GRADUATE STUDENTS' ASSESSMENT OF EDUCATIONAL SERVICES QUALITY IN SUDAN

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ABSTRACT

This study aims to measure the expectations and perceptions of Postgraduate students towards service quality. This study uses the adapted and revised SERVQUAL conceptual model of service quality in conjunction with the SERVQUAL questionnaire to measure the expectations and perceptions of graduate programs (DBA and MBA programs) students at the School of management Studies, university of Khartoum, Sudan, towards the educational services they receive in their programs. Structured questionnaire was distributed to 300 students chosen at random within each program. a total of 205 completed and usable questionnaires were used in the analysis. The findings indicate that there were a significant negative difference gaps between the students' perceptions and expectations for the whole score of the service quality. The detailed findings and managerial implications of the study are discussed.

Keywords: *service quality, higher education, expectations, satisfaction, gap analysis, SERVQUAL, Sudan*

INTRODUCTION:

The various and dynamic changes in current marketplace require that businesses develop special competencies for rapid and flexible reactions in order to stay alive and develop their competitive capabilities in the market they serve. One of the areas that are attracting growing scientific interest is higher education. The Master of Business Administration (MBA) program is growing fast worldwide and the competition among the universities that offer such a degree is also getting very tough. Various Western universities started to engage themselves in the off-campus education by establishing their own branches in a number of countries in different areas especially in the Arab gulf countries. Presently, universities need to differentiate themselves from their rivals because of the emergence of a lot of degree choices at the disposal of prospective students, a matter that underlines the importance of the role of marketing in students' recruitment. The problem is even getting more complex because numerous higher education institutions and some business schools have witnessed declines in their enrolments, further emphasizing the importance of marketing for student recruitment (Ivy, 2008)

Most Business Colleges and Schools have exerted tremendous marketing efforts to modernize their programs and tailor them to the market needs, what is left for them to do is to sell their modified products to the industry and the other customers. Almost all organizations offering MBA degrees necessarily have management expertise and most have marketing expertise, since these subjects are taught on their courses. However, unless business schools succeed in improving their marketing, they will stand accused of not practicing what they preach (Nicholls et. al., 1995).

LITERATURE REVIEW

SERVICE QUALITY IN HIGHER EDUCATION

The definition of the term 'quality of education' is very controversial. Perceptions of service quality often vary depending on the expectations, motives, needs and experience of service's individual customer. . Karapetrovic and Willborn (1997) defined quality of education as 'the ability of student's knowledge to satisfy stated requirements' – those requirements being set by employers, accrediting bodies, professional societies, etc. Of course the educational programs that the university offers to different types of customers recall wider definition for the term. What further complicates the issue of quality in education is the definition of the 'customer'. While the students of a higher education institution are perhaps the most obvious customers, many other stakeholders also function as customers for the varying areas of operations (Quinn

et.al., 2009). No doubt the student of higher education is the most important customer to evaluate the quality of any program especially at the MBA and DBA levels. Of course the employers opinion and the other related fiancées is also valuable in judging the quality of a higher education program, but still the student is more able to do that because he/she is the only one who experiences the ' transformation processes'. This situation will enable the student to adopt a 'system approach' for assessing the effectiveness of the program. Even the accrediting bodies rest on students and graduates to assess the quality of any such programs.

The measures of education quality depend mainly on students' satisfaction in evaluating a higher education. Athiyaman (1997) asserts that Student satisfaction can be generally defined as "a favourable cognitive state resulting from a positive evaluation of a student's educational experience". Satisfaction is perceived when the service delivered matches well with students' expectations (Szymanski and Henard, 2001). Student satisfaction is always an enduring attitude developed through repeated experiences with educational environment. Student satisfaction measures can be developed by incorporating a number of variables in the educational environment such as: the quality of teaching, physical facilities, faculty credentials, program reputation, academic advising, career counselling and even the interaction between students and the College personnel (Lee & Anantharaman, 2013).

