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Service quality a password of students satisfaction An application of hesqual model

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Keywords:

HESQUAL,

Service quality,

Satisfaction,

Universitie.s

ABSTRACT

Service quality (SQ) is a pass word of students' satisfaction. It is considered the most significant factor in determining students' satisfaction and also defining the success or failure of higher education industry. To survive in the highly competitive market, it is more apparent for universities to understand the needs of students. In order to achieve competitive position in the higher education industry, it is significant for universities to realize the service quality (SQ) dimensions that are perceived as most significant by students. The purpose of the present research study to finds out the relationship between SQ dimensions and students' satisfaction. A structure questionnaire was adapted to investigate SQ in higher education sector in Khyber Pakhtunkhwa. The data was obtained from 384 respondents of 28 universities. The collected data was examined with the help of SPSS and AMOS to investigate SQ and students satisfaction. The Factor-Analysis and Parallel-Analysis were also used for the factorization of data. The SEM technique was applied for the testing of hypotheses. The CFI, GFI, RMSEA and SRMR indices were used for the model fit. The findings of the research revealed that dimension core educational-quality is the most significant dimension of SQ that estimates 0.562 changes in students' satisfaction.

INTRODUCTION

The service industry is now playing an increasing important role in the economy of many nations including Pakistan (Muhammad et al. 2018). The success or failure of any service sector depends heavily on delivery of service quality (Datta & Vardhan, 2017; Muhammad et al. 2018). Universities also represent a crucial component of the service industry so delivery of service quality is critical to their survival in a competitive marketplace (Liben et al. 2017; Mokhtar et al. 2017; Felix, 2017). Investigating service quality in universities is a challenging endeavour and many universities in Pakistan feel that competition intensifies between public and private sector universities (Muhammad et al. 2018).

Khyber Pakhtunkhwa (KP) is one of the provinces that include many public and private sector universities, so it becomes one of the hubs of educational destination. The data collected from Higher Education Commission (HEC) of Pakistan shows that there are 36 universities in KP; this indicates that

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there is intensive competition among universities to win the hearts of the customers (Datta & Vardhan, 2017; Mwiya et al., 2017).

Service quality is considered an important and critical dimension of customer satisfaction as well (Mwiya et al, 2017; Kara 2016). Providing excellent service quality (SQ) and high level of customer-satisfaction has always been a popular subject of interests to various researchers in the literature (Cayanan, 2017; Meštrović, 2017; Mwiya et al., 2017; Datta & Vardhan, 2017; Liben et aal. 2017; Mokhtar et al. 2017; Felix, 2017; Saleem et al., 2017; Tegambwage, 2017; Osman et al., 2017; Onditi & Wechuli, 2017; Kara, 2016). Service quality can be defined as the difference between expected and perceived services (Parasuramann et al. 1988). If the perceived service quality is greater than the expected one it shows that customers are satisfied and vice versa. Zeithaml et al (1988) define service quality is an overall judgement about a service performance. SQ is the ability of a firm that fulfils current and potential needs of the customers (Kotler & Armstrong, 2011). The superiority or inferiority of the services is confirmed after the delivery of services, which is outcome of the service performance. Service quality is considered the ability of a firm to deliver services to customers in an extraordinary way (Meštrović, 2017; Mwiya et al., 2017). Service quality is always remaining one of the organization management top strategies that are important for the survival and development of the organization (Parasurraman et all., 1988).

Service quality is a key factor in defining the performance or non-performance of a firm (Saleem et al., 2017). To survive in the highly competitive market, it is crucial for higher education institutions to recognize the needs of customers (Liben et al., 2017). It is necessary for universities to understand service quality dimension that is ranked as most important by the respondents (Mokhtar et al. 2017; Felix, 2017). Moreover, the universities should also understand the effect of those dimensions on students' satisfaction. Therefore, higher education institutions as a service provider should evaluate the services on a fixed interval of time to deliver better service quality (Beaumont, 2012).

The previous researchers emphasized more on academic aspects than administrative aspects to measures service quality in higher education industry (Stodnick & Rogers, 2008; Athiyaman, 1997). According to Stodnick & Rogers, (2008) the main approach to investigate service quality in higher education sector has concentrated on evaluating teaching quality or students learning experience. The academic factors were curriculum, course delivery mechanism, quality of teaching and program etc. (Athiyaman, 1997).

