Expected and Perceived Service Quality of the Tertiary Level Students of University of Worcester

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Abstract: *Education industry falls in the genre of service industry, because of its characteristics. So it is important to understand how customers evaluate the quality of education service. Customers' satisfaction depend on service quality and organisations' future reputation depend on customers satisfaction, The service providers also need to understand where the experienced service has failed to meet the expectation of the customers, so that they can design the service process to minimize the gap. To understand this phenomenon a case study of University of Worcester has been presented here. As a service provider organization, University of Worcester has to deal with students of different countries, who have different service requirements and different reference bases to evaluate the education service. The gap between the expected and the perceived overall education service of University of Worcester has been explored in this study. This gap is analyzed by taking GAP model into account, which has been measured in the five dimensions of SERVQUAL scale. It is found that, only in terms of 'responsiveness' dimension, the perceived service of University of Worcester could not match the expectation of the students. But this gap is very insignificant. On the other hand the perceived service is higher in terms of all other dimensions, which are- tangible, reliability, assurance and empathy. The only significant gaps lay in 'Tangible' and 'Assurance' dimensions. This finding may be helpful to understand what type of information should be conveyed to what type students and how to customize the marketing activities to the students of different countries.*

Keywords: *service industry, education sector, service quality, perceived service quality, expected service quality.*

1. Introduction

Chen and Lee (2006) have taken education sector, especially university education as a service sector. Like other service sectors, customer satisfaction is the indicator of future recommendation of educational institutes as well as future profit (Fornell 1992; Reichheld and Sasser 1990, Chan*et al*. 2003 as cited by Mai 2005). This can be said because, in general, service quality promotes customer satisfaction, stimulates intention to return, and encourages recommendations (Nadiri and Hussain 2005 as cited by Nadiri *et al* 2009). Students are the main customer of higher education among all the

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stakeholders like- parents, government, future employer etc. (Quinn *et al* 2009), so it is important to understand how customers evaluate services, so that the university can shape their goals and strategy according to it.

Customer satisfaction, service quality, customer value, customer loyalty and customer profitability are interrelated (Grönroos 1982, Parasuraman *et al* 1985, Sewell and Brown 1990, Heskett *et al* 1997, Andson and Mittal 2000 as cited by Negi 2009). Different researchers have defined service quality in different ways. Hoffman and Bateson (2006) have indicated service quality as an attitude that is formed after a through evaluation of a firm's performance over a long period of time. Palmer (2005) has cited that, Quality is a function of customer satisfaction (Gwynne *et al* 1999, Parasuraman *et al* 1985, Cronin and Taylor 1992 etc, cited by Plamer 2005). In the 'American marketing association' journal, Grewal *et al* (2010) have mentioned that, though most of the marketing researches on service quality are short term, but they can be the basis of long term research and have the capability to capture the change in customer expectation. They have used ASCI (American Customer Satisfaction Index) to measure customer satisfaction.

This study has been conducted on the students of University of Worcester, the 85th ranked university of UK in 2012 (www.thecompleteuniversityguide.co.uk). This university has a diversities group of students in terms of nationalities, gender and age (www.thecompleteuniversityguide.co.uk/worcester). When students get admitted in a university they have mental picture of all the aspects of the university. Eventually that perception change trough experience. This research aims to find out the difference between this perceived service quality and the experienced service quality of University of Worcester

There are two known approaches to assess the education quality: mechanistic and humanistic. The mechanistic approach is conducted by experts and agencies through 'research assessment exercise' or 'quality assurance assessment (QAA). On the other hand humanistic approach focuses on the view of students (Mai 2005). In the QAA audit of University of Worcester in 2011, issues like- employability, student services, the reason to choose University of Worcester etc. were discussed with the students (Briefing Paper 2010). But aspects of student satisfaction were not discussed.

In terms of humanist approach, several researchers like- Spreng and Mackoy (1996) and Shemwell *et al* (1998), have emphasised on the importance of service quality and customer satisfaction (cited by Saravanan and Rao 2007). According to Abdullah (2006) quality improvement programme should address the overall educational experience which includes academic aspects, physical facilities and multitude of support and advisory services.

This particular research is a case study, which is focused on the customers' perspective of the education quality of University of Worcester in terms of overall educational experience. The whole framework has been formed to find whether there is any difference between the expected and the perceived service quality of the Worcester University.

