satisfying it.

Jain et al. (2011) conclude that academic institutions, just as the corporate need to innovate, diversify their structures and to find new ways of delivering their services effectively to customers. If higher education institutions endeavour to stand out in the minds of the competition and consequently obtain a sustainable competitive advantage, they should not only be concerned with return on their investment but also understanding the customer satisfaction and perceptions of service quality offered and received (Trivellas&Dargenidou, 2009; de Jager&Gbadamosi, 2013). Students become

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increasingly more discriminating in their selection and more demanding of universities they prefer and therefore institutions of higher education should understand student's expectations in order to improve education service quality (Gbadamosi & de Jager, 2009). Tsinidou, Gerogiannis and Fitsilis, (2010) point out those universities have seen the provision of higher education to become a product and have been driven by competition to examine the quality of their services. This can be achieved by redefining their product and to measure customer satisfaction in ways that are familiar to service marketing specialist. Universities realized that their long term survival depend on how good their services are and that the quality sets a university apart from the others (Jarvinen & Suomi, 2011). The abovementioned stressed that higher education institutions should amongst others take over the role as service specialists to measure and to manage service quality to ensure that various components of the service offering is valued and that a high level of satisfaction is experienced. This will result in continued support for the institution through conveying positive messages through word of mouth and other communication methods to enhance the reputation of the institution. The question is which choice factors when enrolling at an institution of higher education impacts most on satisfaction.

## 2. Overview of services offered by higher education

Institutions of higher Education should understand their own offerings and how these are perceived in the market place, because it could have important marketing and management implications. Sharabi (2013) contends that for a long time, institutions of higher education have preferred to focus on their internal academic needs rather than viewing students as their main customers. Various choice factors influence potential scholars to study at a specific tertiary institution, including location (Jain et al. 2011), reputation of academic quality (Skallerud, 2011; Chen & Zimitat, 2006), course specifics, (Tsinidou, Gerogiannis & Fitsilis, 2010), career opportunities (Pavlin & Svetlik, 2014; Vauterin, Linnanen & Martilla, 2011) a safe environment and state of the art facilities and offerings (Mavondo, Tsarenko & Gabbott, 2004; Comm & Mathaisl, 2005). A study (2002) by the Human Sciences Research Council (HSRC) in South Africa has found that the most important influence upon choice of institution is its reputation followed by the geographical location (Gbadamosi & de Jager, 2009). Another study by Akoojee and Nkomo (2007) stress the importance of access and

quality in South African universities especially in the light of the inequality that was caused by political imbalances of the past in the country.

Lovelock and Wirtz (2004) argue that by focussing on antecedents to student satisfaction, universities can align their organisational structure, processes and procedure to become more customers oriented and will consequently lead to higher customer satisfaction that will lead to attracting and retaining more customers. In return they will benefit financially due to a higher degree of support.

## 3. Selected choice factors that may influence satisfaction

Various authors e.g. Jarvinen and Suomi, (2011); Akoojee and Nkomo (2007); Vauterin, et al. (2011) stresses that aspects such as access to facilities, physical evidence and reputation issues are critical factors required by institutions of higher education to stay afloat. Various studies as mentioned above focussed on choice factors contributing to the satisfaction of student's needs. Each study resulted in specific outcomes.

Based on the paper by Lagrosen, Seyyed-Hashemi and Leitner (2004); de Jager and Gbadamosi (2010); de Jager and Gbadamosi (2013) support facilities and infrastructure, image and marketing as well as location and access were regarded as variables that play a critical role in satisfying the needs of learners attending institutions of higher education in South Africa.

The facilities of higher educational institutions can influence their ability to attract quality research personnel, to create suitable learning environments and student perceptions of their learning experience. This actually implies that the efficiency of any organisation is linked to the physical environment in which it operates and that the environment can be improved to increase efficiency that may lead to a higher level of satisfaction (Trivellas & Dargenidou, 2009; Price, Fides, Smith & Agahi, 2003; Amaratunga & Baldry, 2000). The infrastructure of the institution such as computer and library facilities, campus security and accommodation is also seen as a major consideration when choosing an institution of higher education (Veloutsou, Lewis & Paton, 2004). Price et al. (2003) in examining the influence of facilities and location factors on the decision making process of undergraduates when choosing where to study found that all aspects relating to learning and teaching facilities, especially library facilities and the availability of computers were regarded as relatively important that influences overall satisfaction. Jain et al. (2011) emphasised that the nature and the quality of the

relationships that are developed during the service encounter are also influenced by the physical environment or infrastructure. Consumer satisfaction is a consequence of perceived service quality and delivering quality service has become an important goal for most institutions of higher education and all support service encounters should be managed by the leaders of an institution of higher education to enhance student's satisfaction (Sayeda, Rajendran&Lokachari, 2010). Based on the above discussed literature, it is hypothesised as:

H<sub>1</sub>: The support facilities and infrastructure has a positive influence on satisfaction

Akoojeeand Nkomo (2007) state that certain demographic groups (including gender, age, ethnicity and social class criteria) often do not enjoy the same degree of access to higher education and it is therefore essential to investigate the access to higher education and the composition of the student body. The authors further state that increased student access to higher education institutions in South Africa has been associated with the recent massification of higher education. This came as a result after the fall of apartheid. Strategies directed by government policies are implemented to ensure the success of participation. Increased access also causes various challenges such as access to certain "more difficult courses" such as (natural) sciences because of a higher failure rate. Institutions of higher education therefore faces a dilemma in terms of providing access to as much as possible previous disadvantaged people and therefore satisfying the needs to access but have to ensure that those students maintain an acceptable pass rate. Failing to do so will impact on the subsidy received from the government and may lead to financial difficulties should acceptable standards not be maintained.

The location of a university and the geographic surroundings are often perceived as aspects which will influence the choice of a particular institution. In South Africa this can be seen as a decisive factor in the decision making process. Because of high unemployment rates and lack of sufficient funds, parents will be more likely to send their children to more accessible locations. Campus atmosphere, access to public transport and parking availability is also pointed out as indicative of a desirable institution of higher education (Moogan, Baron & Bainbridge, 2001, Souter & Turner, 2002). Russell (2005) points out that the effective arrangement of physical evidence is important as prospective students often look at the physical evidence that surrounds the service in forming their evaluation of the service. Based on the above literature, it is hypothesised that:

H<sub>2</sub>: Location and access have a positive influence on satisfaction

In their study to demonstrate the influence that image of an institution of higher education has on student's satisfaction, Palacio, Meneses and Perez (2002) state that overall image, statistically and significantly, influence student's satisfaction with the institution. Jain et al. (2011); Flavian, Torres and Guinaliu (2004) argue 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) are of the opinion that relationships building with customers are crucial for surviving. This also includes public organisations. The authors point out that the building of corporate reputation and image has become a strategic issue for organisations and it requires a series of organisation changes. The building of reputation requires 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. Based on the aforementioned literature, the following is hypothesised:

H<sub>3</sub>: Image reputation and marketing communication has a positive influence on satisfaction

#### 4. South African universities

Challenges faces by higher education in South Africa are compounded through the integration of equity goals of national policy as a means of redressing inequalities of the inherited educational system that benefitted certain races more than other before 1994. South African universities have experienced stagnating and declining budgets and simultaneous pressures to increase enrolments (Badat, 2007). Mpinganjira (2011) indicates that the reduction in public funding of higher education was not in line with the demands for such services. A gradual decline in student numbers in South Africa was experienced since the late nineties translating in more choice and increased pressures on service delivery to students.

The effects of competition on institutions of higher education, especially in the South African context, can be seen as having far-reaching implications for these institutions. Traditionally, Technikons and Universities have competed indirectly, whereas they now compete directly, ostensibly for the same market. Technikons were transformed to become Universities of Technologies since 2004. The impact of technology and the demand for a technologically literate workforce has also created a



third stream of private educational institutions that not only compete for school-leavers, but also on post-graduate level. If universities are to satisfy student requirements they must be aware of what they offer and how these are perceived in the market place. Maringa (2005) argues that in the Southern African region, current higher education environments are replicating the forces that have driven marketisation 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.

Mpinganjira (2011) contend that owing to the benefits associated with hosting international students, the country together with its institutions of higher education has been actively involved in marketing South Africa as an international study destination and in particular as an “African International Student alternative” to studying overseas. Maringe (2005) points out that due to the fact that the international student market became very competitive over the years, the success in recruiting and retaining international students will depend on the institutions in the given country’s ability to understand and provide for the needs and wants of the market. This implies ensuring that students are satisfied with the experience they obtain from an institution.

**5. Objective 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

**6. Research methodology**

**6.1. The sample framework.** A total sample of 391 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 other (160) from a university in the south. The selection process was done 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.

**6.2. The measuring instrument.** A structured questionnaire was used as measurement instrument and included twenty-three variables related to service quality at an institution of higher educational. The inputs of the questionnaire was finalised after the inputs of several related questionnaires as well as the inputs of students and lecturers by means of 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 utilised to analyse the data.