However, administrative factor was also discussed by Kamal & Razi (2002) to investigate students' perception about registration, administrative process, and other administrative services. The quality of core education service has been the major concern of higher education institutions. But, concentrating only on the academic factors delivered to students ignores the other perceived service quality factors (Beaumont, 2012). Academic factors are only one aspect of the core educational process since the services universities offer to their students is much more than academic aspects. A university setting is consists of a variety of services (Teerovengadum et al., 2016). Thus it is significant that SQ should be investigated beyond the academic factor on a regular basis from different perspectives (Sultan & Wong, 2012). This study also draws attention to the fact that as competition intensifies between universities, so it is necessary for both sector universities to put greater emphasis on improving service quality.

LITERATURE

Service-quality (SQ)

The word service quality has been defined by two different group of school the one is Nordic school the other one is American school of thought. The Gronroos (1982) belongs to Nordic school and defined service quality as a gap between customers' expectations and their experience received during the delivery process. Groonroos (1982) specified that SQ is consists of technical and functional-quality. The technical quality determines what consumers actually received as a result of interaction with service provider while functional quality reveals the process of service delivery. It shows that what is delivered and how it is delivered. The third dimension of Gronroos model was image which is customer view about the image and brand name of the organization. Main deficiency of this model was the lack of explanation (Ghotbabadi et al., 2015).

American school of thought was consists of Parasuramann et al. (1988) and defined service quality as a difference between customer expectations and perceptions. Parasuramann et all. (1985, 1988) presented a model known as SERVQUAL which is composed of five dimensions and measures the perceived SQ as a gap between customers' perceptions and expectations. Carman (1990) criticized that dimensions of SERVQUAL model was not a neutral indicators for various service industry and also it is not universal measurement applicability. The 22 items of expectations and 22 items of perceptions create confusions among the respondents (Carman, 1990).

In 1992 another model was presented by Cronin & Taylor known as SERVPERF model which is a revised version of the SERVQUAL. The SERVPERF measures the SQ only from the perceptions of the customer and ignores the expectations of the customers. The SERVPERF model is consists of the same dimensions of SERVQUAL i.e. tangibility, assurance, reliability, responsiveness and empathy. The SERVPERF model has also criticized for the problem of universal applicability and for limited explanation (Jain & Aggarwal, 2015).

Evaluated Performance model was developed by Teas in 1993 which indicated that SQ is equal to expectations minus performance. (Expectations – Performance = Service Quality). This model had the deficiency of validity and reliability, the sample size was narrow and also had the problem of lack of applicability (Jain & Aggarwal, 2015). In 1994 Rust & Oliver developed a model which is a modified form of Gronroos (1984) model by adding extra dimension of service environment to it. The other two dimensions technical and functional quality were merged in a new dimension that was called service product.

In the years after, another model which is known as HETQMEX was presented by Ho & Wearn in 1996. This model focused on overall excellence and total quality management in the higher education industry. This was concentrated on innovative practices instead of traditional techniques to sustain quality in higher education industry. Abdullah launched a new model in 2005 to investigate SQ in higher education industry which is known as higher education performance model HEdPERF. This model emphasized that SQ in higher education industry can be measured with academics aspects, non-academic, access, and program factors. HESQUAL was presented by Teeroovengaduum et al. in 2016 to investigate service quality in higher education industry (Teeroovengaadum et all. 2016).