2. Objective

The broad objective is to find out whether there is any gap exists between expected and perceived service quality of University of Worcester. In order to find out the gap, first, the dimensions needed to be defined upon which these two types of qualities will be calculated. Secondly, score of the expected service quality and perceived service quality will be compared to see if there is any gap.

3. Literature review

3.1 Service

As per the definition of service by Woodruffe (1995), there are four different characteristics those distinguish service from common product- 1) intangibility, 2) inseparability, 3) heterogeneous, 4) perishable. According to Hennig-Thurau *et al* (2001) as cited by Nadri *et al* (2009), educational service fall into the field of service, because of its special characteristics.

3.2 Service quality and customer satisfaction

Zeithaml *et al* (2006) and Nwabueze and Mileski (2008) have stated that, satisfaction is customers' evaluation whether the services have met their needs and expectations. Zeithaml *et al* (2006) have mentioned about 5 factors those may affect customer satisfaction. They are- product and service features; consumer emotion; reason for service success or failure; perception of the equity or fairness; and other consumers, family members and co workers.

Customer satisfaction/dissatisfaction is the comparison of customer expectation to perceptions about the actual service encounter (Hoffman and Bateson 2006). This phenomenon can be described as 'expectancy disconfirmations model'. It states that, if customers' perception meet expectation, the expectation is said to be 'confirmed' and the customers are satisfied. On the other hand, if perception and expectation are not equal, the expectation said to be 'Disconfirmed'. The disconfirmation can be positive or negative depending on the fact that whether expectation rise up or fall below the perception (Oliver 1997, cited by Palmer 2005). According to Grönroos (2007)

disconfirmation construct is the base of most the research regarding service quality. But all these theories fall in the category of one dimensional theories. But Kano's two dimension quality model states that the sufficiency of service quality may not affect the consumer satisfaction and sometimes it may leave the consumers unsatisfied or no feelings. In 1982, Churchill considered service quality in terms of customer satisfaction, which can be calculated by comparing their difference between knowing and feeling the level of actual service quality (Chen and Lee 2006).

3.3 Perceived service and expected service

Grönroos (2007) introduced the concept of perceived service quality and the model of total perceived service quality, which have service oriented approach. Customer satisfaction is calculated by comparing expected service with perceived service. Customers evaluate service on three types of expectations- predicted service, adequate service and desired service. Desired service and predicted service are two factors those mainly shape service expectation. The sources of desired service are personal needs and enduring service intensifiers, which are the stable personal factors that increase customer's sensitivity of provided service. Enduring service intensifiers consist of derived expectations and personal service philosophies. Desired service is also shaped by past experience, explicit service promises, implicit service promises and word of mouth of personal and experts. Advertising, personal selling, contracts and other means of communication are different forms of explicit service promises. On the other hand, implicit service promises includes tangibles and price. These past experience, word of mouth, implicit and explicit service promises also affect the predicted service. For example, since today's universities have become market oriented (Harvey and Busher 1996 as cited by Mai 2005), they promote their universities through agents, websites, education fair etc., which influence the predicted service quality.

On the other hand, adequate service is influenced by predicted service, which is consists of perceived service alternatives, self perceived service roles, transitory service intensifier and situational factors (Hoffman and Bateson 2006).

3.4 Measurement of service quality

Grönroos (2007) have indentified that major part of service quality research has been conducted to develop instrument to measure service quality directly. Direct assessment of service quality often is not possible. So researchers tend to accept surrogate through different parameters which are related to delivery, support, cost, billing access, speed, response to queries, complaint red ressal etc (Chatterjee and Chatterjee 2005). Woodruffe (1995) has suggested taking caution to define service quality, since the customers may be

involved in the service production. This is true in educational sector. Moreover students can impact on the quality of the service delivery process. In their research of finding standard words to define quality, Ghylin *et al* (2008) have cited Garvin (1984), Parasuraman *et al*. (1985), Stauss and Sirgy (2000). They have mentioned about five approaches to define quality, which are- transcendent approach of philosophy; product based approach of economics; user based approach of economics, marketing and operations management; manufacturing based approach; and value based approach of operations management.

In the opinion of Woodruffe (1995), since consumers' needs and expectations may differ, so user based approach is the most relevant approach in defining and measuring service quality, which compares the provided service with maximum level of satisfaction.

