



Using the Higher Education Performance Framework to Assess Service Quality and Satisfaction among Private University Students

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ABSTRACT

The theory of higher education performance (HEdPERF) developed by Firdaus (2006), comprising academic, non-academic, reputation, access, programme and health aspects of service quality (SQ), is adapted and used to interpret the customer satisfaction among a stratified sample of students at private universities in Kenya, using a hypothetico-deductive viewpoint. From the data analysed from 522 self-completed surveys, it became apparent from a prediction of the level of SQ delivered, that there were no significant differences across SQ indexes among the students. It is opined that the "HEdPERF" model can enable HE managers to identify aspects by which students gauge the quality of the service. Managers need to pay more attention on managing the students' overall satisfaction, by bridging the "gap" through improved academic and health service provision. Future researchers may also use combined methodological approaches to eliminate the limitations of a single method.

Keywords: Private Higher Education, Service Quality, Student Satisfaction

JEL Classification: M31

1. INTRODUCTION

Service quality (SQ) among education providers including universities, has interested many researchers, and its measurement has been the main topic of interest in scholarship in recent times (De Jager and Gbadamosi, 2010; Ong and Nankervis, 2012). The quality of service and student satisfaction is a subject that cannot be overlooked in management studies and strategic planning processes. Zeithaml et al. (2009) point out that the aforementioned concepts are intertwined attributes that if rightly implemented, will create positive student experiences which would translate to numerous benefits, including good institutional performance, cost reduction and tapping of new markets.

Some researchers, inter-alia, Onsongo (2011) postulate that universities have increasingly attracted customers due to factors such as religious faith, programmes offered, unique student experience and retention of skilled workforce. However, with increased competition, other aspects like the quality of service

may play an important role in dictating allegiance and satisfaction. Furthermore, with the ever growing expectations and amid stiff competition in the higher education¹ (HE) sector, the subject of SQ has spawned a rich research agenda (Alaba and Olanrewaju, 2012; Ali et al., 2016; Annamdevula and Bellamkonda, 2016; Calvo-Porall et al., 2013; Cheng et al., 2016; De Jager and Gbadamosi, 2010; Govender and Ramroop, 2012; Khodayari and Khodayari, 2011; Naidoo, 2015; Nshimiyimana and Berndt, 2015; Yunus et al., 2009). On the other hand, recent research (Cheng et al., 2016. p. 1) disagrees with the notion that satisfaction is certainly perceived as an indicator of quality, since it may be influenced by preconceived dogmas regarding the value of the educational service and, students expectations preceding pursuing their studies.

Kenya has experienced high demand for HE services, and despite the unprecedented expansion and growth in HE provision, especially in private HE provision, there is still a gap in the research on SQ and customer satisfaction (CS). In an attempt to address the

¹ Abbreviated as HE throughout this paper.

aforementioned, this study extends earlier research, by empirically evaluating the relationship between SQ and satisfaction (CS) among students in Kenyan Private Universities. The aim of the current study was to identify critical dimensions of university SQ, assess the dimensions of quality that contribute to CS, and determine the association between SQ and CS. The results are likely to assist HE managers and stakeholders improve their SQ delivery and increase student satisfaction in Kenyan private universities.

2. LITERATURE REVIEW

2.1. SQ in HE

Just like any other business environment, SQ in the field of HE is becoming a common means to outwit competition. Despite ongoing and growing debate, and the volume of literature available on SQ and more especially how it is perceived, earlier studies (Bendapudi and Leone, 2003; Yoon et al., 2004) seem to agree that since services are simultaneously created and consumed, then quality has to be determined by the stakeholders. Gronroos (2000) asserts that customers become partners through participation, and for this to succeed, organizations need to design and put in place systems that encourage service providers foster participation of customers in the process (Yoon et al., 2004). This position is supported by many researchers who argue that meaningful participation of customers in the service process ensures quality input and subsequently quality outcomes (Zeithaml et al., 2006). Recent research (for example Ojo, 2010) also shows that organisations that accommodate customers' feedback will strive to offer quality services and be more appealing.

HE institutions (HEIs) experience great challenges in the implementation of quality-based practices, because conceptualising SQ in HEI has proved to be a major challenge (Quinn et al., 2009). The aforementioned researchers have also defined SQ in HE in terms of educational, administration and supporting services. Trivellas and Dargenidou (2009b) assert that SQ can be enhanced if there is sustainability in clarity, accuracy and reliability of the services provided with no particular aspect standing out to both internal and external customers of the institution. Furthermore, Govender and Ramroop (2012) argue that in HE, a supporting environment for internal customers to understand their roles in creating a service, will impact the perceptions of service, an implication for universities to promote a positive environment that will improve perceptions of the service provider.