Students Satisfaction

Satisfaction has always been a subject of attention to many researchers (Weerasinghe & Fernando, 2017; Yusoff et al., 2015; Wilkins & Balakrishanan, 2013; Sojkin et al. 2012; Douglas et al. 2006; Jacqueline et al., 2006). Students' satisfaction refers as a students' disposition evaluation of educational outcome and experiences (Elliot & Shin, 2002). Douglas et al., (2006) identified teaching ability, curriculum, university image, independence; students' personal development and growth, caring of faculty, campus environment, organizational effectiveness, and social condition are the major dimensions of satisfaction in higher education sector. In addition, better lectures, physical appearance and better use of technology have been considered the main dimensions of students' satisfaction (Wilkins & Balakrishnan, 2013). Similarly it is composed of feedback system, quality of class room, students-teachers relationship, interaction with class fellow, curriculum, library facilities and learning equipment (Sojkin et al., 2012). Various other models and frameworks are also used by scholars to measures students' satisfaction in higher education sector. SERVQUAL is a widely acceptable tool for the measurement of SQ and students satisfaction in universities (Muhammad et al. 2018). This model was a questionnaire based model which was presented by Parasuraman et al. 1985. This model was composed of five dimensions tangibility, reliability assurance, responsiveness and empathy. In 1994 Noel Levitz introduced another model to measure students' satisfaction which covers academic-experience, supporting-facilities, and services of faculty, university campus and social integration. This model is known as Noel Levitz student -satisfaction-index. Which measures both aspects i.e. importance of variables and level of satisfaction. Elliot & Halley (2001) model was composed of campus life, academic advising, campus climate, effectiveness, safety and security, registration effectiveness and service excellence etc. Navarro et al. (2005) identified faculty, method of teaching, administration, infrastructure and students enrolment were the most influential variables to measure students satisfaction. According to Jacqueline et al. (2006) cited by (Yusooff et all. 2015) considered students assessment experience, curriculum and tuition fee, support facilities, procedures, students teachers relationship, qualified staff, helpfulness, feedback / class size are the most significant dimensions of students satisfaction. Yusooff et al. (2015) also support the variable stated by Jacqueline et al. (2006) study.

Empirical Findings of Service-quality and satisfaction

Muhammad et al. (2018) conducted a study in various universities of Khyber Pakhtunkhwa (Pakistan) to investigate the influence of service quality on customer satisfaction. The data was collected from 384 respondents of 19 selected universities of Khyber Pakhunkhwa. Findings of the study recommended that academic aspect was the most significant factor of HEdPERF model for the satisfaction of students in universities of Pakistan. The research study carried out by Liben et al. (2017) to measures the perceived SQ and satisfaction level of undergraduate respondents in the Dire Dawa University. The adapted SERVQUAL questionnaire was used for the collection of data. Findings of the research suggested that 65.4% were satisfied from the service of the university while remaining was dissatisfied. Moreover, there is significant difference has been seen in gender base in dimension students lecturer interaction and supporting facilities services (Liben, Daniel, & Adugna, 2017). Douglas et al. (2006) examined to measures students' satisfaction in Malaysian universities and found that physical facilities as a key determinant of student choice while selecting a university. The study of Cayanan (2017) was conducted in 32 private sector universities of territory education in Philippines. The study recommended that tangibility and assurance were the significant dimensions of service quality. Gap analysis also revealed that expectations of the respondents were greater than perceptions (Cayanan, 2017).

Farahmandian et al. (2013) measures the SQ and students satisfaction in universities they concluded that curriculum, academic advising, quality of teaching, fee, financial assistance and others services have important effect on satisfaction. Palacio et al. (2002) suggested university image is the most powerful dimension of satisfaction in Spanish universities. Kara (2016) investigated educational SQ and satisfaction in public sector institutions in Kenya. The data was collected from 1062 respondents using proportionate sampling technique. Findings of the research concluded education SQ was determined by 10 dimensions namely, administrative quality, teaching quality, teaching facilities, lecture quality, reliability, learning gains, welfare services, instructional practice etc. Meštrović, (2017) examined the major dimensions of SQ in Pakistani higher education context. The data was collected from different institutions. Findings reveal that maximum of the dimensions significantly associated with students' satisfaction. Mwiya et al. (2017) study was to examine SQ and satisfaction in higher education industry and found tangibility and reliability were the influential ones. Mokhtar et al. (2017) carried out a study investigate service quality of Poly technic institute using SERVQUAL model. Findings of the research suggested that dimensions tangibility and reliability significantly contribute while dimension

responsiveness insignificantly associated with it. Khan et al., (2011) findings suggested all the dimensions have significant effect on it.

The study of Saleem et al. (2017) carried out to ascertain gaps in the perceived SQ of students. Findings reveal expectations of the respondents were higher than perceptions. Ali et al., (2016) suggested that all factors of HEdPERF model were significantly contributed towards satisfaction. Muhammad et al. (2018) study suggested academic aspect is the most significant dimension of service quality for the satisfaction of the students. Tegambwage (2017) investigated the relative importance of SQ dimensions in higher education sector in Tanzania. The data was obtained from 500 respondents from two public sector universities. The results revealed that dimension reliability has significantly associated with service quality. Osman et al. (2017) measured the determinants of SQ in Bangladesh. Research recommended that program quality has statistically strong significant association with students' satisfaction than service quality. Garcl a-Aracil (2009) findings suggested that course contents, equipment, teaching quality, contacts with class fellow and teaching materials have significantly connected with students' satisfaction in European countries. Substantial body of literature available to investigates the connection between service quality and customer satisfaction in universities. (Ali et al. 2016; Cayanan, 2017; Garcl a-Aracil, 2009; Kara, 2016; Khan et al. 2011; Liben et al. 2017; Mestrovic et al. 2017; Mokhtar et al. 2017; Muhammad et al. 2018; Mwiya et al. 2017; Osman et al. 2017; Saleem et al. 2017; Sojkin et al. 2012; Tegambwage, 2017; Weerasinghe & Fernando, 2017; Wilkins & Balakrishnan, 2015; Yusoff et al. 2015)