As suggested by Palmer (2005) there are three frame works to measure service quality:

- Performance only measure: In this approach the customer are simply asked to rate the performance of the service. So this approach donot measure the expectation of the customer. SERVPERF technique is mostly used to measure service performance. Several researchers have used SERVPERF and modified SERVPERF to evaluate students' perspective of service quality (Cook 1997, Abdullah 2006). But as per the citation of Palmer (2005), researchers like-Cronin and Tylor 1992 and McAlexander *et al* (1994) have indicated that this approach is questionable in terms of Content and Discriminate validity of SERVPERF, because it eliminates the need to measure service expectation, which change when they experience a service.

- Importance performance approach: This enables the managers to understand which service element is more important to the customer. In Importance Performance Analysis (IPA), performance of elements of service is compared with the importance of each of these elements to the customers. These elements can be derived through exploratory research. To find these elements, some researchers have even used scales those are similar to SERVQUAL (Palmer 2005). Many researchers have used SERVQUAL to find the factors to be used in IPA (Chen and Lee 2006 ; Polese and Monetta 2006)

- Disconfirmation models: Through this approach, service is deemed to be of high quality if the delivered service can meet customers' expectation. This emphasises on the difference between customers' perception and expectation of the service. Palmer (2005) has also mentioned that Berry, Zeithaml and Parasuraman have also advocated considering customers' perspective to measure quality. They have developed SERVQUAL model to measure service quality gap. They introduced 22

items, which represent 5 dimensions of service, for customers to mark their perception and expectancy on it. The 5 dimensions are- tangibles (appearance of physical elements), reliability (dependability, accurate performance), responsiveness (promptness and helpfulness), assurance (competency, courtesy, credibility and security) and empathy (easy access, good communications, and customer understanding).

SERVQUAL identifies 5 gaps that may cause a difference between expectation and perception.

- Gap 1: Gap between consumer expectation and management perception
- Gap 2: Gap between management perception and service quality specification
- Gap 3: Gap between service quality specification and service delivery
- Gap 4: Gap between service delivery and external communication
- Gap 5: Gap between perceived service and expected service.

Figure 1: The gap analysis model of service quality.
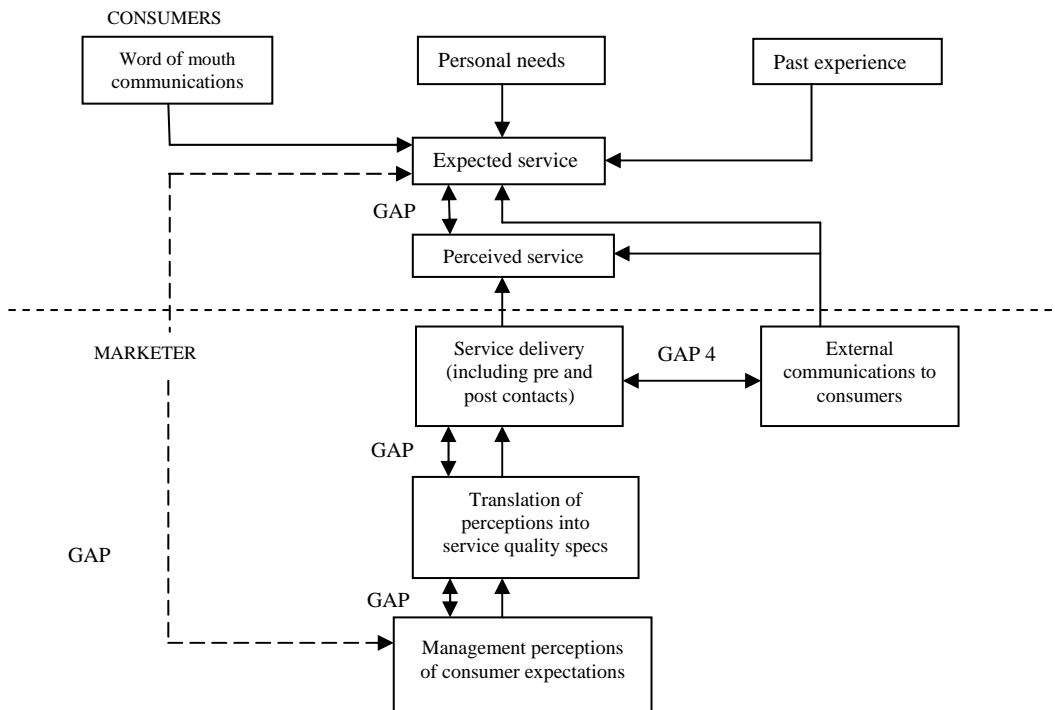
Source: Parasuraman *et al* 1988 as cited by Grönroos 2007: p. 114