**7. Data analyses and results**

**7.1. 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 analyses considered important 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 25.1 percent response. In terms of respondents’ education, 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. Detailed descriptive analyses is found in Table 1.

Table 1. Demographic profile of the respondents

Demographic Variables		Research sample (n = 391)	
		Number of Respondents	Percentage
Gender	Male	158	40.4
	Female	232	59.3
	Missing	1	.3
Age	16 – 17 years	2	.5
	18 – 19 years	96	24.6
	20 years	123	31.5
	21 – 22 years	98	25.1

Table 1 (cont.). Demographic profile of the respondents

Demographic Variables		Research sample (n = 391)	
		Number of Respondents	Percentage
	Older than 22 years	72	18.4
Study Year	First year	17	4.3
	Second year	170	43.5
	Third year	87	22.3
	Fourth year	90	23
Years Enrolled	One year	149	38.1
	Two years	71	18.2
	Three years	117	29.9
	Four years	45	11.5
	Five years and more	8	2
Grade	70% - 100%	56	14.3
	60% - 69%	152	38.9
	50% - 59%	144	36.8
	40% - 49%	31	7.9
	Lower than 40%	8	2
Reason of Study	Higher Income	62	15.9
	Better Job Opportunities	186	47.6
	Status	16	4.1
	Personal Development	122	31.2
	Other	5	1.3
Living arrangements	Own house/ flat	36	9.2
	Parents' home	160	40.9
	Relatives	22	5.6
	Rented flat	48	12.3
	Rented room	18	4.6
	Institution's residence	99	25.3
	With a friend	8	2

**Attributes of the questionnaire**

Cronbach's alpha reliability coefficient and the item-to-total correlation were calculated to examine the stability and consistency of the research instrument. According to Nunnally (1978), the value of Cronbach's alpha closer to 1 indicates greater stability and consistency; however, the threshold value in most research studies is set at 0.60. The present research instrument resulted in an alpha value of 0.771, attesting an acceptable consistency and stability of the research instrument (see Table 2).

Table 2. Reliability Statistics of the Questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
0.746	0.771	21

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 0.771 (see table 2 for details).

**7.2. 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 0.752 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 correlations between the variables.

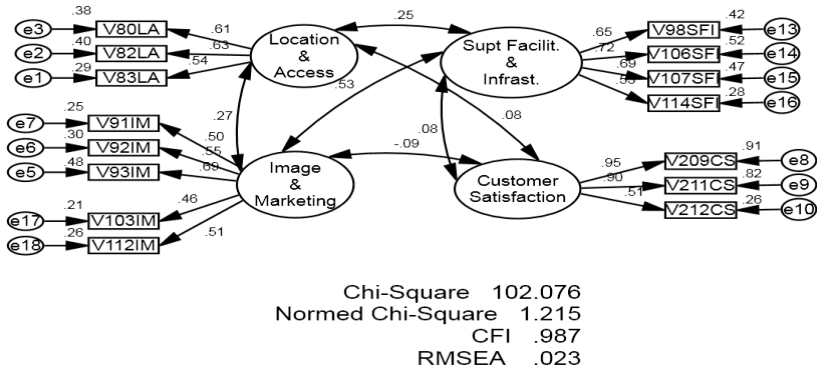
The result of EFA indicated a clean four-factor structure using the criteria of an eigenvalue greater than 1. The extracted factors accounted for 51.36 percent of the total variance. Factor loadings were all higher than 0.4 on its own factor and therefore, each item loaded higher on its associated construct than on any other construct; supporting discriminant validity of the measurement. The results of EFA are shown in Table 3.

Table 3. Results of Factor Analysis

Items (Variables)	Component			
	Factor 1 Support Facilities & Infrastructure	Factor 2 Image & Marketing	Factor 3 Customer Satisfaction	Factor 4 Location & Access
V107SFI	.769			
V106SFI	.715			
V114SFI	.703			
V98SFI	.687			
V90SFI	.490			
V91IM		.729		
V103IM		.680		
V88IM		.629		
V92IM		.621		
V93IM		.516		
V112IM		.471		
V209CS			.894	
V211CS			.881	
V212CS			.724	
V214CS			.549	
V83LA				.744
V80LA				.743
V82LA				.720
Initial Eigenvalues	3.673	2.504	1.646	1.424
% of Variance	14.537	13.612	13.483	9.737
Cumulative %	14.537	28.149	41.632	51.368

**7.3. Confirmatory factor analysis.** After EFA, the next stage deemed necessary is to confirm those extracted factors. For this purpose 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 ( $\chi^2$ ), 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 ( $\chi^2/df$ ), as is the case in the present study.

