




# “South Africa University students’ perceptions of key education service quality determinants”

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# SOUTH AFRICA UNIVERSITY STUDENTS' PERCEPTIONS OF KEY EDUCATION SERVICE QUALITY DETERMINANTS

## Abstract

Understanding higher education (HE) service quality is critical for success in a highly competitive environment, since through a better understanding of the determinants of HE service quality, HE managers and leaders could better manage HE service quality better. A survey was conducted among a purposive judgmental sample of 400 students, from two HE institution campuses in SA, to identify their perceptions of key service quality determinants (KSQDs), and the importance of the KSQDs, by using a semi-structured questionnaire. It was ascertained that students ranked KSQDs as follows: Responsiveness, Assurance, Reliability, Tangibles, and Empathy (RARTE), and in terms of their importance, the KSQDs were ranked as follows: Responsiveness, Reliability, Assurance, Empathy and Tangibles (RRAET). Higher education leadership should take note of the KSQDs and focus their resources on these in order to create an organization that is student-centric.

**Keywords** higher education, student services, satisfaction, quality

**JEL Classification** I23, C12

## INTRODUCTION

Although there are contrary views (Samervel, 2012; Webber, 2011), viewing the student as a customer has become an important academic debate within the realms of higher education. Notwithstanding the differing views, in the context of viewing the student as a customer, service quality is an important factor (Rauterberg, 2003, p. 337). From a customer's perspective, service quality is defined as excellence, value, and meeting or surpassing customer expectations (Wood & Brotherton, 2008, p. 316). Van Schalkwyk and Steenkamp (2014) contend that service quality is a single most important issue in (private) higher education in South Africa, and Nair (2010, p. 105) argues that there is a general lack of a quality culture in South African higher education. Some researchers (inter alia, Wang, 2012) argue that South African tertiary institutions are increasingly being forced to compete on the basis of service quality, due to higher education becoming more competitive, and an increasing concern for quality assurance.

The majority of studies on higher education service quality in South Africa in the past decade focused on "gap" analyses, using the SERVQUAL scale (Veerasingam et al., 2012; Green, 2014; Naidoo, 2014; Van Schalkwyk & Steenkamp, 2014) and only one used the SERVPERF model (Diedericks, 2012). With the exception of the study by Radder and Han (2009, p. 116), no analyses were undertaken using cluster or predictive analyses techniques to determine statistically, whether there are specific factors that could predict higher education service quality.

In light of the above, this study examined students' perceptions of key service quality determinants at selected South African (SA) public higher education institutions, to address the following objectives:

- Determining students' ratings of the key service quality dimensions (KSQDs).
  - Examining the relationship between the KSQDs and their related measures.
  - Exploring the importance placed (by the students) on the KSQDs.
  - Analyzing the relationship between student demographics and their perceptions of the KSQDs.
- 

## 1. LITERATURE REVIEW

Abouchedid and Nasser (2002, p. 198) posit an intimate link between higher education service quality and the success of the higher education institution (HEI). Abouchedid and Nasser (2002, p. 198) contend that the quality of service offered by universities assists in helping to achieve the basic objectives of sustaining academic reputation, and retaining and getting students to enrol. In support of the importance of service quality for HEIs, Abdullah (2006, p. 31) states that "service quality is a significant strategic management concern as it has developed into a widespread strategic force". This is a result of a more competitive higher educational market with decreased government funding giving rise to many higher educational institutions pursuing funding from other sources.

Gbadamosi and De Jager (2008, p. 4) suggest that apart from looking at traditional areas such as accreditation, teaching and research, HEIs must also look at "students as customers". A similar view is taken by Bisschoff (2001, p. 232) who contends that there has been a movement away from the traditional approach in education to an approach that is more customer-centered whereby students are viewed as valued customers.

Khodayari and Khodayari (2011, p. 40) argue that service quality in higher education is a difficult concept to define and conceptualize, since unlike the conventional perspective, where quality is determined by the customer, in a higher education context, there still exists the debate of who exactly is the customer bringing into question whether the student is actually or not? In fact, various researchers in the field of higher education service quality view it as a multifaceted or multi-level concept (Khodayari & Khodayari, 2011, p. 41; Zabadi, 2013, p. 48). Hence, in view of the heterogeneous nature of higher education service quality, Cheng

and Tam (1997, p. 29) posit that many diverse approaches can be used to assess education quality due to the fact that there are different ideas and concerns about the attainment of education service quality. As a result, not all facets of input, process and outcome of the education institution may be included when conceptualizing service quality.

Research into service quality in the HE sector is relatively new, relative to the commercial sector, and most of the service quality models used in the HE sector have been adapted from those used in the commercial sector (Sultan & Wong, 2013, p. 72), and some of the more popular models used in the higher education context have been SERVQUAL, SERVPERF and HEdPERF (Kontic, 2014).

Although SEVQUAL is very popular in service quality measurement across institutions, including HE (Al-Mushasha & Nassuora, 2012; Veerasamy et al., 2012; Calvo-Porrall et al., 2013; Naidoo, 2014; Yousapronpaiboon, 2014), fewer researchers have applied the SERVPERF model in HE (Mertova & Nair, 2011; Christiansen et al., 2013). SERVPERF measures service quality on exactly the same 22 items employed in the SERVQUAL model, with five broad dimensions but without the expectations aspect. In other words, SERVPERF does not view service quality as a disconfirmation paradigm as SERVQUAL but rather as a perception and an attitude (Kontic, 2014). Compared to SERVQUAL, SERVPERF is more simplistic in the metrics used and contains fewer questions (Kajan et al., 2012).