The fifth gap is the result of one or more of the previous gaps. Nadri *et al* (2009) have mentioned that, most of the time intention to measure the fifth gap led the researchers to use SERVQUAL scale. In their marketing research, Ho and Zheng (2004) have used Gap model to investigate what is the level of expectation of the customer and how the perception of the customers is influenced by delivery time. Barnes (2007) intended to find service quality gap by finding the difference between expected and experienced (perceived) service by using SERVQUAL instrument.

Gap model takes into account different level of expectations, which are desired, adequate and predicted level of service. Many researchers have questioned the fact that, since customer expectation of the service change after consuming the service, so whether it is appropriate to measure the expectation simultaneously with the perception. Regarding the questions of service quality of education industry, Kuo and Ye (2009) have argued that since most of the time students evaluate the quality of the institution after spending a considerable time in the institution, so the initial expectation can be affected by the existing experience.

Grönroos (2007) has mentioned SERVQUAL as the best and the most influential instrument to measure service quality. Saravanan and Rao (2007) have addressed SERVQUAL as the basis of almost all models that measures service quality. Gap model is useful to assess the reason of difference of the service. Since, in this research it is intended to find the extent of difference between presumed service and the experienced service of University of Worcester, so the SERVQUAL technique of Gap model has been chosen.

3.5 Justification of SERVQUAL

According to Sureshchandar *et al*, (2002), Teas (1993), Parasuaraman (1994) as cited by Negi (2009), customer satisfaction is multi-dimensional in nature. So it is important to consider total satisfaction as the function of all experiences of the service (Kuo and ye 2009). In terms of education industry, Abdullah (2006) has considered students as the primary customer of it. He took the total service environment rather than only academic components as the determinants of service quality of a university. He found 41 determinants, which result into 6 components. They are: non-academic aspects, academic aspects, reputation, access, programme issues and understanding. University of Worcester deals with a number of students from different backgrounds, different cultures and different nations. Their heterogeneity can affect their satisfaction on university service (Grewal *et al* 2010)

The difference in perception of education quality between US and UK students was researched by Mai (2005), where she has applied SERVQUAL items, but in a modified manner. In contrast to the researches mentioned previously she pointed that, if the education quality is not homogeneous the universities may lose students, since students from all over the world are attracted for higher education.

Earlier researches have been conducted on the level of students' expectations, the dimensions upon which the expectations are formed and perceptions are made, influence of culture in evaluation of the education service etc. There are hardly any research that take into account both customer expectation and perception in the field of education. Numerous researches have been conducted to test and formulate different measurements like- HEdPERF, ACSI, AQIP (Academic Quality Improvement Programme) (Quinn *et al* 2009), Keno's two dimension model, Rasch model (Aiello and Capursi 2008), but most of the researchers have used SERVQUAL or the modified version of the SERVQUAL that may be incorporated appropriately in their specific research. Kuo and Ye (2009) have advocated for SERVQUAL to measure the service quality of educational institutes as per their citation of Aldridge and Rowley (1998), LeBlanc and Nguyen (1997), Oldfield and Baron (2000), Viadiu *et al* (2002). Nitecki and Hernon (2000) have used modified version of SERVQUAL to measure the quality of library service of the Yale University. So a modified version of SERVQUAL items has been used in this research.

3.6 Variables

Different researchers have studied on the suitable dimensions that can fit in education industry. Kuo and Ye (2009) undertook 5 variables- curriculum content, class room climate, pricing, access to the facilities and physical structure. Candido (2005) had taken 14 characteristics in SQG (Service quality gap) model. Olfdfield and Baron (2000) have derived three factors- requisite, acceptable and functional, which has been cited by Mai (2005). According to her citation of Coats and Koerner (1996) regarding educational context, they have addressed the fact that, the questions should be based on delivery and operational aspects like- course administration, performance and punctuality of the lecturer, adequacy of the library materials. In her citation of Athiyaman (1997) it was stated that, there are eight characteristics upon which students might build their post enrolment perceptions- teaching experience of the students, availability of the student consultation, library services, computing services, recreational facilities, class size, difficulty of subject context and student work load. Management aspects have also been considered as an important element to measure quality from students' perspective. Most of the institutes try to measure students' satisfaction through student evaluation and feedback surveys. Students' educational experiences are also found to be strongly influenced by the physical facilities like- library, IT facilities and lecture theatres. This

can be justified, because researchers have stated that majority of the service quality related investigations uses students' evaluation (Rowley 1997, Aldridge and Rowley, 1998 cited by Barnes 2007),