Business Schools and Colleges have to exert a lot of effort to market their educational programs. The educational offerings are deemed as services that require different marketing strategies to attract customers. Edgett and Parkinson (1993) pointed out that it has been generally accepted that the marketing of services is sufficiently different from the marketing of physical products to deserve separate treatment. Generally, services possesses four characteristics that differentiate them from tangible products, these characteristics are: intangibility, inseparability, perishability and heterogeneity. It is more difficult for a consumer to evaluate the quality of service compared to evaluating the quality of a commodity because the customer can touch or taste the tangible product whereas this is not possible in case of evaluating a service. A service cannot be separated from the service provider; production and consumption take place simultaneously. Services are perishable, not storable; an empty seat in a left flight cannot be sold. Services are difficult to standardize even if they are equipment-based; this makes it difficult to control quality. Higher education programs are typically services that are people-based, that is to say the staff is a major part of the product. To solve the problem of measuring a service, different scales for measuring service quality have been developed and SERVQUAL is one of the favourites. Some researchers have believed that the concept of quality prevalent in the goods sector is not extendable to the services sector. The SERVQUAL has been one of the popular measures for assessing the quality of educational programs if not the most popular specially in evaluating the quality the MBA programs (Parasuraman et al. 1988).

Rigotti and Pitt (1992) conducted a study to test the applicability of the SERVQUAL instrument in measuring the perceptions of the quality of the services provided to its clients by a graduate school of business. The study found that the reliability and validity of the measure was acceptable, yet the measure needs some modifications. The study however, questioned the existence of quality gap in spite of the fact that management has the idea of the customers' quality requirements. It is argued that the existence of the service quality gap was not due to the lack of management knowledge of what the customers require. The authors added that Parasuraman et. al. (1985) original of the service quality model, Provides the answers. Management might know what customers want, but might not be setting standards that match these expectations. Alternatively, these standards may be in place, but what gets delivered by a school does not match these specifications. Expectations might be affected by the external communications of the school, which do not match what actually gets delivered. The other way of viewing the problem might be to say that the overall gap of 0.75, found in the study at hand, is not large; it may be small or large, relative to other rivals schools. The score may become an index by which progress against competitors can be assessed. It is concluded that a regular assessment of the gap will also allow the school to track the progress of its provision of service quality over time and to develop strategies working to fill the gaps on the dimensions that are causing the problems.

Peter (1992) explained the need for a valid and reliable instrument for course managers to evaluate their product through customer feedback as part of the system of quality assurance, and examines the justification for viewing higher education as a service provision with the student body as the customer. He adopted a modified version of the SERVQUAL instrument. The analysis of the results revealed higher average perception scores than expectation scores on every dimension except "tangibles". However, analysis also revealed rather lower reliability coefficients than those achieved by Parasuraman or later replication studies. The study found that factor analysis did not support the original five SERVQUAL dimensions in line with other replication studies. The author concluded that the elements of service quality should be revisited and a higher education-specific instrument for course managers should be constructed.

Quinn et.al., (2009) stated that The SERVQUAL improvement effort at the University of Houston showed that the instrument could be used to provide useful data on service gaps for improvement measures. They argued that when using SERVQUAL or similar instruments, it is important to note that simply reducing service gaps does not necessarily indicate higher quality service. If expectations are higher than perceptions, the gap can also be reduced if the customer's expectations are lowered, even if service quality is perceived at the same level (Anderson, 1995). It was observed at the University of Houston study that the longer a student was enrolled, the lower the student's expectations (Anderson, 1995). Abili et al.(2012) conducted a study with the purpose of evaluating the quality gap of university services in one of the famous universities in Iran, a developing country, by using a modified SERVQUAL instrument. The results show in all of

the five SERVQUAL dimensions, there is a negative service quality gap, which means students' expectations are greater than their perceptions and, therefore, they are dissatisfied with the poor quality of services provided to them. Thus, they conclude that improvements are needed in related dimensions.

Govender et. Al., (2012) conducted a study to assess international students' expectations and perceptions of service quality. A census was conducted among 215 international students in South Africa, using the SERVQUAL model as the measuring instrument. An analysis of variance was conducted to test for significant differences between three biographical variables, faculty of study, qualification enrolled for and region of residence versus the five dimensions of service quality, on both expectations and perceptions. The only significant difference was revealed in: the empathy scores between faculties at the 95% level (p<0.05), expectation relating to the assurance and empathy dimensions between qualifications at the 95% level (p<0.05), and also a significant difference in mean scores for empathy-perceptions between regions at the 95% level (p<0.05).