The dimensions of service quality as pertaining to SERVPERF are Tangibles, Reliability, Responsiveness, Assurance and Empathy, which for the purposes of this study were collectively referred to as Key Service Quality Determinants (KSQDs). Tangibles refer to the appearance of equipment, personnel and buildings, whereas re-

liability relates to the accuracy and timeliness of the service offering. Responsiveness relates to the readiness displayed by service personnel in helping customers and the promptness of the service, and in addition, when the situation gets difficult, reliability is the aptitude displayed in being able to respond successfully. Assurance relates to employee knowledge and courteousness and their skill in being able to deliver feelings of trust, poise and confidence, and Empathy is concerned with the care and attention that an organization provides to its customers together with the convenience of operating times. In light of the above, the next section of this paper reports on research methodology used to conduct research among students at a large multi-campus university in South Africa to determine the students' ratings of the key service quality dimensions (KSQDs) and examine the relationship between the KSQDs and their related measures, as well as explore the importance placed (by the students) on the KSQDs.

## 2. RESEARCH METHODOLOGY

A quantitative approach was used to survey a non-probability, judgmental sample of undergraduate students studying at selected university campuses in KwaZulu-Natal, SA<sup>1</sup>. The sampling frame was a list of all the broad academic disciplines and courses offered within each discipline, at each of the two university campuses chosen for the study. Before finalization of the SERVPERF (Cronin & Taylor, 1994) questionnaire, it was pre-tested among marketing academics and pilot tested within a group of students. Before data collection, gatekeepers' permission was obtained from the respective institutions persons to conduct the survey on their campuses, and thereafter, ethical clearance was obtained from to the Ethics Committee of University of KwaZulu-Natal.

The SERVPERF instrument (Cronin & Taylor, 1992), comprised 22 items that measured service quality, each of which were part of the five KSQDs, namely, Tangibles (4 items), Reliability (5 items), Responsiveness (4 items), Assurance (4 items), and Empathy (5 items). Each item was phrased as a statement that rated the service quality of the university

and measured on a 7-point Likert scale with the lower scores implying lower service quality and vice versa. According to Russell and Purcell (2009, p. 124), a 7-point scale has the advantage over a 5-point scale in helping to provide more variability as a broader range of choice is provided to respondents.

Lecturers from each of the selected campuses were contacted in advance and their permission was obtained to conduct the survey during their lectures, after briefing the students on the objectives of the study. Efforts were made to ensure that at each of the selected campuses, the students surveyed were enrolled for courses in all the relevant broad academic disciplines, namely, science, humanities, commerce. The students were informed that participation in the study was entirely voluntary, the information collected will be treated in the strictest of confidence, and their anonymity will be ensured. Those that were willing to participate were given about 15 minutes to complete the questionnaire.

## 3. FINDINGS

The data from 400 respondents (200 from each campus) revealed that the average age of the participants was 20.43 years, the majority of participants were female (64.7%), with 66% from commerce programs, whilst the balance being equally distributed between science (16.7%) and humanities (16.7%). All the research constructs were subject to reliability analysis using the Cronbach's Alpha test, and as reflected in Table 1, all service quality-related constructs were reliably measured.

**Table 1.** Reliability scores of the research constructs

Variables and constructs	Cronbach's alpha	Number of items
Service quality	.928	22
Tangibles	.709	4
Reliability	.829	5
Responsiveness	.777	4
Assurance	.830	4
Empathy	.728	5

To determine whether the factors identified in the model display convergent and discriminant

<sup>1</sup> Unfortunately, a list of student names, email addresses, telephone numbers, and other relevant contact details could not be obtained due to its confidential nature.

**Table 2.** Convergent and discriminant validity indices

Service dimension	CR	AVE	MSV	ASV	RESP	EMP	TANG	REL	HELP
Responsiveness	0.725	0.572	0.546	0.461	0.756				
Empathy	0.841	0.516	0.450	0.374	0.671	0.718			
Tangibles	0.737	0.583	0.365	0.288	0.586	0.497	0.764		
Reliability	0.814	0.596	0.503	0.409	0.709	0.606	0.604	0.772	
Helpfulness	0.746	0.599	0.546	0.394	0.739	0.658	0.442	0.634	0.774

validity, appropriate analyses were conducted. According to Esposito (2010, p. 696), convergent validity exists when AVE is greater than 0.5. In addition, when MSV is less than AVE and ASV is less than AVE, discriminant validity can be claimed (Fornell & Larcker, 1981 cited in Hinterhuber & Liozu, 2013, p. 39). As Table 2 shows, AVE values for each factor in the model is greater than 0.5 and hence convergent validity can be claimed for each factor (Esposito, 2010, p. 696). Furthermore, for each factor, the MSV and ASV values are less than AVE and hence discriminant validity can be claimed (Fornell & Larcker, 1981 cited in Hinterhuber & Liozu, 2013, p. 39).

As shows in Table 2, the service quality model with respect to the research institution comprises five dimensions, namely, Empathy, Tangibles, Reliability, Responsiveness and Helpfulness, with the Assurance dimension not being included.

In order to determine whether the data could be subjected to Exploratory Factor analysis, the KMO measures of sampling adequacy was calculated. The KMO was determined to be 0.925, with the Bartlett’s test rendering a significant result ( $p = 0.000$ ), which statistics indicated that it was appropriate to conduct factor analysis to affirm the construct validity of the research instrument.