Marozzi (2009) has indicated that university student satisfaction can be related to relevance of the course, quality of teaching, overall education experience, course availability, range of courses offered, academic advising, orientation services, union and organisations, supporting student activities, student socialisation, housing and dining services and career development. All these variables discussed above can also be represented according to the five SERVQUAL dimensions.

Tangible dimension

Since services have the intangible characteristics, customers tend to assess the quality of it by the tangible elements. SERVQUAL compares customers' expectation of the service to the firms' performance of managing those tangibles (Hoffman and Bateson 2006). 'Adequacy of study space', 'ambience of the premises', 'recreational service', 'catering service', 'library facilities', 'IT facilities', and 'accommodation', have been selected on the basis of different researches (Hoffman and Bateson 2006; Mai 2005; Bound 1987 as cited by Kuo and Ye 2009, Barnes 2007).

Reliability dimension

This is the assessment of firms' consistency and dependability in service performance. Through these items, it is evaluated that how well the service providers can keep their promise (Hoffman and Bateson 2006). 'Response of lecturers and staffs to any problem', 'respond to the request for counselling', 'delivery of timely feedback', 'keep accurate and retrievable record', 'provide promised services within a reasonable timeframe', and 'confidentiality of the information' were considered as the variables of reliability dimension for this research on the basis of previous researches (Mai 2005; Barnes 2007).

Responsiveness dimension

Responsiveness reflects firms' commitment to provide service at the timely manner. This dimension of SERVQUAL is concerned about the service providers' willingness and/or readiness to provide a certain service during every service encounter (Hoffman and Bateson 2006). 'Willingness of lecturers and staff to provide prompt service', 'sincerity of lecturers and staff to solve the problem', and 'dealing the complain promptly'- these three items has been chosen on the basis of previous researches to represent the responsiveness dimension. (Mai 2005; Barnes 2007)

Assurance dimension

Through this dimension the competency of the firm, its courtesy to the customer and security of its operations are measured. Competency refers to the firms' skill and knowledge to perform the skill. The same way courtesy reflects to the politeness, friendliness and consideration for customers' properties and rights (Hoffman and Bateson 2006). 'Modules are designed to encourage students to think', 'concern regarding students progress', 'efficiency of lecturers and the administrative staff', 'awareness of lectures of the current event', 'quality of the lecture', 'grading is based on academic merit', 'academic and administrative staffs are courteous', 'ability to detect problem' and 'dependable security' have been selected to measure responsiveness dimension for this research (Mai 2005; Barnes 2007).

Empathy dimension

This refers to the service provider firms' ability to understand the need of the customer and make the service accessible to the customer. Customer should feel that the firm has the best interest in their heart and understand the specific need of the customers (Hoffman and Bateson 2006). The following variables are chosen from the researches of different researchers- 'ability of academic and administrative staffs to identify specific need' and 'personal attention is provided if needed' (Mai 2005; Barnes 2007).

Since substantial information of the variables is present, hypothesis has been formed to be tested (Malhotra and Dash 2011). The null hypotheses are –

H1: There is no difference between expected service quality and perceived service quality in terms of tangible variables.

H2: There is no difference between expected service quality and perceived service quality in terms of reliability variables.

H3: There is no difference between expected service quality and perceived service quality in terms of responsiveness variables.

H4: There is no difference between expected service quality and perceived service quality in terms of assurance variables.

H5: There is no difference between expected service quality and perceived service quality in terms of empathy variables.

4. Methodology

Positivism philosophy has been used for this research, because the difference among the variables can be identified by positivist philosophy plus, it can deal with observable social reality (Saunders *et al* 2009). SERVQUAL elements are suitable to find the difference between service expectation and service perception. (O'Neill *et al* 1998 as cited by Palmer 2005).