HESQUAL (2016)

The word HESQUAL is composed of two words "HE" and "SQUAL". HE stand for higher education and SQUAL stand for service-quality, it means higher education service quality. The HESQUAL was established by Teerovengadum et al. in 2016 in Mauritius. The quantitative and qualitative both types of techniques were used for the collection of data. The model is consists of five dimensions with 48 items let us look each of the following.

Administrative quality 7 variables: administrative quality refers that there should not be any communication gap between students and administration. There should be clearly

defined procedures and minimum bureaucracy should be involved to support students (Teeroovengadum et al., 2016).

Physical environment quality 12 variables: This dimension refers that university campus should have a good physical appearance. The class rooms and library should be well equipped and well furnished. There should be a good security system in the campus (Teerovengadum et al., 2016).

Core education quality 20 variables: Core educational dimension refers that faculty members should be up to date and well qualified in their area of interest. The lecturers should be approachable and ready to help students.

Support facilities quality 6 variables: This dimension refers that universities should provide good transport, adequate cafeteria, and all other supporting facilities to attract and satisfied the students (Teerovengadum et al., 2016).

Transformative quality 8 variables

Transformative quality focuses that education is not just offering a service but it is a regular process of transformation. This dimension is comprised of two components i.e. enhancement and empowerment of students. Enhancement refers adding value to students' knowledge / skills while empowerment relates to bestowing some decision making authority to students. This process increased the personal growth, awareness and confidence level of students (Teerovengadum et al., 2016).

Research Objectives:

- To identify the association between administrative quality and satisfaction
- To identify the association between support facilities quality and satisfaction
- To identify the association between core education quality and satisfaction
- To identify the association between Transformative quality and satisfaction
- To identify the association between physical environment quality and satisfaction

Research Hypotheses:

H1: Administrative quality has a significant association with students' satisfaction

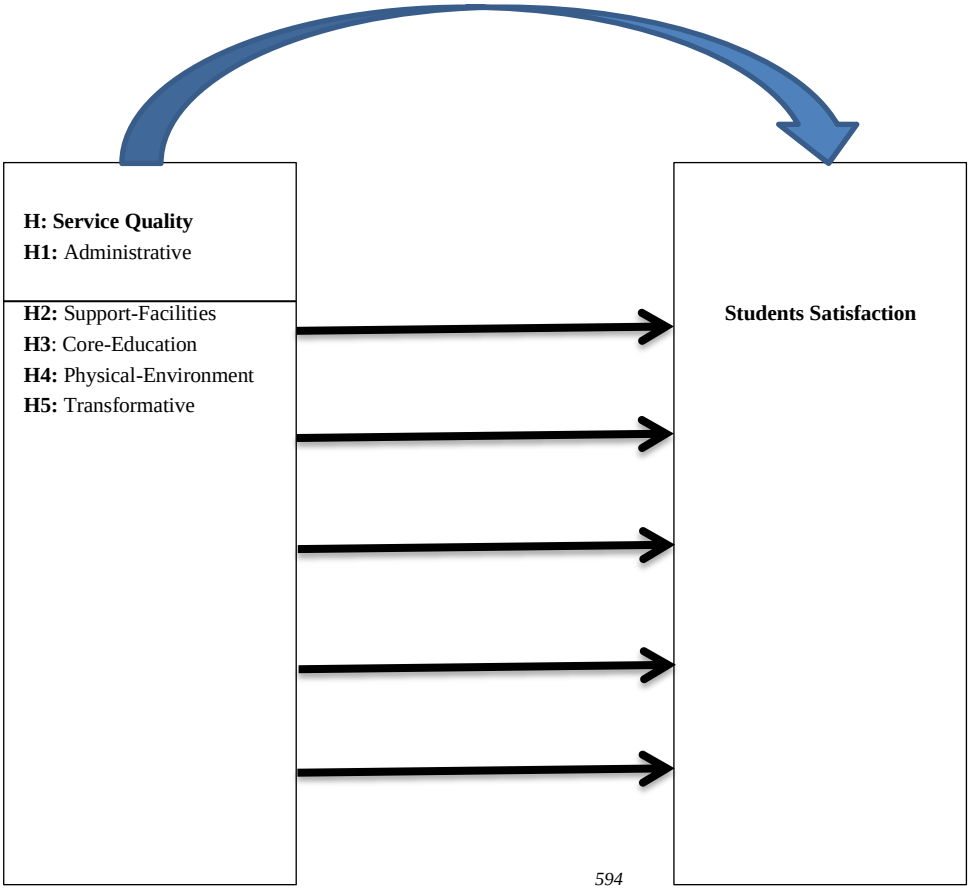
H2: Support facilities has a significant association with students' satisfaction