Table 3 reveals the outcome of Principal Axis Factoring using Varimax rotation, which procedure resulted in five factors being extracted, which cumulatively contributed 50.198% to the total variance.

The factors in Table 3 were rotated using Varimax with Kaiser Normalization, and the rotation converged after six iterations as is evident in Table 4. Factor 1 loaded strongly on a combination of two service quality dimensions, Assurance and

**Table 3.** Total variance explained for the service quality measurements

Factor	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative, %	Total	% of variance	Cumulative, %	Total	% of variance	Cumulative, %
1	8.895	40.430	40.430	8.431	38.323	38.323	3.048	13.852	13.852
2	1.455	6.614	47.044	.931	4.230	42.554	2.282	10.372	24.224
3	1.181	5.370	52.414	.689	3.133	45.686	2.255	10.251	34.475
4	.992	4.509	56.923	.532	2.416	48.103	1.839	8.360	42.835
5	.956	4.346	61.269	.461	2.095	50.198	1.620	7.363	50.198
6	.928	4.217	65.486						
7	.795	3.615	69.101						
8	.764	3.473	72.574						
9	.675	3.067	75.641						
10	.629	2.860	78.501						
11	.603	2.741	81.243						
12	.556	2.529	83.772						
13	.478	2.174	85.945						
14	.475	2.160	88.106						
15	.400	1.816	89.922						
16	.395	1.795	91.716						
17	.356	1.619	93.335						
18	.352	1.598	94.933						
19	.334	1.518	96.452						
20	.291	1.321	97.773						
21	.275	1.250	99.023						
22	.215	.977	100.000						

Note: Extraction Method: Principal Axis Factoring.

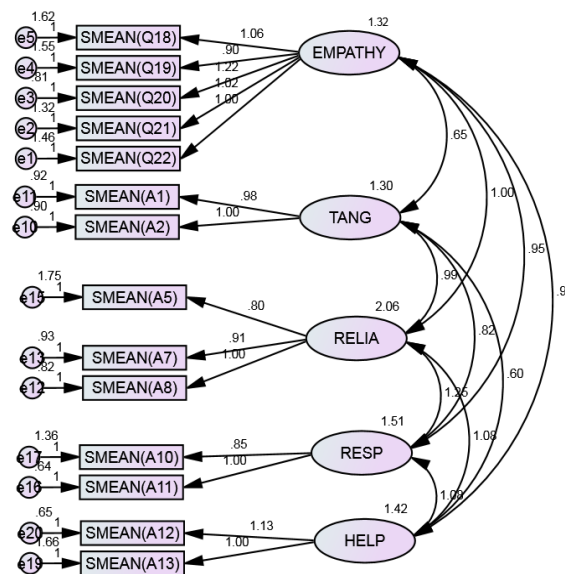
**Table 4.** Rotated factor matrix service quality

Question code	Service quality variable	Factor				
		1	2	3	4	5
A1	State of equipment		.727			
A2	Visual appeal of physical facilities		.657			
A3	Appearance of employees		.427			
A4	Visual appeal of materials					
A5	Keeping promises			.644		
A6	Sympathetic to solving student problems			.451		
A7	Providing service right first time			.521		
A8	Providing service at promised time			.722		
A9	Keeping accurate records				.469	
A10	Informing students of when service will be performed				.648	
A11	Promptness of service				.473	
A12	Willingness to help					.552
A13	Employees never too busy to help					.700
A14	Confidence instilled by employees	.430				.442
A15	Feeling safe in transacting with institution	.489				
A16	Courteous employees	.518				
A17	Employee knowledge in answering questions	.507				
Q18	Providing individual attention	.400				
Q19	Convenience of operating hours	.536				
Q20	Personal attention provided by employees	.688				
Q21	Institution having my best interests	.535				
2	Employees understanding my specific needs	.555				

Empathy with eight variables. However, variable loadings pertaining to Empathy were higher. Factor 1 can, therefore, be called to “Empathize and Assure”. Factor 2 had three items, which loaded strongly on issues pertaining to Tangibles and is, therefore, called “Tangibles”. Factor 3 loaded strongly on four Reliability issues and is called “Reliability”. Factors 4 and 5 loaded heavily on the “Responsive-related” dimension, with only one Reliability-related variable included. Therefore,

these factors combined are called “Promptness and Accuracy” (Factor 4) and “Helpfulness” (Factor 5).

Confirmatory Factor Analysis (CFA) using AMOS version 23 was conducted for the service quality constructs, which were based on the SERVPERF model comprising 22 items. The CFA revealed a five factor service quality model as depicted in Figure 1.



**Figure 1.** Measurement model for service quality



**Table 5.** Model fit indices for SERVPERF dimensions

Measure	Threshold	Model indices	Comment
Chi-square/df (cmin/df)	< 3 good < 5 sometimes allowed (Hu & Bentler, 1999)	2.250	Acceptable
P-value	> 0.05 (Hu & Bentler)	0.00	Not acceptable
CFI	> 0.9 (Hu & Bentler, 1999)	0.965	Acceptable
GFI	0.9 minimum (Hu & Bentler, 1999)	0.951	Acceptable
AGFI	Equal to or > 0.9 (Hooper et al., 2008 cited in Kats, 2013, p. 103)	.923	Acceptable
NFI	> 0.9 (Hinterhuber & Liozu, 2013, p. 3)	0.939	Acceptable
RMSEA	< 0.06 (Hu & Bentler, 1999)	0.056	Acceptable
PCLOSE	> 0.05 (Hu & Bentler, 1999)	0.196	Acceptable

The model fit indices for the service quality model appear in Table 5.