Recent research (Ali et al., 2016; Annamdevula and Bellamkonda, 2016; Naidoo, 2015; Nshimiyimana and Berndt, 2015) has shown that a positive service experience will engender satisfaction among university students. Furthermore, since high value and a focus on individual needs will raise the positive climate created by the institution (Adela, 2008), universities need to offer high quality services for differentiation and effective competition in the sector. A focus on core university functions will serve as distinct differentiators leading to quality services (Ong and Nankervis, 2012).

2.2. The Student-as-Customer

The debate on whether a student is a customer has been raging for many years and two different approaches have been adopted

in the way HEIs treat the students, namely the customer-oriented (student-customer) approach, and the student-product approach. Many early researchers (Zeithaml and Bitner, 1996; Bateson, 2002), especially those in the service marketing disciplines proceed from a premise that the student is a consumer and/or co-producer of the education service. However, some (Emery et al., 2001) contend that students should not be viewed as customers². Carrol (2007) argues that Lisa Bevill, the Associate Director of Admissions at a business school in Madrid believes that the "student as customer" debate treads a fine line and is, perhaps, too simplistic a definition for what becomes a life-long relationship. "It implies that the customer is always right and should be treated as such. However, this is hardly the case with MBA students and we should not lose sight of this because the relationship between MBA student and school is more profound."

Despite the differing views, there is overwhelming support for viewing students as customers and adopting the principles of customer service and total quality management to the education environment (Bejou, 2005; Obermiller et al., 2005). Moreover, some researchers, inter-alia, Marcel and Harris (2000) argue that whether we view the student as a customer or not, depends on how we define a customer. If we think customers need specialised services and our assistance to accomplish a task and, if we believe students are full partners in their education and can help us improve our teaching through their thoughtful comments, then they should be considered as our primary customers³.

Whilst it is important to recognise the customer, it is also accurate to claim that the student-customer is unique to the HE service industry since their relationship with the institution is so deep. Often the student is the direct recipient of HE services hence the consumer (Rolfe, 2002) and it is proposed by several authors that continued marketing and promotion of universities' activities through different mediums targeting students insinuates that students are customers (Bejou, 2005; Obermiller et al., 2005; Quinn et al., 2009). Furthermore, the ways in which universities treat students namely the customer-oriented (student-customer) approach, and the student-product approach lead to the conclusion that they are customers. In summation, universities have many important considerations to make regarding the student customer, as they need students in order to survive and thrive.

2.3. Linking Student Satisfaction with Perceptions of SQ

Many studies aimed at determining university customers' perceptions of SQ and satisfaction have shown that a correlation exists between the two constructs. For example, Naidoo (2015) who explored the relationship between the five dimensions of SERVQUAL (Parasuraman et al., 1988), from the staff and students' standpoints, found that they were dissatisfied with the overall service provided to them at the particular university. Furthermore, statistically significant differences existed in the responsiveness and empathy gap scores, between staff and students. "Students" had higher expectations of the university

2 This paper does not intend to engage in the debate as it is unending.

3 In this paper the term 'customer' is used interchangeably with student, who is the university student.

being more responsive and empathetic than staff' (Naidoo, 2015, p. 14). Combrinck's (2006) study on students' perceptions of SQ at the Management Department of a university in South Africa revealed that there was uncertainty among undergraduates in their attitude to SQ in the department, while postgraduate students' ratings of SQ were more negative. Wang and Shieh (2006) who looked at the importance of CS and SQ and service performance of a library in Taiwan found that overall, SQ has a significantly positive effect on the overall satisfaction, with Tangibles, Reliability, Assurance and Empathy, and a statistically significant effect on overall satisfaction.

Truong et al. (2016) used regression analysis to determine the most influential SQ factors that affected students' satisfaction in private colleges in Vietnam. The study found that all the SERVQUAL measures impacted on students perceptions of SQ in turn effecting on satisfaction. Hasan and Ilias (2008) argued that Empathy and Assurance were critical factors that contribute most to students' satisfaction. In the aforementioned study on perceived SQ among 200 undergraduate students at two private HEIs, age, tangibility, responsiveness and reliability were less significant, compared to empathy and assurance which had a greater influence on the rest. In a study in Malaysian private HEIs, it was determined that four SERVQUAL attributes had a significant relationship with students' satisfaction, and highly correlated with one another (Chui et al., 2016). Similarly, Ali et al. (2016) study among 241 international students using HEI performance (HEdPERF) scale (Firdaus, 2006) found that the six SQ dimensions of HE quality influenced student satisfaction, and in turn, influenced image and student loyalty.

Research by Annamdevula and Bellamkonda (2016) on the relationships between SQ, student satisfaction and student loyalty in HE sector in India using structural equation modelling on 918 responses, established that SQ is a critical input to student satisfaction. Prugsamatz et al. (2006) conducted a study among Chinese students in Australia' to determine their expectations of overseas universities in terms of explicit and implicit service promises. These researchers' findings revealed that influential sources of information on students' expectations of universities were inter alia, past experiences, advertising, and word of mouth. It was therefore suggested that the more a consumer is exposed to explicit and implicit service promises, the higher the desired and predicted expectations of the university's SQ.