To find the perception of the students of University of Worcester regarding its service quality, descriptive research has been conducted. Deductive approach has been used to make the research valid enough to generalise the findings (Saunders *et al* 2009). To gather data, a survey in University of Worcester has been undertaken like Mai (2005) and Candido (2005). Mall intercept survey has been conducted in cafeteria, library and dormitory. Questionnaire was formed on the basis of prior review of literature.

 Judgemental sampling of non probability sampling has been used for this research. Mai (2005) has identified that education should be viewed from the angle of a student. This technique is deemed to be appropriate for this research because in this research the population is broadly defined, which is- the Students of University of Worcester and they have the ability to provide the requires data about the service quality. For this study the population is the 7000 students (approximately) of Worcester University.

 But there have been no such kind of research that has been conducted in the University of Worcester. So it is hard to find Standard deviation. Sample size can be determined by considering other researches' work in the same field (Malhotra 2006). In the field of measuring quality, Ghylin *et al* (2008) had taken 80 participants, Barnes (2007) had used 102 respondents, Ruiqi and Adrian (2009) used 100 respondents, 183 respondents were used by Nitecki and Hernon (2000), 60 participants have been taken by Hernandez *et al* (2009), Quinn *et al* (2009) have taken 124 respondents, Ruetzler *et al* (2009) have used a sample size of 122 in their successful researches. So it is decided that the sample size is 100 for this research. Among the 118 fully completed questionnaires 100 have been taken to analyse.

The questionnaire has been piloted on 10 respondents. But it was observed that, the purpose of the research was not clear to the respondents and the wordings were ambiguous in the pilot questionnaire. For the final questionnaire the format has been reduced, and the finalized questionnaire with 27 questions was distributed among the students. These 27 questions, have been categorized in 5 variables of SERVQUAL.

Likert scale was used for every statement, where the highest rating is referred by 5 points and lowest rating is referred by 1 point. This scale will be used to generate quantitative data of the attitude so that it can be used in statistical analysis (Malhotra 2006). According to Bryman and Cramer (1994) it is useful to compare three or more means

form the same or matched subjects. The mean value regarding expected service of all the questions in each variable has been compared with the mean value regarding perceived service of the same variable. Akter *et al* (2008), Mai (2005), Barnes (2007) have calculated the gap between expected mean score and perceived mean score to find the parameter of service quality. Since all the questions have been asked about service quality, it can be said that content validity is present here.

As this research is intending to find out the difference between two types of responses within one sample, T-test statistical analysis has been undertaken to find the level of difference (Field 2005). The average score of the items of each variable has been used in T-test. SPSS is used to code and process the data.

5. Analysis of findings

Mean value, standard error, T-static, level of significance and degree of freedom to analyse T-test has been considered to test the hypotheses (Field 2005).

5.1 Tangible: the following SPSS tables show the comparison of expected service quality and perceived service quality in terms of tangible items.

Table 1: Statistics of expected service quality and perceived service quality in terms of tangible dimension

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	E tangible	3.8086	100	.32628	.03263
	P tangible	4.1129	100	.26263	.02626

		N	Correlation	Sig.
Pair 1	E tangible and P tangible	100	.166	.100

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	E tangible - P tangible	-.30429	.38346	.03835	-.38037	-.22820	-7.935	99	.000

As per the format suggested by Field (2005) participants have greater score of perception in terms of tangible items of the service (M= 4.1129, SE = .02626) than the score of expectation of the items of service (M= 3.8086, SE= .03263, t (99) = -7.935, p<.05). Since the t-value is less than the critical value -1.9842, with the significance level of .000, null hypothesis is rejected (McDaniel and Gates 2007). The rejection of null hypothesis can be also justified form the fact that, the difference between the mean (.30429) is greater than the standard error (.03835) (Field 2005). In simple terms, there is a difference between the expected service and the perceived service of University of Worcester regarding tangible items. The participants have perceived the quality of service of University of Worcester to be greater than that of their expectation in terms of tangible items.

5.2 Reliability: the following SPSS tables show the comparison of expected service
      quality and perceived service quality in terms of Reliability items.