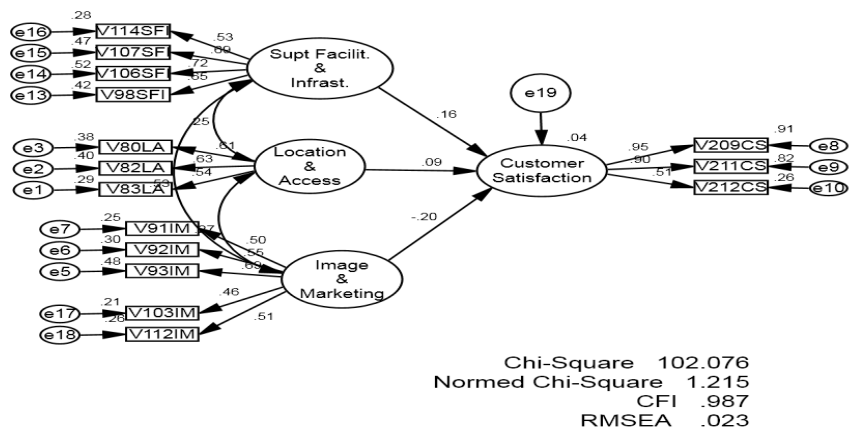


**Fig. 1. Measurement Model**

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 ( $\chi^2/df$ ) 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.

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 0.159 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 affect on customer satisfaction. This link resulted in statistical significance at  $p < 0.05$  level, but as the impact is negative, we cannot support it. Table 3 shows the complete results of hypotheses testing.

**7.4. 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.



**Fig. 2. Standardised coefficients of the hypothesised model**

Table 4 shows the complete result of hypotheses testing.

**Table 4. Estimates of the hypothesised model**

Structural path	Hypothesised Relationship	Std. Reg. Weight	S. E.	C. R.	P
Customer Satisfaction ← Support Facilities & Infrastructure	H1 <sup>s</sup>	.159	.147	1.971	.049*
Customer Satisfaction ← Image & Marketing	H3 <sup>ns</sup>	-.198	.268	-2.317	.020*
Customer Satisfaction ← Location & Access	H2 <sup>ns</sup>	.094	.127	1.311	.190
Statistic		Suggested		Obtained	
Chi-square significance		≥ 0.05		0.000	
Normed chi-square (CMIN/df)		≤ 5.00		1.215	
Comparative fit index (CFI)		≥ 0.90		0.987	
Root mean error square of approximation (RMSEA)		≤ 0.08		0.023	
s = Supported, ns = Not supported, * = $p < 0.05$					

## 8. Implications

This research has three main implications, that is, theoretical, methodological, and managerial, given that previous studies in South African context in higher education have not yet occupied all the potential research space. 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 techniques 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 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 the 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 satisfaction of customers. This particular finding is also in congruence with the previous studies, where it was attested that right support facilities and infrastructure would make the firm position in a

better way compared to the competitors (see e.g., Zhu, 2004). Further, Ravichandran and Lertwongsatien (2005) also considered infrastructure as one of the critical areas to a firm's success. It was also found that the location and access positively affect 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' (see e.g., 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 may consider the importance of support facilities and infrastructure before selecting a location for their institution.

## 9. Conclusion and direction for further research

The purpose of this research is to offer some useful guidelines to the Institution of Higher Education in South Africa with regard to the satisfaction of students, as it is becoming increasingly important in a variety of competitive environments. Universities in South Africa may consider the findings of this research when designing their strategies in order to attract and satisfy students in this current era of stiff competition.

The findings of this research identified and tested factors that are responsible for students' satisfaction with universities in South Africa. The study revealed that support facilities and infrastructure play a pivotal role in enhancing student's satisfaction. Another important factor highlighted in the present study was location and access, which also resulted in a positive impact on satisfaction. However, it was not significant statistically. Universities in South Africa may consider the findings of this study in order to enhance the satisfaction level of the existing, as well as, new students. It is suggested that the focus should be given more to support facilities and infrastructure followed by location of the university and access to that university from various parts of the country.

Further research needs to be done to determine whether the factors tested in the present research applies to other universities too, especially private universities of higher learning in South Africa. Moreover, a promising attempt would be to see what factors are crucial for other customer groups (e.g., internal customers, employers, government, general public, etc.). Lastly, future researchers may add more variables in the same model in order to offer a more comprehensive model to the universities for satisfying their customers.



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