Green (2014) measured- adopting SERVQUAL model- the expectations and perceptions of students and staff in order to gauge the service quality in a higher education institution. All five dimensions - physical and academic services, commitment to serve, human factors, visual factors, and general attitude - revealed that both students and staff are dissatisfied with the service quality received at the Durban University Technology. The findings reveal that, on average, customers had high expectations in tangibles, reliability and assurance dimensions and their highest perceptions were found in the assurance dimension. Yooyen, et al (2011) in an earlier similar study found that reliability and responsiveness held the greatest gap scores, indicating disparity between what students expect and their perceived experiences. The factor analysis also revealed that tangible dimensions are important for universities because they often form the first impression of students about the services that the university offer.

The SERVQUAL, as a tool for measuring service quality of education based on the gap between expectations and performance, has been criticized by Churchill and Peter (1993) when they claimed that the construct is not well supported by theoretical/empirical evidence and that the scale failed to gain discriminant validity from its components. Others like Cronin and Taylor (1992) argued that SERVPERF which is based on performance only, is superior to the SERVQUAL in measuring service quality (Ibrahim et al., 2013). However, Bayraktaroglu and Atrek (2010) after conducting a study to explore the fitness of both scales in measuring the quality of higher education services, concluded that both of service measurement scales have a good model fit and both of them can be employed in measuring the quality of higher education services.

STATEMENT OF THE PROBLEM

During the last century most of the service quality studies have focused on the general nature of the service quality and its dimensions. The need for better conceptualization of service quality led Parasuraman et al (1988) to conduct a series of studies mid-1980s, focussing on the concept and measurement of service quality using SERVQUAL with the objectives of obtaining an overall measure of quality, or excellence, based on customer expectations. Researchers applied the SERVQUAL instrument for different types of service organizations. The literature of this study revealed that several attempts have been made to apply SERVQUAL in the academic institutions. Most of those studies have been conducted in Western setting while very rare studies have been conducted in developing countries on the same issue. More studies in developing countries will be useful in validating the SERVQUAL as global measure for service quality.

THE OBJECTIVES OF THE STUDY

A Master Programme in Business Administration is being offered by the Department of Business Administration, School of Management Studies at the University of Khartoum in Sudan since 2000. The program was signed to serve and satisfy the needs of varying groups in academia, professional circles, service, public and private sectors both at local regional perspectives. The programme attracted considerable population and were operating successfully. However the pressure for the MBA was so much strong and lucrative to extent that a number of similar programmes were established in other higher education institutions in Sudan. Unfortunately, the focus of the School on satisfying local demand led her to lose great opportunities in the face some of western university crusading the Arab region and the extent of the distance learning physical existence of western university which was not the case at that time. This research aims at investigate following:

(1) Measuring the quality of the offered services in higher education programs at the School of Management Studies.

2) To determine important factors that affect higher education service quality evaluation by students

(3) Offering suggestions to develop service quality to improve the performance of the higher education programs.

METHOD:
RESEARCH DESIGN:

This study uses the adapted and revised SERVQUAL conceptual model of service quality in conjunction with the SERVQUAL questionnaire to measure the expectation and perception of graduate programs students at the School of

management Studies, university of Khartoum, Sudan (Doctorate in Business Administration (DBA) & Master of Business Administration (MBA)) towards the educational services they receive in their programs.

The SERVQUAL instrument was designed to measure service quality using both the gap concept and service quality dimensions. The original SERVQUAL contains 22 pairs of the Likert scale on five service quality dimensions and are defined as follows:

1. **Tangibility:** The appearance of physical facilities, equipment, appearance of personnel, and communication materials.
2. **Reliability:** The ability to perform the promised service dependably and accurately.
3. **Responsiveness:** The willingness to help customers and provide prompt service.
4. **Assurance:** The knowledge and courtesy of employees and their ability to inspire trust and confidence.
5. **Empathy:** The caring, and individualized attention the firm provides to its customers.

The questionnaire was composed of two parts and used 5 points on the Likert scale (strongly disagree = 1 to strongly agree = 5). **The first part,** the perception and expectation component, (quality gap) is composed of 29 paired items on service quality. For the purpose of this study, 7 questions were added to the original SERVQUAL scale (22 pairs). **The second part** of the questionnaire covers the student's background data, such as sex, age, level of education achieved, habitat, living or housing, motivation to join the program, university that awarded his or her undergraduate or postgraduate degree, reason of choosing Khartoum University's program, tuition fees, preferred class schedule and the invited suggestions to improve the service.