Correlation analysis was conducted in order to understand the specific variables/items within each service quality dimension and which specific variables were most strongly associated with that service quality dimension. Table 6 reveals the variables, which correlated highly with specific service quality dimensions.

It is evident from Table 6, that the “helpfulness of staff, safety on campus, punctuality, good equipment such as computer facilities, and providing personal one-on-one attention”, had the strongest

relationships with their respective service quality (RATER) dimensions and they also emerge as the strongest variables in the rating of service quality by the respondents.

In order to determine the relationship between student demographics and their ratings of each service quality dimension, cluster analysis was conducted. Table 7 reveals a four cluster solution, combining service quality dimensions and demographic categories.

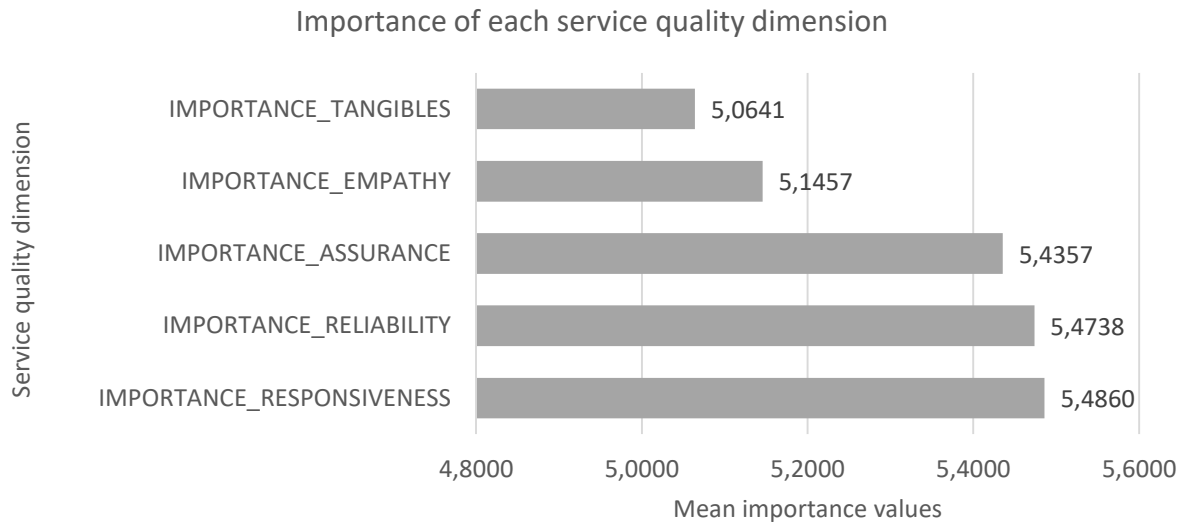
On the basis of the cluster analysis results reported in Table 7, it is apparent that the sample

**Table 6.** Correlation between service quality dimensions and measurements

Service quality dimension	Highest positive correlation with service quality measurement
Responsiveness	Willingness to help (r = 0.827, p < 0.001, N = 396)
Assurance	Feeling safe in transacting (r = 0.827, p < 0.001, N = 395)
Reliability	Providing the service at the promised time (r = 0.843, p < 0.001, N = 395)
Tangibles	State of equipment (r = 0.799, p < 0.001, N = 395)
Empathy	Personal attention provided (r = 0.816, p < 0.001, N = 392)

**Table 7.** Service quality dimensions and demographic factors

Cluster label and description	High responsiveness/low empathy	High responsiveness/low tangibles	High tangibles/low empathy	High assurance/low empathy
Cluster size	36.9% (133)	23.9% (86)	20.3% (73)	18.9% (68)
Gender	Female (100%)	Male (98.8%)	Male (52.1%)	Female (100%)
Academic field/s	Commercial subjects (100%)	Commercial subjects (59.3%)	Commercial subjects (80.8%)	Science subjects (58.8%)
Race	Black (99.2%)	Black (90.7%)	Black (74%)	Black (98.5%)
Average age (years)	20.04	21.17	20.47	20.04
Rating – responsiveness (mean)	5.51	5.77	3.60	5.03
Rating – assurance (mean)	5.49	5.66	3.72	5.06
Rating – reliability (mean)	5.21	5.48	3.40	4.98
Rating – empathy (mean)	4.94	5.50	3.22	4.78
Rating – tangibles (mean)	5.05	5.16	3.86	4.97



**Figure 2.** Importance of service quality dimensions

could be divided into four clusters, with the largest cluster comprising mainly Black females doing Commercial subjects, with an average age of 20.04 years. Black students rate Responsiveness the highest (mean = 5.51), and Empathy the lowest (mean = 4.94). The second largest cluster (23.9%) labelled as cluster 4, comprising Black male students, has slightly higher ratings than the largest cluster for all the service quality dimensions, and this cluster seems most satisfied with the service quality provided. The Black male student cluster also rates Responsiveness as the highest (mean = 5.77) and Tangibles as the lowest (mean = 5.16).