A survey among 150 Malaysian public university students using the SERVQUAL instrument through a hierarchical regression analysis, demonstrated that reliability, responsiveness, assurance and empathy significantly correlated with CS. Khodayari and Khodayari (2011) recognised that perceived SQ reflects the difference between consumer expectations and perceptions, which depends on the size and direction of the four gaps related to the delivery of SQ on the providers' side. From the above, it may be concluded that there is a link between SQ and CS. Consequently, in line with the reviewed literature, the following hypotheses were postulated to explore the association between private university students' perception of SQ and satisfaction.

H₁: There is a significant difference between perceptions of students with respect to all the independent variables (age, gender, type of study programme, year of study).

H₂: There is a significant difference between the perceptions of students with respect to satisfaction across the universities.

3. THEORETICAL FRAMEWORK - THE HEDPERF SQ MEASUREMENT INSTRUMENT

Since education is essentially a service industry, its management practices are typically concerned with issues such as quality, which fall within the aegis of services marketing. Service delivery and CS in an education environment are dependent on the personal interaction between students and staff; this personal interaction, and the labour intensive nature of this service translates into a potentially highly heterogeneous quality service experience (Hill 1995 cited in De Jager and Gbadamosi, 2010, p. 253). The service-quality-service performance (Cronin and Taylor, 1994) debate has also been on-going for a while, with much of the discussion revolving around the use of the "gap" measures and, there seems to be equally strong support for the use of performance-based measures (Babakus and Mangold, 1992 cited in Cronin and Taylor, 1994, p. 126).

Despite its extensive and popular use in HE quality measurement (Chui et al., 2016; Ibraheem, 2016; Shekarchizadeh et al., 2011), the SERVQUAL instrument was not used in this study, since Alridge and Rowley (1998) assert that its application in HE has not been without criticisms. Some of the criticisms include the need to ask the same questions twice, and the fact that the instrument captures a snapshot of perceptions at one point in time.

In view the criticisms and/or limitations of using the SERVQUAL instrument to measure SQ in the HE environment, this paper offers a fresh approach by adapting the HEDPERF-only model developed by Firdaus (2005) as a framework to consider the nature of the quality of service and the factors that influence HE student satisfaction. This HEDPERF model attempts to isolate realistic HE elements being a multi-dimensional instrument empirically tested and validated in its entirety. The aforementioned instrument was modified (Firdaus, 2006) to a six factor structure with 41 items, since it was argued that HE has clear and distinct dimensions, namely, academic aspects, reputation, non-academic aspects, access, program issues and understanding. The aforementioned service dimensions (Figure 1) reflects how consumers of HE services conceptualise information about SQ, bearing in mind the HEDPERF framework.

Although considerable research (Ali et al., 2016; Annamdevula and Bellamkonda, 2016; Kimani 2011; Khodayari and Khodayari 2011; Govender and Ramroop, 2012; Calvo-Porall et al., 2013), has been done using different instruments to measure the impact of SQ on CS, virtually few applied the HEDPERF dimensions in HE environments in Kenya. For example, Kimani (2011) who

examined perceived SQ among students of universities in Kenya using the correlation approach by studying the six HEDPERF SQ construct measurements, established that a positive perception of SQ by the students impacts their overall satisfaction. Firdaus (2005; 2006) employed factor analysis where dimensions of SQ were identified and relationships between the quality and satisfaction, and among the quality constructs was ascertained. This study strives to validate the HEDPERF instrument in the context of private universities in Kenya as well as the predictability of SQ on student satisfaction.

3.1. Conceptual Framework

In terms of the model conceptualised (Figure 1), the independent variable is SQ while the dependent variable is CS. University SQ was measured on the basis of six dimensions including academic, non-academic, programme, access, reputation and understanding and their effects on CS. The basic assumption was that the six dimensions could have a direct relationship with student satisfaction, and also with SQ as illustrated in Figure 2.

In order to assess the proposed model, an investigation was conducted using the methodology described below.

4. RESEARCH METHODS

4.1. Sample

Primary data was collected using 650 questionnaires which were distributed to students currently enrolled at the participating universities through a cross-sectional survey where 522 students

were elected to participate in this study, representing 80.3% response rate. The sample was from four universities selected based on geographical location, age, size and ownership in the faith-based and “commercial” categories, chosen using stratified purposeful random sampling technique. The sample size for this study was obtained using the pre-defined sample size calculator proposed by Krejcie and Morgan (1970 cited in Sekaran, 2006. p. 293), for use in surveys with large target populations. The formula defines a minimum sample size of 384 for populations above 10,000. Thereafter, within each stratum, simple random sampling was implemented to select participants in the survey.