There were 300 questionnaires in total that have been distributed to the randomly chosen students within each program (DBA and MBA). The response rate was satisfactory as it reached 68% (205 valid responses). The presence of the surveyed students in the premises of the school facilitated the follow up, collection and administration of the survey.

RESPONDENT'S PROFILE:

Table (1) shows there are 111 (51.6%) males and 104 (48.4%) females. This shows that percentage of males who participated in the students' survey is higher than the percentage of females. The participated students ages range from 20 to 25 years (22.8%), 26 to 35 years (46%), 36 to 45 years (23.7%), f and only (7.4%) from students were more than 45 years old. The majority of the students who filled up the questionnaires (99, 46%) are at semester one of their MBA program, followed by MBA-semester three students (74, 34.4%), whereas Doctorate students accounted for 42 (19.5%).

The majority of the students are singles, 133(61.9%), while the married are 82(38.1%). The students who joined this program come from different parts of the country, with very few foreigners. Most of the students are from Khartoum (the capital state) with 86 students (40%), whereas 54(25.1%) came from the Northern state, followed by students from River Nile, 23(10.7%) and the rest of the sampled students are from Eastern Sudan, Western Sudan, Al Jazeera and White Nile states.

Three cities compose the metropolitan Khartoum, Khartoum city, Bahri and Omdurman. The majority of our respondents live in Khartoum city ((89(41.4%), 68 of them ((31(6%) live in Bahri and those living in Omdurman are ((58 (27%)

Regarding motivation to join MBA or DBA program, most of the participants (146 (67.9%)) joined the program for self-development, while (37 (17.2%)) joined for career improvement and (31 (14.4%)) joined the improve their financial situation. Only one participant (0.5%) joined the program to elevate social status.

The majority of participating students (142(66%)) obtained their undergraduate degree from the university of Khartoum (the same university of their current graduate program) ,whereas, the rest of the students (67 (31.2%)) got their undergraduate degree from other universities inside the Sudan and (6 (2.8%)) outside the country. Some students have a higher diploma degree from the University of Khartoum 45(20.9%).

Table (1): A: Respondents' Profile

Respondent's Profile			
		Frequency	**%**
Gender	Male	111	51.6
	Female	104	48.4
	Total	**215**	**100.0**
Age	20-25	49	22.8

	26-35	99	46.0
	36-45	51	23.7
	more than 45	16	7.4
	Total	**215**	**100.0**
Education Level	MBA-semester one*	99	46.0
	MBA-semester three*	74	34.4
	Doctorate	42	19.5
	Total	**215**	**100.0**
Marital Status	Single	133	61.9
	Married	82	38.1
	Total	**215**	**100.0**
Home Province	Khartoum	86	40.0
	River Nile	23	10.7
	North	54	25.1
	Eastern Sudan	5	2.3
	Western Sudan	16	7.4
	Al Jazeera	22	10.2
	White Nile	9	4.2
	Total	**215**	**100.0**
Living Quarters in Khartoum	Khartoum	89	41.4
	Bahri	68	31.6
	Omdurman	58	27.0
	Total	**215**	**100.0**

*The MBA and the DBA programs at the school are odd-semester programs.
Although the programs are semester-based, the admission is an annual event.

On the question of the reasons behind choosing the evaluated programs, most of the students (97 (45.1%)) have chosen the program because the University of Khartoum (where the programs reside) is the oldest in the country, while (70 (32.6%)) have chosen the program for their good reputation and (32 (14.9%)) from students chose the programs because they are the first programs of their kind in the field in Sudan. It happened that the School of Management Studies (SMS), pioneered both the MBA and DBA programs in the country.

Most of the students were satisfied with the tuition fees relative to the level of service quality (148 (68.8%)). While (67(31.2%)) were not satisfied with the tuition fees. The majority of the surveyed students (193 (89.8%)) preferred class times at 5 pm which is the time for classes now.