H3: Core education has a significant association with students' satisfaction

H4: Physical environment has a significant association with students' satisfaction

H5: Transformative quality has a significant association with students' satisfaction

Conceptual Framework



RESEARCH METHODOLOGY:

The target population of the present research was both sector universities of KP (Pakistan). According to the HEC (2018) there are total 36 universities in Khyber Pakhunkwa (KP), only 28 institutions were included on the basis of personal judgement. The logic behind the purposive sampling is that a new university cannot be compared with a well-established one. A well-established university has very good image, well known faculty members and others factors than a new one. The current study included universities which are registered with the higher education commission of Pakistan prior 30th June 2010. This method was also used by various researchers (Asaduzzaman, Rahman, & Hossain, 2013; Malik, Danish & Usman, 2010). Haiir et al. (2006) recommended appropriate size of the sample for a survery would have a ratio of 10 to 1. The current study has taken 384 respondents as a sample size. In second phase of the study the Proportion allocation method was used under which the sizes of the samples from different universities were taken according to the size of their population. This method also provides better assessment of the characteristics of a population (Kotari, 2004). In third stage to administer the questionnaire systematic sampling method was applied to take sample from faculties and department of the universities. A systematic sampling is a way of sampling to select every specific item or number on a list (Hair et al., 2006). In this way first respondent would be selected randomly from the department and the remaining respondents of the sample are selected at fixed intervals. The current study is to select every third student in a row from the class. The present study used adapted questionnaire to gather data about the HESQUAL model. The five point likert scales was also applied for the collection of data. The questionnaire was already tested and applied by Teeroovengaadum et al., (2016).

In factor analysis basically two issues related with the fitness of data i.e. the sample size and the other one is strength of the association between variables. Tabachnnick & Fideell (2001) recommended that at least 150-300 sample size or cases are necessary for factor analysis. Nunnally (1978) suggested 10 to 1 ratio which is suitable for analysis. Furthermore BTS ($p<0.05$) and KMO (0 to 1) are also helpful in assessment of factorization (Tabachnick & Fidell, 2001). The sample size of the present study is 384 which fulfil both the criterion of factor analysis. Similarly, only those items that have correlation matrix greater than 0.3 included in the study. For the extraction of factors principal component approach was used with Varimax technique. There are numbers of technique used to assist in the decision concerning the numbers of variables to be retained. The commonly used technique is eigenvalue rule. The present study used eigenvalue rule, with those items were retained with value greater than one. The Parallel analysis (PA) method was applied in the present study to further reduce the items. The Monte Carlo PCA was also used in the present study.

Data Analysis

Factor-Analysis of dimension Administrative Quality

The dimension administrative quality is composed of two aspects namely attitude/behaviour and administrative process. There are total seven variables in these two factors. The variables RE1, RE3, RE4 and KI were taken for further analysis. The criterion of Hair et al. (2006) was applied for item reduction and retention. The current study retained items with highest loading. In factor analysis five items were retained in dimension administrative quality with factor loading (.694 to .888) and Cronbach's alpha.75. The BTS was significant at $p<0.05$ level and KMO value was also higher than the suggested value of 0.6. The Kaiser's criterion and Monte Carlo PCA was also applied in the current study.