More specifically, University A and B, both are faith-based and located in the city of Nairobi, whilst University C is located in city environs, as well as University D is located in rural area, were included in the sample. To participate in the study, the students had to be fully registered in their respective institutions. To ensure full representation by the student body, samples were selected considering the year of study, programme of study, mode of study and both postgraduates and undergraduates were included. The instruments were personally administered to students in their respective universities before the beginning of lessons and/or after lessons were complete.

346 (66.3%) of the participants were aged between 18 and 23 years; 51.6% (n = 260) were females, with the vast majority 70.5% (n = 368) were pursuing first degrees, and 37.4% were postgraduates. There were 37.4% in their first year pursuing first degrees, 30.1% in 2nd year, 20.3% in the 3rd year, and a few (7.1%) in their fourth year of study. In addition, 411 (78.7%) of the students were full-time, whilst 99 (19%) were part-time students.

4.2. Research Instrument and Procedure

The principle source of information utilised was a questionnaire which was designed with the aim of achieving the following research objectives:

- To ascertain whether the perception of SQ among students differs with regards to age, gender, programme of study (full-time/part-time), type of programme and year of study.
- To establish whether students in the different university categories (faith-based and commercial) differ in their perceptions of SQ and whether this impacts or affects their overall satisfaction.
- To determine if differences exist in the overall satisfaction among universities.

Researchers (Cooper and Schindler, 2008) postulate that the use of a 7 point scale such as Likert scales in questionnaires are generally appropriate measures of attitudes. Before adapting the student questionnaire, it was sent to experts in the field with relevant experience, for objective comments. The first part of the questionnaire items measured the following aspects of SQ namely, non-academic, academic, reputation, access, programme issues and an understanding of aspects that contributed more to CS in private universities. The second part of the questionnaire included statements pertaining to CS and overall evaluation of satisfaction. The wording of some items was modified slightly according to the experts’ suggestions. The students were asked to respond to each of the statements by indicating the extent to which they agreed

Figure 1: Summary conceptualisation of factors that lead to student satisfaction

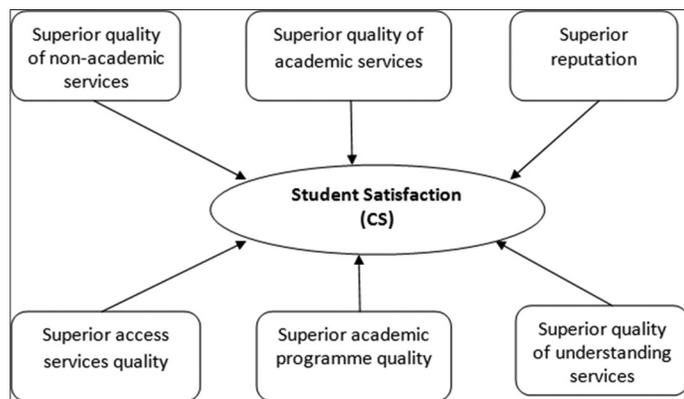
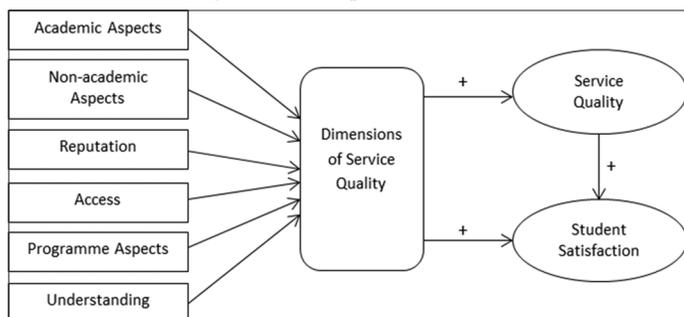


Figure 2: Conceptual framework



with a particular item, on a continuum ranging from 1 (strongly disagree), to 7 (strongly agree). Data on participant's profiles such as age, gender, programme of study and year of study, was also collected. Prior to data collection, the questionnaire was pilot-tested among students in one of the universities which were not included in the sample. Face validity was determined in the process of questionnaire development where extensive literature was reviewed and by adopting changes and suggestions of numerous experts. Ethical clearance and participant approval was obtained before commencement of the survey.

4.3. Data Collection

Table 1 reflects the spread of the responses from across participating universities.

It is evident from Table 1 that the majority of the responses were received from University D (32.4%), followed by University A (30.8%), University B (19%) while, University C had the least responses (17.8%).

4.4. Analytical Techniques

Exploratory factor analysis (EFA) was conducted using SPSS (Version 22), as the first step to test the factorial structure of the measurement items. The internal consistency of the measures was then evaluated using Cronbach alpha, as reflected in Tables 1 and 2. After EFA was conducted, descriptive statistical analysis was carried out using non-parametric tests specifically, Mann-Whitney test, Kruskal-Wallis test and ANOVA, to explore the relationship between students' perception of SQ and their perceived satisfaction with the service. $P > 0.05$ was considered as not being statistically significant (Field, 2005).