Table (1): B: Respondent's Views on The Programs

Measure		**Frequency**	**%**
motivation to join program	Financial	31	14.4
	Social	1	.5
	Career	37	17.2
	Self-development	146	67.9
	Total	**215**	**100.0**

University (B.sc.)	Khartoum University	142	66.0
	Other university inside Sudan	67	31.2
	Other university outside Sudan	6	2.8
	Total	**215**	**100.0**
university (higher diploma)	Khartoum University	45	20.9
	Other university inside Sudan	9	4.2
	Other university outside Sudan	2	.9
	Not applicable	159	74.0
	Total	**215**	**100.0**
Choice of the program	It is the first program in the field in Sudan	32	14.9
	The good reputation of the program	70	32.6
	University of Khartoum, is the oldest and most prestigious	97	45.1
	Because the tuition fees of the program are suitable	1	.5
	Other	15	7.0
	Total	**215**	**100.0**
Fairness of Tuition Fees	Suitable for the level of service quality	45	20.9
	to some extent	103	47.9
	it is not suitable for the level of service quality	67	31.2
	Total	**215**	**100.0**
Preferred Class Time	5:00 pm	193	89.8
	4:00 pm	17	7.9
	3:00 pm	3	1.4
	Morning	2	.9
	Total	**215**	**100.0**
Suggestions for Improvement	Faculty	24	11.2
	lecture rooms	28	13.0
	References & books	6	2.8
	Scientific material	45	20.9
	Employees & workers/staff	1	.5
	No Comment	17	7.9
	Total	**215**	**100.0**

Source: Prepared for this study by the authors

Finally, the suggestions for improving the current levels of services produced different responses. However, (45 (20.9%)) of the students proposed improvements in the academic material, (28 (13%)) suggested improvements of lecture rooms. The faculty, staff and reference materials received the least suggestions for improvements.

Reliability Analysis of the Instrument:

Testing goodness of data is testing the reliability and validity of the used measures. According to Sekaran & Bougie (2010), reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to assess the goodness of a measure. That means findings would be the same if the research were to be repeated at a later date, or with a different sample of subjects. In other words, the reliability of a measure indicates the extent to which the measure is without bias (error free) and hence offers consistent measurement across the various items in the instrument.

This study used the most popular test of inter-item consistency reliability that is the Cronbach's coefficient alpha which is used in multipoint scaled items (Sekaran & Bougie, 2010).

Reliabilities less than 0.6 are considered poor, those in the 0.7 range, acceptable, and those over 0.8 good. The closer the reliability coefficient gets to 1.0, the better. Overall the generally agreed upon lower limit for Cronbach's alpha is 0.70.

Table (2): Scale Reliability Test

Variables	Cronbach's Alpha	No. of Items
Expectations		
Tangibility	.88	7
Reliability	.92	7
Responsiveness	.91	6
Assurance	.87	4
Empathy	.89	5
Total reliability of the students' expectation	.97	
Perceptions		
Tangibility	.87	7
Reliability	.89	7
Responsiveness	.89	6
Assurance	.84	4
Empathy	.90	5
Total reliability of the students' perception	.97	

Source: Prepared for this study by the authors

From Table (2) below each of the five expectations and perceptions drivers (namely; tangibility, reliability, responsiveness, assurance & empathy) scales exceeded the cutoff point of 0.70 standard suggested by Sekaran & Bougie (2010) revealing an acceptable levels of reliability.

As exhibited in Table (2), results of Cronbach's Alpha test for the five drivers of expectations showed the values of (88%) for tangibility, (92%) for reliability, (91%) for responsiveness, (87%) for assurance and (89%) for empathy. On the other hand, Cronbach-Alpha value for the five drivers of perceptions showed the values of (87%) for tangibility, (89%) for reliability, (89%) for responsiveness, (84%) for assurance and (90%) for empathy. However, all the resulting scales are sufficiently reliable, with overall alpha for expectations and perceptions scale of 97%. **Difference between**

PERCEPTIONS AND EXPECTATIONS (GAP ANALYSIS):

In general, student expectation exceeded the perceived level of service shown by the perception scores. This resulted in a negative gap score (Perception – Expectation). According [16] it is common for student's expectation to exceed the actual service perceived and this signifies that there is always need for improvement.

Table (3):

Summary of Means of MBA Student Perceptions, Expectations and Gap Scores

Dimension	Perception	Expectatio	Gap(p-e)	Rank	T
Tangablity1(availability of modern equipment)	3.20	4.01	(.81)	4	6.65***
Tangablity2 (facilities available)	2.99	3.89	(.90)	3	7.11***
Tangablity3 (good appearance of teachers and staff)	3.83	3.90	(.06)	7	.64
Tangablity4(courses gain new skills)	3.78	4.40	(.62)	6	6.29***
Tangablity5(courses & disciplines characterized modernity & linked to the practical side)	3.49	4.23	(.74)	5	6.46***
Tangablity6 (availability of prayer place and break for students)	2.58	4.01	(1.42)	1	10.51***
Tangablity7 (availability of support services and recruitment consultancy)	2.37	3.36	(.99)	2	7.43***