With regard to the importance of KSQDs, it is also evident from Figure 2 that Responsiveness is rated as the most important service dimension, whilst Tangibles are perceived to have the lowest importance. However, the importance placed on Responsiveness is only slightly higher than Reliability and Assurance, suggesting that respondents placed more or less similar importance on these service quality dimensions.

Figure 3 shows the mean importance ratings of each service quality measure.

From Figure 3 it may be deduced that the most important Tangibles were the “Visual appeal of materials”. With respect to the Reliability dimension, importance was placed on “Keeping accurate records”, and with regard to Responsiveness, the highest importance was placed on “Informing stu-

dents of when the service will be performed”. With regard to the Assurance dimension, the highest importance was placed on “Employee knowledge in answering questions”, and with regard to Empathy, the highest importance was placed on the “Convenience of operating hours”.

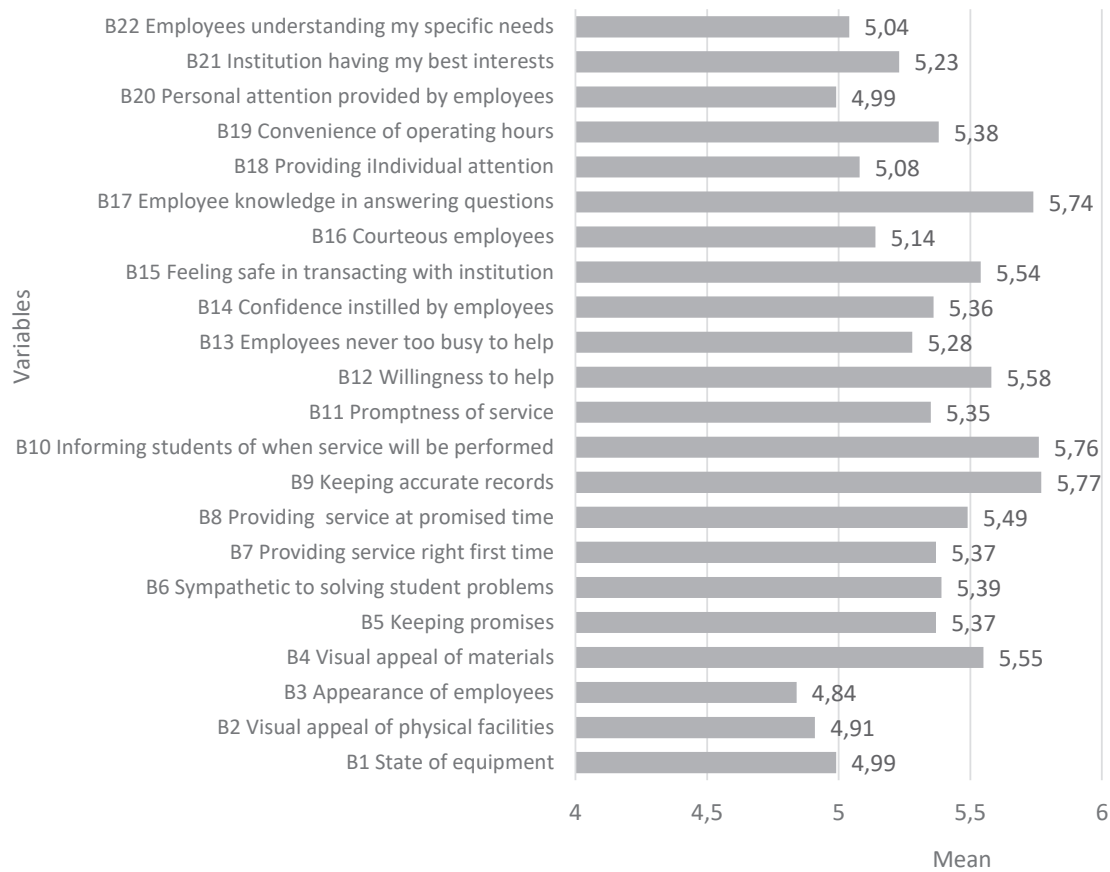
Correlation analysis was conducted in order to determine the measures most strongly associated with the importance placed on each service quality dimension, and the results are presented in Table 8.

**Table 8.** Relationship between the importance of the service quality dimension and their related measurement

Service quality dimension	Highest positive correlation
Responsiveness	Promptness of service ( $r = 0.855$ , $p < 0.001$ , $N = 395$ )
Assurance	Feeling safe in transacting ( $r = 0.857$ , $p < 0.001$ , $N = 397$ )
Reliability	Providing the service right the first time ( $r = 0.888$ , $p < 0.001$ , $N = 397$ )
Tangibles	Visual appeal of physical facilities ( $r = 0.811$ , $p < 0.001$ , $N = 383$ )
Empathy	Institution having my best interests ( $r = 0.865$ , $p < 0.001$ , $N = 393$ )

Table 8 shows that Responsiveness is strongly correlated with “Promptness of the service”; Assurance correlates with “Feeling safe in transacting with the institution”; Reliability correlates with “Providing the service right the first





**Figure 3.** Mean importance ratings of service quality variables

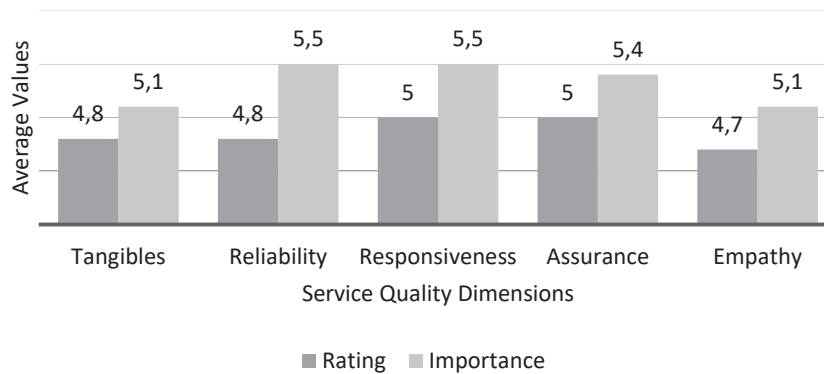
time”; Tangibles correlates with “Visual appeal of physical facilities”; and Empathy correlates with “Institution having my best interests”.