4.5. Ethical Considerations

Prior to embarking on this study all ethical issues expected of a researcher in the design, conduct, analysis and dissemination of findings were considered. Second level ethics was related to the population samples as participants who needed to be aware of their basic rights, were protected during the entire research process. The study was approved by the relevant Research Ethics

Committee, and gatekeepers' letters of approvals were obtained from the participating institutions. The study observed anonymity and confidentiality as expected when dealing with human subjects.

4.6. Methodological Limitations

Since the sample included student-customers whose perceptions keep on changing from time to time, the once-off strategy employed may ignore such changes, which may make it challenging to infer causality. This study also was limited in the sense that the instrument used for data collection was highly structured which limits the opportunity respondents would have to comment on the aspects measured, hence an in-depth study could lead to different observations and outcomes on an expanded sample say all private universities in Kenya.

5. RESULTS AND ANALYSIS

5.1. Reliability, Validity and EFA

The internal consistency of the scales was assessed by determining the Cronbach alpha coefficients. Internally inconsistent items were sequentially deleted, therefore maximising the scales' reliability at 0.70 acceptability level (Sekaran and Bougie, 2010. p. 325). Table 2 illustrates that the Cronbach coefficients were acceptable (exceeded 0.7); thus implying that the measurement instruments were reliable. Content validity was determined by aligning the questionnaire items with study objectives. EFA was then conducted on the sample with SPSS (version 22), to test the construct and discriminant validity using Principal Component Analysis with oblique method rotation to summarise the factor loadings (Browne, 2001). A factor loading of 0.4 was employed to indicate that the structure was well defined (Hair et al., 2006). Thereafter, EFA was performed to determine the factorial structure of questionnaire items. Table 3 shows the validity measures for the student instrument.

The results of factor analysis (Table 3) resulted in a 4-factor solution, based on the eigenvalue >1 principle. The analysis indicated that the measurement scales had good internal consistency at the level of individual student participants.

5.2. Perception of SQ among Students in Relation to the Independent Variables

The perception of the quality of an institution's service delivery is central towards creating satisfaction and allegiance (Ali et al., 2016; De Jager and Gbadamosi, 2010; Mantey and Naidoo, 2016). The findings as reflected in Table 4 reveal that the distribution of the SQ indexes (non-academic, academic, reputation, access,

Table 1: Frequency distribution of responses received

University	Number of student responses (%)
A	161 (30.8)
B	99 (19.0)
C	93 (17.8)
D	169 (32.4)
Total	522 (100.0)

Table 2: Descriptive statistics and instrument reliability

Scales	Student instrument			
	Final number of items	Mean score	SD	Final Cronbach alpha coefficients
Non-academic aspects	23	116.81	24.177	0.941
Academic aspects	16	87.05	17.054	0.928
Reputation	10	52.98	11.377	0.889
Access	10	51.95	11.858	0.923
Programme aspects	4	22.74	5.350	0.744
Health services aspects	3	15.28	4.334	0.835
Overall satisfaction	7	34.94	10.870	0.933

programme and health) is the same across the categories of age, gender and programme of study. This means that the null hypothesis is retained, in that significant differences exist among

students' gender, programme of study (full-time or part-time), and age groups ($P > 0.05$). In relation to the type of study programme (e.g., bachelors, masters etc.), except for the health index/dimension, all other SQ dimensions were statistically significant ($P < 0.05$), indicating that significant differences existed among the students of their perceptions about their study programmes. This implied that the distribution of the five SQ dimensions was not the same across the categories of type of study programme. Looking at the year of study as the grouping variable, the results show that apart from academic index ($P < 0.05$), the rest of the SQ dimensions were not significant. This meant that there was a significant difference between the perceptions of students with respect to the other variables, thus confirming H_1 . These results confirmed that students have dissimilar perceptions about SQ indicators in HEIs.

Table 3: Factor loadings for student measurement items

Scales	Items	Factor loading			
		1	2	3	4
Health services aspects	Hlth1	0.188	0.738	0.385	0.139
	Hlth2	0.160	0.737	0.310	0.178
	Hlth3	0.237	0.780	0.102	0.127
Programme issues	Prog1	0.225	0.315	0.743	0.113
	Prog2	0.302	0.319	0.705	0.126
	Prog3	0.252	0.160	0.785	0.192
	Prog4	0.080	0.074	0.655	-0.072
Non-academic aspects	Noacd1	0.711	0.039	0.214	0.291
	Noacd2	0.722	0.356	0.071	0.197
	Noacd3	0.817	0.220	0.102	0.261
Academic aspects	Acd1	0.773	0.163	0.307	0.141
	Acd2	0.792	0.232	0.208	0.074
Reputation	Rep1	0.482	0.613	0.093	-0.040
	Rep2	0.610	0.457	0.417	0.113
Access	Acc1	0.576	0.450	0.337	0.104
	Acc2	0.574	0.505	0.364	0.176
Satisfaction	Sat1	0.077	0.070	0.074	0.868
	Sat2	0.182	0.249	0.066	0.751
Overall SQ		0.272	0.023	0.053	0.579