Overall gap	**3.18**	**3.97**	**(.80)**		**9.00*****
Reliablity1(course plan clear and comprehensive)	3.53	4.13	(.60)	6	4.99***
Reliablity2 (staff capabilities and skills)	3.52	4.25	(.73)	2	7.31***
Reliablity3(service delivery at the specified time)	3.65	4.26	(.61)	5	5.26***
Reliablity4(provide service accurately and without mistakes)	3.21	3.88	(.66)	4	5.79***
Reliablity5(the appropriate number of teachers and staff)	3.58	4.11	(.52)	7	4.75***
Reliablity6(Administration is keen on solving the various problems of	2.81	3.90	(1.08)	1	8.49***
Reliablity7(keep records and accurate files of students)	3.37	4.04	(.67)	3	6.36***
Overall gap	**3.38**	**4.08**	**(.69)**		**7.80*****
Responsiness1(administration is speed in service delivery)	3.02	3.89	(.87)	3	7.41***
Responsiness2(Immediate response to the problems of students)	2.59	3.72	(1.13)	1	8.98***
Responsiness3(teachers & staff are permanent readiness to cooperate with the students to solve problems)	3.07	3.95	(.88)	2	7.35***
Responsiness4(teachers &staff are not busy to meet students' needs)	3.16	3.86	(.71)	4	6.43***
Responsiness5(administration inform students about the date of service before enough time)	3.61	4.05	(.45)	6	3.80***
Responsiness6(administration inform students about changes in academic regulations and procedures on an ongoing basis)	3.29	3.99	(.70)	5	5.66***
Overall average gap score for Responsiveness	**3.12**	**3.91**	**(.79)**		**8.26*****
Assurance1(teachers and staff behaviour enhances the feeling of safety and confidence)	3.59	4.06	(.47)	4	4.43***
Assurance2(Knowledge of the teachers and staff with adequate information and good delivery)	3.55	4.29	(.75)	1	7.23***
Assurance3(administration dealing with student information confidentiality)	3.59	4.16	(.57)	2	5.98***
Assurance4(provides a means of security equipment public safety	3.38	3.92	(.54)	3	5.03***
Overall average gap score for Assurance	**3.53**	**4.11**	**(.58)**		**6.81*****
Empathy1(tact& ethics)	3.57	4.01	(.43)	5	3.76***
Empathy2(Put the student interest at the forefront of the management	3.03	3.92	(.88)	1	7.30***
Empathy3(friendship)	3.43	3.94	(.51)	4	4.52***
Empathy4(respect for guests)	3.17	3.77	(.60)	3	5.34***
Empathy5(celebrations and trips)	2.82	3.46	(.64)	2	5.16***
Overall average gap score for Empathy	**3.21**	**3.82**	**(.61)**		**6.22*****
Grand gap	**3.27**	**3.98**	**(.71)**		**8.68*****

Notes: Significant level = *p ≤ 0.05 ** p ≤ 0.01 ***p ≤ 0.001.*

MBA STUDENTS:

For the MBA students, the item with the highest difference between perception and expectation in tangibility was **tangibility6** (an availability of prayer place and break for students) with largest gap score (1.422) and with highly significant t-value (10.507).

Whereas, the item with the highest difference between perception and expectation in reliability was **reliability6** (Administration is keen on solving the various problems of the students) with largest gap score (1.082) and with highly significant t-value (8.493). The item with the highest difference between perception and expectation in responsiveness was **responsivness2** (Immediate response to the problems of students) with largest gap score (1.130) and with highly significant t-value (8.979). The item with the highest difference between perception and expectation in assurance was **assurance2** (Knowledge of the teachers and staff with adequate information and good delivery) with largest gap score (.746) and with highly significant t-value (7.227).

Finally, the item with the highest difference between perception and expectation in empathy was **empathy2** (Put the student interest at the forefront of the management agenda) with largest gap score (.884) and with highly significant T-value (7.301) (.000).

On the other hand, the largest gap score among the five dimensions of the SERVQUAL was **tangibility** with gap score (.796) and with highly significant T-value (9.000) (.000), followed by **responsiveness** with gap score (.789) and with highly significant T-value (8.258) (.000), then **reliability** with gap score (.693) and with highly significant T-value (7.802) (.000), after that **empathy** with gap score (.610) and with highly significant T-value (6.221) (.000) and finally **assurance** with gap score (.584) and with highly significant T-value (6.808) (.000).