Factor-analysis of dimension Support facilities quality

The dimension support facilities quality is composed of six variables namely A1, A2, A3, A4, A5 and A6. After the FA only items A1, A3 and A4 with highest loading ranging from 0.700 to 0.800 were retained for further analysis. The value of KMO, Cronbach alpha and BTS were .79, 0.81 and $p<0.05$ respectively. After the eigenvalue rule and PCA the said dimension was retained for further investigation.

Factor-analysis of dimension Core educational quality

The dimension core educational quality is consists of four factors and 17 variables. After the factor analysis only items T1, T2, T3, T4 and J2 with highest loading were retained. 0.85 was the Cronbach alpha value of core education quality in the current study. KMO value and BTS was also satisfied the suggested criterion. After the comparison of eigenvalue with PA the said dimension was retained for further estimation.

Factor-analysis of dimension Physical-environment-quality

The physical environment quality was composed of factors support infrastructure, learning setting and general setting of 10 items. The highest loading factors were E2, E3 and E5 value .645 to .895 was retained. Measurement of the items shows that KMO value was 0.83 with BTS at $p<0.05$. The PA of the dimension physical was also performed. The comparison of Kaiser's eigenvalue with PA randomly data identified the said dimension for further investigation.

Factor analysis and Reliability of dimension Transformative quality

The dimension transformative was consists of empowerment and enhancement with 8 items. The results of FA shows that only items RS1, RS2, RS3, RS4 and F1 have the maximum loading .700 to .824. KMO was 0.86 and BTS significant at less than 0.05 levels. The Parallel analysis was also performed for the said dimension.

Table 7.1 Summary of Factor Analysis

1. Items	2. Dimension	3. KMO	4. BTS	5. Cronbach's alpha
6. RE1, RE3, RE4, RE5, K1	7. Administrative	8. 0.87	9. 0.000	10. 0.75
11. A1, A3, A4	12. Support facilities	13. 0.79	14. 0.000	15. 0.81
16. T1, T2, T3, T4, J2	17. Core education	18. 0.88	19. 0.000	20. 0.85

21. E2, E3,E5	22. Physical	23. 0.83	24. 0.000	25. 0.79
26. RS1, RS2 RS3, RS4, F1	27. Transformative	28. 0.86	29. 0.000	30. 0.74

Table 7.2 Comparison of Eigenvalue

31. S #	32. Random Eigenvalue or Criterion value from Parallel analysis	33. Actual Eigenvalue from PCA	34. Decision
35. i	36. 1.4084	37. 2.8912	38. Accepted
39. ii	40. 1.2498	41. 2.1156	42. Accepted
43. iii	44. 1.1698	45. 1.7134	46. Accepted
47. iv	48. 1.1344	49. 1.5213	50. Accepted
51. v	52. 0.0781	53. 1.3872	54. Accepted

Table 7.3 Rotated-Component-Matrix (RCM)

	Components				
	01	02	03	04	05
T1	.824				
T2	.792				
T3	.807				
T4	.817				
J2	.820				
RE1		.864			
RE3		.722			
RE4		.694			
RE5		.822			
K1		.888			
E2			.707		
E3			.645		
E5			.895		
A1				.800	
A3				.700	
A4				-.733	
RS1					.814
RS2					.717
RS3					-.700

RS4					.777
F1					.824

Table 7.3 shows the loading of each of the items on the five components. Varimax rotation was applied in the present study for the extraction of data. In the above RCM table the highest loading of each of the items on the five factors were ascertained. The maximum loadings on components 1 are T1, J2, and T3. The main items on component 2 are K1, RE1 and RE5. The main items of factor 3 with highest loadings are E5 and E2. Similarly the key items on component 4 are A1 and A4. The main items on components 5 are F1 and RS1.