SQ: Service quality

5.3. Perception of SQ in the Different University Categories

To ascertain the perceptions of students based on the universities' orientation faith-based (University A and B) and "commercially" leaning (university C and D) universities, the findings (Table 5) revealed that, whereas other SQ variables (non-academic, access, reputation, programme) were not significant, statistically significant differences were exhibited among students with

Table 4: Perceptions of SQ in relation to: A=Age; B=Gender; C=Type of study programme; D=Programme of study; E=Year of study

Test statistics ^a	Non-academic index	Academic staff index	Reputation index	Access index	Programme index	Health services index	Challenges index	Satisfaction index
A - Grouping variable: Age								
Mann-Whitney U	669.000	678.500	686.500	684.500	615.500	590.500	590.000	644.000
Wilcoxon W	60354.000	688.500	696.500	60369.500	625.500	600.500	600.000	654.000
Z	-0.105	-0.057	-0.017	-0.027	-0.373	-0.499	-0.499	-0.230
Significant (2-tailed)	0.917	0.954	0.986	0.978	0.709	0.618	0.618	0.818
B - Grouping variable: Gender								
Mann-Whitney U	29071.500	31634.500	31014.500	31111.000	30528.500	30273.500	31125.500	31906.500
Wilcoxon W	62741.500	65304.500	61642.500	61739.000	61156.500	63943.500	64795.500	62534.500
Z	-1.773	-0.214	-0.592	-0.533	-0.892	-1.048	-0.524	-0.049
Significant (2-tailed)	0.076	0.830	0.554	0.594	0.373	0.295	0.600	0.961
C - Grouping variable: Type of study programme								
Mann-Whitney U	16457.000	15532.000	17468.500	16761.000	16636.000	18425.000	19069.500	17196.500
Wilcoxon W	100302.000	99377.000	101313.500	100606.000	100481.000	23276.000	102914.500	101041.500
Z	-2.752	-3.463	-1.977	-2.520	-2.629	-1.247	-0.746	-2.186
Significant (2-tailed)	0.006	0.001	0.048	0.012	0.009	0.212	0.456	0.029
D - Grouping variable: Year of study								
Mann-Whitney U	2886.500	2779.500	3362.000	3015.500	3021.000	3207.500	3485.000	2784.500
Wilcoxon W	3589.500	3482.500	4065.000	3718.500	3724.000	3910.500	22206.000	3487.500
Z	-1.845	-2.135	-0.563	-1.499	-1.494	-0.985	-0.231	-2.123
Significant (2-tailed)	0.065	0.033	0.573	0.134	0.135	0.325	0.818	0.034
E - Grouping variable: Programme of study								
Mann-Whitney U	73.000	51.000	54.500	72.000	59.500	47.000	64.000	60.500
Wilcoxon W	326.000	304.000	82.500	325.000	312.500	75.000	92.000	313.500
Z	-0.204	-1.328	-1.151	-0.256	-0.905	-1.544	-0.663	-0.845
Significant (2-tailed)	0.838	0.184	0.250	0.798	0.366	0.123	0.507	0.398
Exact significant [2*(1-tailed significant)]	0.862 ^b	0.199 ^b	0.258 ^b	0.823 ^b	0.381 ^b	0.135 ^b	0.533 ^b	0.409 ^b

^bNot corrected for ties, asymptotic significances (2-tailed) are displayed. ^aThe significance level is 0.05, SQ: Service quality

Table 5: Hypothesis test summary of the perceived difference of SQ perception in universities

Null hypothesis	Test	Significant	Decision
The distribution of non-academic index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.193	Retain the null hypothesis
The distribution of academic staff index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.018	Reject the null hypothesis
The distribution of reputation index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.164	Retain the null hypothesis
The distribution of access index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.500	Retain the null hypothesis
The distribution of programme index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.235	Retain the null hypothesis
The distribution of health services index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.001	Reject the null hypothesis
The distribution of challenges index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.913	Retain the null hypothesis
The distribution of Satisfaction index is the same across categories of either faith-based or commercial-based university	Independent samples Mann–Whitney U-test	0.363	Retain the null hypothesis

SQ: Service quality

regards to the academic ($P = 0.018$) and health services ($P = 0.001$) indexes. From this we can infer that students exhibit varying perceptions with regard to SQ, irrespective of the kind of university they are studying at, which in turn influences their overall satisfaction about quality of service. However, it can be inferred that whereas non-academic, access, reputation, and programme dimensions do not provide a basis for differentiation of SQ, academic and health services play a major role in determining the different perceptions of students about the SQ constructs assessed (Ali et al., 2016; Firdaus, 2006). These findings support previous studies (Ali et al., 2016; Firdaus, 2006; Kimani, 2011) which emphasize that the quality of teaching and other academic activities are vital for student satisfaction and loyalty (Firdaus, 2006. p. 42-43; Kimani, 2011. p. 103; De Jager and Gbadamosi, 2010; Kimani, 2011; Govender and Ramroop, 2011). On the other hand, the provision of health services is necessary for the emotional and psychological well-being of students (Adela, 2008; De Shields Jr. et al., 2005; Mangunji and Govender, 2014).