Table 3 also shows the overall average gap score for all five dimensions with gap score (.708) and with highly significant T-value (8.681) (.000). This mean that the student's expectation exceed the student's perception with negative gap (Perception- Expectation= -.708).

DBA STUDENTS:

For the DBA students, the item with the highest difference between perception and expectation in tangibility was tangibility2 (facilities available (facilities, halls, waiting areas) in this school suitable and attractive) with largest gap score (.905) and with highly significant T-value (4.540) (.000). Whereas, the item with the highest difference between perception and expectation in reliability was reliability1 (Having a comprehensive & clear plan of teaching which helps students of innovation and creativity) with largest gap score (.952) and with highly significant T-value (4.920) (.000). While, the item with the highest difference between perception and expectation in responsiveness was responsivness5 (students inform the dates of service delivery and finished (lectures and seminars)) with largest gap score (.833) and with highly significant T-value (3.859). The items with the highest difference between perception and expectation in assurance were assurance2 & assurance3 (Knowledge of the teachers and staff with adequate information and good delivery) and (Administration deals with student's information confidentially) with equal largest gap score (.667) and with highly significant T-values (3.613) and (3.732) respectively.

Finally, the items with the highest difference between perception and expectation in empathy were empathy2 & empathy4 (Put the student interest at the forefront of the management agenda) & (respect guests and visitors and receive them with open arms) with equal largest gap score (.476) and with significant t-value (2.274) and (2.506) respectively.

Table (4):
Summary of Means of DBA Student Perceptions, Expectations and Gap Scores

Dimension	Perception	Expectation	Gap(p-e)	Rank	T
Tangiblity1	3.55	4.31	(.76)	3	4.33***
Tangiblity2	3.48	4.38	(.91)	1	4.54***
Tangiblity3	3.88	4.10	(.21)	7	1.11
Tangiblity4	3.88	4.33	(.45)	6	2.35**
Tangiblity5	3.74	4.36	(.62)	4	3.22***
Tangiblity6	3.79	4.33	(.55)	5	2.47**
Tangiblity7	2.76	3.57	(.81)	2	3.33***
Overall gap	**3.58**	**4.20**	**(.62)**		**4.16***
Reliablity1	3.45	4.40	(.95)	1	4.92***
Reliablity2	3.71	4.48	(.76)	2	4.17***
Reliablity3	3.76	4.38	(.62)	4	3.17***
Reliablity4	3.43	4.02	(.60)	5	2.71***
Reliablity5	3.52	4.29	(.76)	2	3.92***
Reliablity6	3.50	4.26	(.76)	2	4.44***
Reliablity7	3.67	4.36	(.69)	3	3.67***
Overall gap	**3.58**	**4.31**	**(.74)**		**5.06***

Responsiness1	3.45	4.19	(.74)	2	3.75***
Responsiness2	3.19	3.88	(.69)	3	3.23***
Responsiness3	3.48	3.93	(.45)	5	1.99**
Responsiness4	3.43	3.88	(.45)	5	1.99**
Responsiness5	3.55	4.38	(.83)	1	3.86***
Responsiness6	3.57	4.12	(.55)	4	2.53**
Overall gaps	**3.44**	**4.06**	**(.62)**		**3.54***
Assurance1	3.60	4.14	(.55)	2	2.52***
Assurance2	3.69	4.36	(.67)	1	3.61**
Assurance3	3.81	4.48	(.67)	1	3.73***
Assurance4	3.60	3.98	(.38)	3	1.76*
Overall gap	**3.67**	**4.24**	**(.57)**		**3.53**
Empathy1	4.00	4.33	(.33)	3	1.83*
Empathy2	3.62	4.10	(.47)	1	2.27**
Empathy3	3.69	3.93	(.24)	4	.95
Empathy4	3.57	4.05	(.48)	1	2.51**
Empathy5	3.05	3.50	(.45)	2	2.12**
Overall gap	**3.59**	**3.98**	**(.40)**		**2.31***
Grand gap	**3.57**	**4.16**	**(.59)**		**4.24***

*Notes: Significant level = *p ≤ 0.05 ** p ≤ 0.01 *** p ≤0.001.*

On the other hand, the largest gap score among the five dimensions of the SERVQUAL was reliability with gap score (.735) and with highly significant t- value (.058) followed by responsiveness with gap score (.619) and with highly significant t-value (3.535), then tangibility with gap score (.616) and with highly significant T-value (4.161), after that assurance with gap score (.565) and with significant t-value (3.530) and finally empathy with gap score (.395) and with highly significant t-value (2.310).