By comparing the actual service quality dimension perceptions with the importance placed on each dimension, the “gap” becomes apparent, particularly negative gaps that should be addressed to

improve service quality. It is evident from Figure 4, for each of the service quality dimensions, the importance ratings as perceived by the sampled students are higher than the actual ratings.

To determine if the gap reflected in Figure 4 is significant, a paired sample t-test was conducted and the results are reported in Table 9.

Service Quality Rating and Importance



**Figure 4.** Comparing service quality importance ratings with actual ratings for each service quality dimension

**Table 9.** Actual and importance rating for each service quality dimension

Service quality dimensions importance/actual	Paired differences			T	Df	Sig. (2-tailed)	Gap rating
	Mean	Std. deviation	Std. error mean				
Pair 1 IMPORTANCE_tangibles – tangibles	.26358	1.21410	.06078	4.336	398	.000	Smallest gap
Pair 2 IMPORTANCE_reliability – reliability	.63342	1.34964	.06748	9.386	399	.000	Largest gap
Pair 3 IMPORTANCE_responsiveness – responsiveness	.38701	1.34629	.06740	5.742	398	.000	3rd largest gap
Pair 4 IMPORTANCE_assurance – assurance	.34921	1.24291	.06222	5.612	398	.000	2nd smallest gap
Pair 5 IMPORTANCE_empathy – empathy	.46086	1.42256	.07122	6.471	398	.000	2nd largest gap

The results of the paired sample t-test for each service quality dimension reported in Table 9 confirm that the gaps between the importance and actual ratings for each service quality dimension are statistically significant ( $p < 0.005$ ). It is also evident that the most significant negative gaps pertain to Reliability and Empathy, which implies that significant improvement is needed in these areas in order to enhance service quality.

In order to acquire deeper insight into the importance ratings, cluster analysis was conducted with the aim of associating the important service quality dimensions with the student demographic profile. Table 10 reveals that “Reliability” (largest cluster), constituting 30.4% of the sample, comprises mainly Black females studying Commercial subjects, who place the highest importance on Reliability (mean = 6.11), and the lowest impor-

tance on Tangibles (mean = 5.53). Therefore, for this cluster, “Reliability” as a service quality dimension, needs to be a greater area of focus. The third largest cluster (Responsiveness), making up 15.1% of the sample, comprises mainly of relatively older Black males studying Commercial subjects. In this cluster, it is apparent that more emphasis was placed on the attributes of “Responsiveness” in an effort to improve service quality. The fourth largest cluster (Reliability), constituting 14.8% of the sample, comprises relatively younger Black females studying Science subjects. For this cluster, more emphasis needs to be placed on the attributes of “Reliability”, in order to improve service quality for this cluster. The fifth largest cluster (Tangibles), making up 8.9% of the sample, comprises Black females studying Humanities subjects. Although this cluster does not place much importance on the service quality dimensions, greater emphasis is placed on “Tangibles”.

**Table 10.** Cluster analysis results

Cluster label and description	Reliability cluster	Assurance cluster	Responsiveness cluster	Reliability cluster	Tangible's cluster	Assurance cluster	Assurance cluster
Cluster size	30.4% (109)	17.6% (63)	15.1% (54)	14.8% (53)	8.9% (32)	7.5% (27)	5.6% (20)
Academic field/s	Commercial subjects (100%)	Commercial subjects (100%)	Commercial subjects (100%)	Science subjects (71.7%)	Humanities subjects (50%)	Humanities subjects (100%)	Commercial subjects (75%)
Gender	Female (100%)	Female (66.7%)	Male (100%)	Female (81.1%)	Female (90.6%)	Male (100%)	Female (60%)
Race	Black (100%)	Black (96.8%)	Black (98.1%)	Black (100%)	Black (87.5%)	Black (92.6%)	Indian (55%)
Average age (years)	20.22	20.11	21.61	19.74	20.66	20.93	19.80
IMPORTANCE_reliability (mean)	6.11	3.94	6.11	6.29	4.20	5.37	6.42
IMPORTANCE_responsiveness (mean)	6.08	4.19	6.17	6.17	3.84	5.22	6.20
IMPORTANCE_assurance (mean)	5.97	4.28	6.00	6.05	3.76	5.40	6.50
IMPORTANCE_empathy (mean)	5.68	3.73	5.72	5.90	3.54	5.16	6.13
IMPORTANCE_tangibles (mean)	5.53	3.89	5.48	5.39	4.49	4.78	5.55

## DISCUSSION AND CONCLUSION

The service quality dimension with the highest rating was “Responsiveness” and the one with the lowest rating was “Empathy”. Based on the literature pertaining to the perceived SERVPERF ratings for the service quality dimensions, no study in higher education has found “Responsiveness” to be the most important dimension and “Empathy” to be the least important, although a qualitative study by McClean (2012) into library services at a higher education institution found Responsiveness and Empathy to be important dimensions. However, other studies showed different service quality dimensions as being perceived to be the most important in the higher education institutions studied (Calvo-Porrall et al., 2013; Green, 2014). However, it is noteworthy though that the ratings for each of the service quality dimension were above average, which is a positive aspect of the quality of service delivered by the higher education institutions studied.