5.4. The Differences in Overall Satisfaction among Universities

When we compare the overall satisfaction with the university services, (Table 6), it is evident that there is no significant differences between the overall satisfaction among students across different universities. These results do not support H2 which hypothesised as: There is a significant difference in the perceptions of the students with respect to their satisfaction across the universities ($\chi^2 = 11.027^a$, $Df = 12$, $P = 0.527$). Therefore, we retain the null hypothesis. These results confirmed that irrespective of the university, the students' overall satisfaction

has some similarity in regards to SQ. Therefore, the university provides no basis for differentiation with regard to the quality of service constructs. The findings are in line with previous studies (Ali et al., 2016; Annamdevula and Bellamkonda, 2016). Since students' attitudes towards an institution are influenced by the satisfaction they receive (Bejou, 2005; Zeithaml and Bitner, 1996), the findings imply that superior SQ is imperative for institutions wishing to enhance overall student satisfaction. Students with high levels of satisfaction spread positive sentiments about an institution through word of mouth, which in turn translates to loyalty and positive behaviours. This is important, especially where low levels of SQ or poor SQ will impact students' allegiance (Chang et al., 2009; Govender and Ramroop, 2011). These findings corroborate similar previous studies where a nexus was ascertained between SQ and satisfaction in the HE setting (Owino, 2013; Rasli et al., 2011).

6. DISCUSSIONS AND MANAGERIAL IMPLICATIONS

Since its development as a measure of SQ within HE, the HEdPERF framework (Firdaus, 2006) has not been extensively used by researchers to evaluate SQ more specifically, in the private sector of HE and, in a developing country perspective (Ali et al., 2016) despite it fitting a specific context (Roostika, 2009). This study strives to empirically test its influence on students' satisfaction, and thus adds to the extant literature by assessing the link between SQ and student satisfaction in Kenyan private universities. The findings reveal that there is no significant distinction in perceptions of SQ and overall satisfaction

Table 6: University *satisfaction index (binned) cross tabulation

University	Satisfaction index (binned)					Total
	≤31.00	32.00-36.00	37.00-40.00	41.00-43.00	44.00+	
A						
Count	34	30	34	26	34	158
% within university	21.5	19.0	21.5	16.5	21.5	100.0
% within satisfaction index (binned)	32.1	26.5	29.6	30.6	34.0	30.4
% of total	6.6	5.8	6.6	5.0	6.6	30.4
C						
Count	17	17	17	19	23	93
% within university	18.3	18.3	18.3	20.4	24.7	100.0
% within satisfaction index (binned)	16.0	15.0	14.8	22.4	23.0	17.9
% of total	3.3	3.3	3.3	3.7	4.4	17.9
B						
Count	17	21	27	16	18	99
% within university	17.2	21.2	27.3	16.2	18.2	100.0
% within satisfaction index (binned)	16.0	18.6	23.5	18.8	18.0	19.1
% of total	3.3	4.0	5.2	3.1	3.5	19.1
D						
Count	38	45	37	24	25	169
% within university	22.5	26.6	21.9	14.2	14.8	100.0
% within satisfaction index (binned)	35.8	39.8	32.2	28.2	25.0	32.6
% of total	7.3	8.7	7.1	4.6	4.8	32.6
Total						
Count	106	113	115	85	100	519
% within university	20.4	21.8	22.2	16.4	19.3	100.0
% within satisfaction index (binned)	100.0	100.0	100.0	100.0	100.0	100.0
% of total	20.4	21.8	22.2	16.4	19.3	100.0

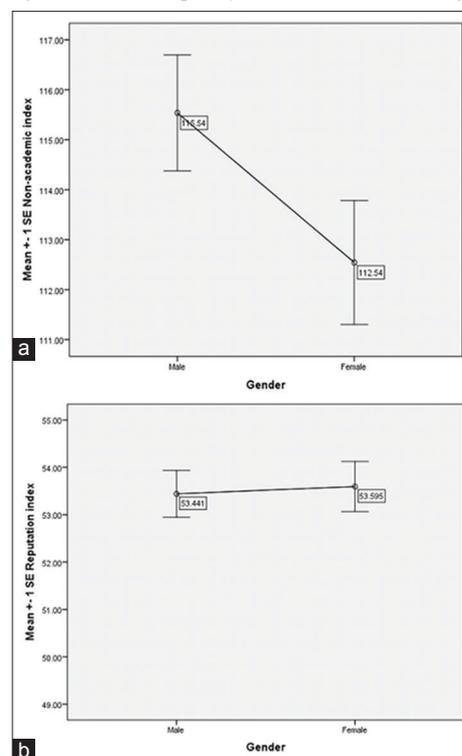
Pearson $\chi^2=11.027$; Df=12; P>0.05, number of valid cases=519, significant at *P<0.05