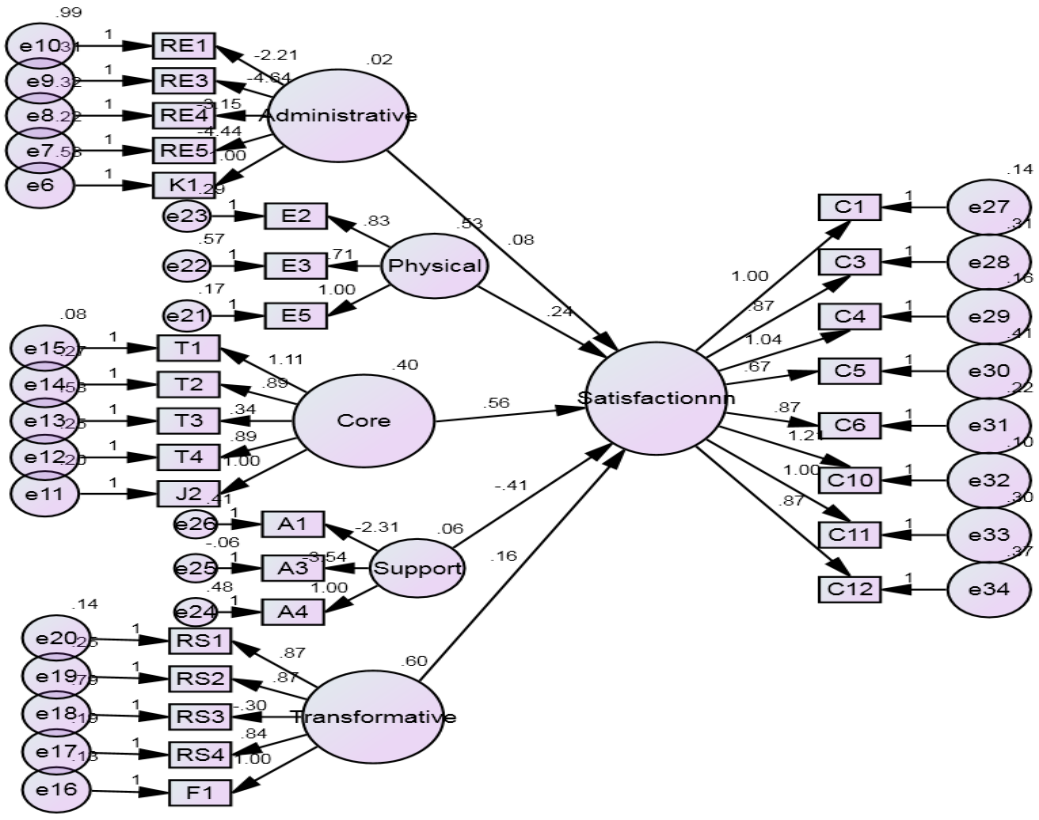
Interpretation of Results:

There are five dimensions and 48 items of the HESQUAL model. The present study used the SPSS version 20 for the principal component analysis of the model. Factor analysis was performed prior to perform the PCA. The correlation matrix of the study revealed the existence of coefficients above 0.3. The KMO and BTS were also fulfilled the recommended value. The PCA publicized the presence of five factors with greater eigenvalue than the suggested value i.e. one. Resultantly, it is decided to keep five dimensions with 21 items for further examination. This decision was also sustained by the results of Parallel Analysis as well.

Hypotheses Testing:

Hypotheses testing were performed with the help of SEM. SEM stand for structural equation modelling.

Structural Equation Modelling (SEM) technique was applied for the testing of hypotheses. There are various indices used for the model fit and certain recommendations are also available for reporting it. Commonly fit indices are chi square and df (degree of freedom), the comparative-fit indices (CFI), (RMSEA), (GFI) and standardised-root-mean square-residual (SRMR). The criterion value of Hu & Bentler (1999) for SRMR is 0.08 showing a good model fit. Similarly the suggested value for RMSEA is 0.06, for GFI, CFI & NFI are .91 and greater than .91 (Kline, 2011, Byre, 2010, Hu & Bentler, 1999).



SEM Indices

55. S.No.	56. Indices	57. Value
58. I	59. Root..mean..square..error..of..approximation	60. 0.05
61. Ii	62. Goodness..of..fit..index	63. 0.93
64. Iii	65. Comparative-fit-indices	66. 0.95
67. Iv	68. Standardised-root-means-square-residual	69. 0.09

Table 7.4 Dimensions of SQ and Students Satisfaction

Dependent/Variable		Independent/Variable	Estimate.	S..E..	C..R..	P
Satisfaction	<---	Core	.562	.044	12.824	***
Satisfaction	<---	Support	-.407	.313	-1.300	.351

Satisfaction	<---	Transformative	.155	.020	7.821	***
Satisfaction	<---	Physical	.235	.026	9.187	***
Satisfaction	<---	Administrative	.085	.111	.763	.445

Table 7.4 shows that when core education quality increase by 1 unit, satisfaction goes up by 0.562. There is negative estimate seen in dimension support facilities. When a support facility increases by one unit, student satisfaction decreases by .407 units. The remaining dimensions administrative quality, physical quality and transformative quality goes up by one unit, satisfaction goes up 0.085, 0.235 and 0.155 units respectively. All the dimensions are significant at .001 levels except administrative quality.