Based on a correlational analysis, it was found that “Willingness to help” had the strongest correlation with “Responsiveness”. Hence, the higher education institutions studied are obviously excelling in this area in order to attain a high “Responsiveness” rating. In addition, it also emerged that “Feeling safe in transacting with the institution” had a strong association with “Assurance” and hence can be deemed to be another important area that the institutions researcher are excelling in. However, since “Empathy” and “Tangibles” were rated as the lowest, they are thus areas that the HEIs need to improve on. The aforementioned findings differ somewhat to what was found in a study in Spanish higher education where “Empathy” and “Tangibles” were rated as most important (Calvo-Porrall et al., 2013). Empathy is concerned with issues such as providing individual attention, convenient operating hours, personal attention, having student’s best interests and having an understanding of the specific needs of students. The statement which correlated highly with “Empathy” was the provision of “Personal attention” which if improved, could help to increase “Empathy” ratings. From the four variables used to measure “Tangibles”, the strongest correlation was with “State of equipment”. Therefore, an improvement in the state of the equipment could help to improve the overall rating of the “Tangibles” dimension of service quality.

The cluster analysis revealed a four cluster solution, and two of the largest clusters rated “Responsiveness” relatively high, and the majority of the clusters (three out of four) rated “Empathy” relatively low. Those who rated Responsiveness as relatively high were mainly Black male and female students taking commercial subjects. Although all the clusters scored relatively low ratings for Empathy, two clusters, which comprised just over 39% of the respondents, rated “Empathy” very low. These clusters comprised mainly Black male and female students taking commercial and science subjects. Empathy, therefore, is a dimension that could be improved on if higher education institutions are striving to improve service quality. These findings are unique to this study and no other study has shown similar results.

From a gender perspective, the analysis revealed that male students provided higher ratings on all the service quality dimensions. However, the differences in the ratings between males and females were not statistically significant. The lowest rating was provided by female students for “Empathy” and the highest rating was provided for “Responsiveness”. These findings are unique to this study and since the researcher is not aware of any other study/ies which have shown similar results.

The second objective of the study is to determine the service quality dimensions that students place importance on. The highest importance is placed on “Responsiveness” and “Reliability,” followed closely by “Assurance”, and the lowest importance is placed on “Empathy” and “Tangibles”. Similar studies found “Responsiveness” and “Reliability” to be most important (Al-Mushasha & Nassuora, 2012, p. 1474), and no studies in the literature reported “Empathy” and “Tangibles” to be the least important. In fact, to the contrary, some studies (Radder & Han, 2009, pp. 115-116; Calvo-Porrall et al., 2013) found “Empathy” and “Tangibles” to be important factors. All the perceived service quality dimension ratings were lower

than the “Importance” placed on each individual dimension, suggesting that there were negative gaps, which were statistically significant. The highest gaps were ascertained for the “Reliability” and “Empathy” dimensions. This suggests that the higher education institutions studied need to find ways of improving their ratings on the “Reliability” and “Empathy” dimensions of service quality. Similarly, service quality gaps were also revealed by other South African studies (Veerasamy et al., 2012; Naidoo, 2014).

## RECOMMENDATIONS

Higher education institutions should take cognizance of the KSQDs and focus their service orientation and resources accordingly. Furthermore, the importance placed by HE students on the KSQDs, namely Responsiveness, Reliability and Assurance, is also an indicator of where the resources and emphasis should be placed so as to attract and retain students.

Nevertheless, HE institution administrators must proceed with caution in that they cannot be influenced solely by this study results; thus its generalizability needs to be contextualized. Further studies using larger samples and across more institutions are needed to corroborate or refute the findings of this study.