in universities surveyed. Furthermore, this study does not report differences in perception with regard to factors such as age, gender, and programme of study. To facilitate further understanding of the aforementioned results, we plotted select dimensions or indexes against independent variables namely gender, age and programme of study to show and/or emphasise negligible differences in students' perception of SQ. The simple illustrations are shown in Figures 3-5. For example, as shown in Figure 3a and b, the alteration was 3 points for non-academic aspects while reputation index was 0.154 points.

When comparing university categories i.e., "faith-based" and "commercially" oriented; significant differences were found with regards to the academic and health indexes. It has been widely documented in the services marketing literature that students perceive and expect more value from academic and health characteristics (Adela, 2008; Chitty and Soutar, 2004; De Jager and Gbadamosi, 2010; Firdaus, 2006). These findings reinforce the supposition that students with positive perceptions about various dimensions of SQ are more likely to have greater satisfaction levels.

Providing SQ excellence and superior CS is vital, however, it still remains a challenge facing the service industry (Bugdol, 2006; Hung et al., 2003). To achieve competitive advantage in private HE, SQ remains an important subject for consideration among leaders, managers and researchers (Zahari et al., 2008). This study provides essential understanding of students' perceived SQ in the context of Kenyan private universities. With increasing enrollments, demands for quality services and heightened local

Figure 3: (a and b) Illustrating no significant differences in perceptions among select service quality indexes in relation to gender



and international competition in the HE industry, it is important that HE service providers are aware of the benefits of quality service delivery and its implementation, since ignoring it may

Figure 4: (a and b) No significant differences in service quality perceptions in relation to age

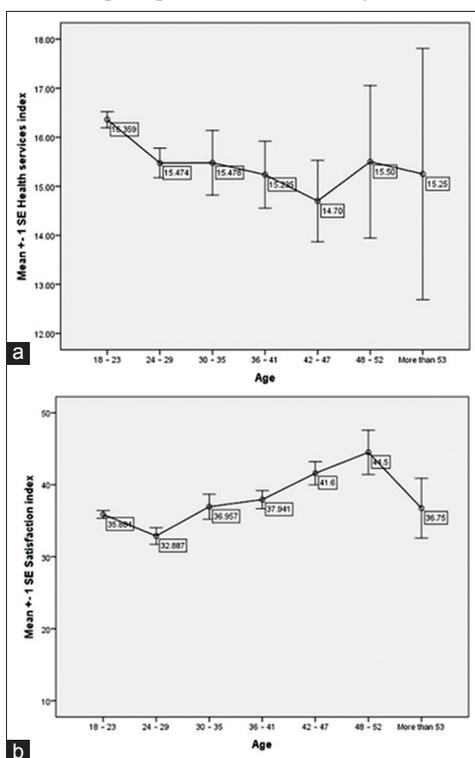
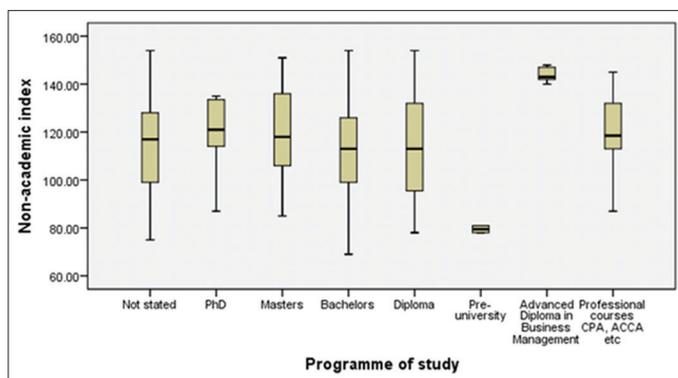


Figure 5: Shows no significant differences in perceptions in relation to programme of study



compromise organisational performance (Hishamuddin and Azleen, 2008).

It is hoped that current study has provided a basis for further examination of SQ in relation to the HE context, especially in private HE. Despite its theoretical contributions, the study is limited by its Kenya and is exploratory nature, therefore limiting generalisation to a wider extent. Future research should entail combining quantitative and qualitative approaches while broadening the sample, the scope and focus on other variables critical to overall student satisfaction. This will help in getting in-depth explanations (Denscombe, 2010) to many issues revolving around SQ that may exist in the HE industry, which may not necessarily be captured when one methodology is used. The potential also exist to repeat the study in other realms.

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