Table 4 also shows the overall average gap score for all five dimensions with gap score (.586) and with highly significant T-value (4.237). This mean that the student's expectation exceed the student's perception with negative gap (Perception-Expectation= -.586).

Finally, Table (5) summarizes the results of the MBA and DBA students mean perceptions, expectations and gaps together with the rankings of the magnitude of those gaps. The last column shows the t – statistic associated with each gap.

The highest difference in the MBA sample is in Tangibility dimension while the least difference is in the assurance dimension, although all gaps are highly statistically significant. On the other hand, the gap in reliability dimension takes the first place in DBA students sample while empathy gap comes last.

These results are in direct contrast with the results of a study by Mansour and Diab (2014) on an undergraduate students sample in Sudan, where the gap between perceptions and expectations was highest for the empathy dimension and lowest for tangibility dimension. The maturity of the graduate programs students play a role in these findings. Younger students at the undergraduate level need and expect a lot of attention and individualized care.

Table (5):

Summary of means of MBA and DBA student perceptions, expectations and gap scores

Dimension	Perceptions	Expectations	Gap(p-e)	Rank	T
MBA					

Overall gap for Tangibility	3.18	3.97	(.80)	1	9.00***
Overall gap for Reliability	3.38	4.08	(.69)	3	7.80***
Overall gap for Responsiveness	3.12	3.91	(.79)	2	8.26***
Overall gap for Assurance	3.53	4.11	(.58)	5	6.81***
Overall gap for Empathy	3.21	3.82	(.61)	4	6.22***
Overall gap for all five dimensions	3.27	3.98	(.71)		8.68***
DBA					
Overall gap for Tangibility	3.58	4.20	(.62)	3	4.16***
Overall gap for Reliability	3.58	4.3	(.74)	1	5.06***
Overall gap for Responsiveness	3.44	4.06	(.62)	2	3.54***
Overall gap for Assurance	3.67	4.24	(.57)	4	3.53**
Overall gap for Empathy	3.59	3.98	(.40)	5	2.31***
Overall gap for all five dimensions	3.57	4.16	(.59)		4.24***

*Notes: Significant level = *$p \leq 0.05$ ** $p \leq 0.01$ *** $p \leq 0.001$.*

Source: Prepared for this study by the authors

Conclusion:

This study aimed to measure the quality gap of the graduate programs (DBA and MBA) services in the School of Management Studies (SMS) at the University of Khartoum, by using a modified SERVQUAL instrument. The results showed a negative service quality gap in all of the five SERVQUAL dimensions for both the MBA and the DBA programs. This means students' expectations are greater than their perception and, therefore, they are not satisfied with the quality of services provided to them. However, the MBA students were found to be less satisfied (with a significant negative overall gap of .708) than the DBAs (with a significant negative overall gap of = .586). Thus, improvements are needed in related dimensions as the greater the negative gap, the lower the level of satisfaction as students expectations were not met.

The findings revealed that the biggest gap between students' expectations and perceptions was in the Reliability dimension (.735) for the DBAs and in the Tangibility dimension for the MBAs (.796). This may imply that the school administration needs to pay greater attention to improve its ability to

perform the promised service dependably specially for the DBAs and accurately and the appearance of its physical facilities, equipment, appearance of personnel, and communication materials for the MBAs .Whereas, the smallest gap was in the Empathy dimension for the DBAs (.395) and in the Assurance dimension for the MBAs (.584). A little effort for improving these areas may possibly increase the satisfaction of the graduate students.

The study findings provide the school administration with empirical insights on the gaps in the service quality. By knowing which of their service quality dimension should receive the most attention in order to gain competitive advantage. Increased competition in internal and external higher education markets, makes quality a key factor for every institution in achieving a competitive position. An improvement of service quality will help them to survive in the competitive marketplace.

One of the limitations of this study is that the sample was taken from students of the school of management studies, therefore does not represent other colleges of the university or other universities in Sudan. Future studies that include the university colleges and other university will be a good addition.

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