Table 7.5 HESQUAL and Students Satisfaction

Hypotheses	**Variables.**			**Estiimate**	**S/E**	**C/R**	**P**	**Result**
H1	Satisfaction	<---	Administrative	.085	.111	.763	.445	Rejected
H2	Satisfaction	<---	Support	-.407	.313	-1.300	.351	Rejected
H3	Satisfaction	<---	Core	.562	.044	12.824	***	Accepted
H4	Satisfaction	<---	Physical	.235	.026	9.187	***	Accepted
H5	Satisfaction	<---	Transformative	.155	.020	7.821	***	Accepted

CONCLUSION

Table 7.5 revealed the connection between HESQUAL dimensions and customers satisfaction. The dimensions administrative quality (estiimate, 0.085), core education quality (estimate, 0.562), physical (estimate, 0.235) and transformative quality (estimate, 0.155) are statistically significant relationship with students satisfaction. However, support facilities (estimate, -.407) has a negative insignificant association with students' satisfaction. Similarly the hypotheses H3, H4, and H5 are accepted and H1, H2 are not accepted.

Various researchers recommended various factors of service quality that have a strong effect on customer satisfaction. Such as academic aspects (Abdullah, 2005; Muhammad et al. 2018), curriculum

(Krishnamoortthy et al. 2016), tangibility (Parasuramann et al. 1988; Cronin & Taylor, 1992), physical environment quality (Teerovengadum et al. 2016), Reliability (Parasuramaan et all. 1985, Mwiya et all. 2017), Non-academic aspects (Abdullaah, 2005, Muhammad et al. 2018), core education quality (Teerovengadum et all. 2016), empathy (Mwiya et al. 2017), supporting facilities (Liben et all. 2017), Programme quality (Osman et al. 2017), Reputation (Abdullaah, 2005; Muhammad et al. 2018), responsiveness (Parasurammaann et all. 1988), physical facilities (Douglas et al. 2006), access (Abdullaah, 2005; Muhammad et al. 2018), assurance (Parasurraman et al. 1988), administrative quality (Teeroovengaadum et al. 2016).

Libeen et all. (2017) recommended that faculty or lecturer interation and supporting facilities are the key dimensions of students satisfaction. Douglas et al. (2006) suggested that physical-facilities are key determinant of students satisfaction in Malaysian universities. Cayanan (2017) study revealed that dimensions tangiblity, responsiveness and assurance are significantly assocaited with students satisfaction. Similarly, Mwiyaa et all. (2017) recommended that tangibility and reliability have significant and positive effect on students' satisfaction. Farahmandian et al. (2013.) concluded that curriculum factors, academic advising and quality of teaching play a significant role in students' satisfaction. Kara (2016) recommended that teaching-quality and facilities considered the significant variables of students' satisfaction. The study of Khalifa & Mahmoud, (2016) suggested that faculty individualized attention and support staff helpfulness significantly associated variables of students' satisfaction in Syrian higher industry. Krishnamoorthy et al., (2016) found curriculum, competency of staff, infrastructure, academic and teaching techniques are most influential variable of satisfaction in India. The dimension core education-quality is the most powerful dimension of SQ that estimates 0.562 change in level of satisfaction. The findings of the current study also supported by the study of (Osman et all. 2017; Karaa, 2016; Yusoff et al., 2015; Farahmandian et al., 2013; Sojkin et al., 2012; Garcl-a-Aracil, 2009; Navarro, 2005). The results of the study partially supported by the findings of the (Meštrović, 2017; Ali et al., 2016). Interestingly, the conclusion of the present study was not matched with the study of (Tegambwage et al., 2017; Liben et al., 2017; Mwiya et al., 2017; Wilkins & Balakrishnan, 2013; Khan et al., 2011; Douglaas et al., 2006; Palacio et al., 2002).

The core educational quality is composed of curriculum, attitude and behaviour, competence and pedagogy. This dimension is emphasized that lecturer should understand the students' needs and give

individualized attention to them. The faculty members must be well qualified in their area of expertise and have good communication skills. The curriculum should be clearly defining the course objectives and that must be aligned with their future employability of the students.

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