## REFERENCES

1. Abdullah, F. (2006). Measuring service quality in higher education: three instruments compared. *International Journal of Research & Method in Education*, 29(1), 71-89.
2. Abouchededid, K., & Nasser, R. (2002). Assuring quality service in higher education: registration and advising attitudes in a private university in Lebanon. *Quality Assurance in Education*, 10(4), 198-206. <https://doi.org/10.1108/09684880210446866>
3. Al-Mushasha, N. F., & Nassuora, A. B. (2012). Factors determining e-learning service quality in Jordanian higher education environment. *Journal of Applied Sciences (Faisalabad)*, 12(14), 1474-1480.
4. Alnaser, A., & Almsafir, M. (2014). Service quality dimensions and students satisfaction. *Journal of Advanced Social Research*, 4(6), 1-17.
5. Bisschoff, C. (2001). Customer service factors of a Telematic Learning BBA degree. *South African Journal of Education*, 21(4), 228-233.
6. Calvo-Porrall, C., Lévy-Mangin, J. P., & Novo-Corti, I. (2013). Perceived quality in higher education: an empirical study. *Marketing Intelligence & Planning*, 31(6), 601-619.
7. Cheng, Y., & Tam, W. (1997). Multi-models of quality in education. *Quality Assurance in Education*, 5(1), 22-31. <https://doi.org/10.1108/09684889710156558>
8. Christiansen, B., Turkina, E., & Williams, N. (2013). *Cultural and technological influences on global business*. Hershey PA: Business Science Reference.
9. Cronin, J. J., & Taylor, S. (1994). SERVPERF versus SERVQUAL: reconciling performance-based and perceptions minus-expectations measurement of service quality. *Journal of Marketing*, 58(1), 125-131. Retrieved from [http://www.academia.edu/3252696/SERVPERF\\_versus\\_SERVQUAL\\_reconciling\\_performance-based\\_and\\_perceptions\\_minus\\_expectations\\_measurement\\_of\\_service\\_quality](http://www.academia.edu/3252696/SERVPERF_versus_SERVQUAL_reconciling_performance-based_and_perceptions_minus_expectations_measurement_of_service_quality)
10. Diedericks, R. (2012). *Students' perceptions of service quality at two South African higher education institutions* (Doctoral dissertation). North-West University: Potchefstroom.
11. Esposito, V. V. (2010). *Handbook of partial least squares: Concepts, methods and applications*. Berlin: Springer.
12. Gbadamosi, G., & De Jager, J. (2008). *Measuring service quality in South Africa higher education: developing a multidimensional scale* (pp. 8-12). Spain: Global Business and Technology Association.
13. Green, P. (2014). Measuring service quality in higher education: A South African case Study. *Journal of International Education Research*, 10(2), 131-142. Retrieved from <https://eprints.worc.ac.uk/672/>
14. Hinterhuber, A., & Liozu, S. (2013). *Innovation in Pricing: Contemporary Theories and Best Practices*. Oxon: Routledge.
15. Kajan, E., Dorloff, F.-D., & Bedini, I. (2012). *Handbook of research on e-business standards and protocols: Documents, data, and advanced web technologies*. Hershey PA: Business Science Reference.
16. Khodayari, F., & Khodayari, B. (2011). Service quality in higher

- education. *Interdisciplinary Journal of Research in Business*, 1(9), 38-46.
17. Kontic, L. (2014). Measuring Service Quality in Higher Education: The Case of Serbia. In *Human Capital without Borders: Knowledge and Learning for Quality of Life; Proceedings of the Management, Knowledge and Learning International Conference 2014* (pp. 645-654). To Know Press.
  18. McClean, R. (2012). Proceedings of the 11th European Conference on Research Methods: University of Bolton, UK, June 28-29, 2012.
  19. Mertova, P., & Nair, C. S. (2011). *Student feedback: the cornerstone to an effective quality Assurance system in higher education*. Oxford, England: Chandos Publishing.
  20. Naidoo, V. (2014). Service quality perceptions of students at a South African university. *Mediterranean Journal of Social Sciences*, 5(27), 199.
  21. Nair, C. S. (2010). *Leadership and management of quality in higher education*. Oxford: Chandos Publishing.
  22. Radder, L., & Han, X. (2009). Service quality of on-campus student housing: a South African experience. *International Business & Economics Research Journal*, 8(11), 107-120. <https://doi.org/10.19030/iber.v8i11.3190>
  23. Rauterberg, M. (2003). Human-computer interaction INTERACT'03. *Processing IFIP TC 13 International Conference on Human-Computer Interaction*. Amsterdam: IOS Press. Retrieved from <http://www.idemployee.id.tue.nl/g.w.m.rauterberg/publications/INTERACT03proceedings.pdf>
  24. Russell, M. (2005). Marketing Education – A review of service quality perceptions among International students. *International Journal of Contemporary Hospitality Management*, 65-77.
  25. Samervel, R. (2012, August 9). *Forum rejects plea, says student is not "consumer"*. Retrieved from <http://timesofindia.indiatimes.com/city/mumbai/Forum-rejects-plea-says-student-is-not-consumer/articleshow/15411139.cms>. [November 2, 2015].
  26. Sultan, P., & Wong, H. (2013). Antecedents and consequences of service quality in a higher education context: a qualitative research approach. *Quality Assurance in Education*, 21(1), 70-95. <https://doi.org/10.1108/09684881311293070>
  27. Van Schalkwyk, R. D., & Steenkamp, R. J. (2014). The exploration of service quality and its measurement for private higher education institutions. *Southern African Business Review*, 18(2), 83-107.
  28. Veerasamy, D., Govender, J. P., & Noel, D. T. (2012). International students' expectations and perceptions of service quality: the case of a higher education institution in South Africa. *Journal of Economics and Behavioral Studies*, 4(10), 588-594. Retrieved from <http://hdl.handle.net/10321/973>
  29. Wang, J. (2012). *Advancing the service sector with evolving technologies: Techniques and principles*. Hershey, PA: Business Science Reference.
  30. Webber, J. (2011, July 11). *Students are not consumers*. Retrieved from <http://www.newstatesman.com/blogs/cultural-capital/2011/07/students-work-education> [November 2, 2015].
  31. Wood, R. & Brotherton, B., 2008. *The SAGE Handbook of Hospitality Management*. California: Sage.
  32. Yousapronpaiboon, K. (2014). SERVQUAL: Measuring higher education service quality in Thailand. *Procedia-Social and Behavioral Sciences*, 116, 1088-1095. <https://doi.org/10.1016/j.sbspro.2014.01.350>
  33. Zabadi, A. M. (2013). Implementing Total Quality Management (TQM) on the Higher Education Institutions – A Conceptual Model. *Journal of Finance and Economics*, 1(1), 42-60.