Table 2: Statistics of expected service quality and perceived service quality in terms of reliability dimension

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	E reliability	4.2833	100	.25014	.02501
	P reliability	4.3250	100	.24317	.02432

	N	Correlation	Sig.
Pair 1 E reliability and P reliability	100	.187	.063

		Paired Differences							Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	E reliability - P reliability	-.04167	.31460	.03146	-.10409	.02076	-1.324	99	.188

In the case of items of reliability of service quality, participants have greater score of perception of the service (M= 4.3250, SE = .02432) than the score of expectation of the items of service (M= 4.2833, SE= .02501, t (99) = -1.324, p<.05). Since the t-value is greater than the critical value of -1.9842, with the significance level of .188, null hypothesis cannot be rejected (McDaniel and Gates 2007). The non-rejection of null hypothesis can be justified form the fact that, the difference between the mean (.04167) has not differed from the standard error (.03146) much. (Field 2005). In other words, there is an insignificant difference between the expected service and the perceived service of University of Worcester regarding reliability items. The participants have perceived the quality of service of University of Worcester almost the same in comparison to their expectation in terms of reliability items.

5.3 Responsiveness: the following SPSS tables show the comparison of expected service quality and perceived service quality in terms of responsiveness items.

Table 3: Statistics of expected service quality and perceived service quality in terms of responsiveness dimension

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	E responsiveness	4.1067	100	.45166	.04517
	P responsiveness	4.0667	100	.44696	.04470

		N	Correlation	Sig.
Pair 1	E responsiveness and P responsiveness	100	-.052	.606

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	E responsiveness – P responsiveness	.04000	.65182	.06518	-.08934	.16934	.614	99	.541

For responsiveness items of service quality, participants have greater score of expectation of the service (M= 4.1067, SE = .04517) than the score of perception of the items of service (M= 4.0667, SE= .04470, t (99) = .614, p<.05). Since the t-value is greater than the critical t-value of 1.9842, with the significance level of .541, null hypothesis cannot be rejected (McDaniel and Gates 2007). The non rejection of null hypothesis can be justified form the fact that, the difference between the mean (.04) did not differed greatly from the standard error (.06518) (Field 2005). From the above analysis, it can be said that, there is an insignificant difference between the expected service and the perceived service of University of Worcester regarding responsiveness items. The participants have perceived the quality of service of University of Worcester almost the same in comparison to their expectation in terms of responsiveness items.

5.4 Assurance: the following SPSS tables show the comparison of expected service
    quality and perceived service quality in terms of Assurance items.

Table 4: Statistics of expected service quality and perceived service quality in terms of assurance dimension

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	E assurance	4.0300	100	.26980	.02698
	P assurance	4.1001	100	.23292	.02329

	N	Correlation	Sig.
Pair 1 E assurance and P assurance	100	.522	.000

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	
Pair 1	E assurance - P assurance	-.07014	.24774	.02477	-.11930	-.02098	-2.831	99	.006

As per the assurance of items of service quality it can be said that, participants have greater score of perception of the service (M= 4.0300, SE = .02698) than the score of

expectation of the items of service (M= 4.1001, SE= .02329, t (99) = -2.831, p<.05). Since the t-value is less than the critical value of -1.9842, with the significance level of .006, null hypothesis is rejected (McDaniel and Gates 2007). The rejection of null hypothesis can be justified form the fact that, the difference between the mean (.07014) is greater than standard error (.02477)(Field 2005).. The analysis shows, there is a significant difference between the expected service and the perceived service of University of Worcester regarding assurance items. The participants have perceived the quality of service of University of Worcester to be greater than that of their expectation in terms of assurance items.

5.5 Empathy: the following SPSS tables show the comparison of expected service quality and perceived service quality in terms of Empathy items.

Table 5: Statistics of expected service quality and perceived service quality in terms of empathy dimension

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	E empathy	3.5050	100	.57514	.05751
	P empathy	3.5350	100	.64844	.06484

		N	Correlation	Sig.
Pair 1	E empathy and P empathy	100	.176	.081

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	E empathy - P empathy	-.03000	.78759	.07876	-.18628	.12628	-.381	99	.704

In the case of items of empathy of service quality, participants have greater score of perception of the service (M= 3.5350, SE = .06484) than the score of expectation of the items of service (M= 3.5050, SE= .05751, t (99) = -.381, p<.05). Since the t-value is

greater than the critical value of -1.9842, with the significance level of .704, null hypothesis cannot be rejected (McDaniel and Gates 2007). The non rejection of null hypothesis can be justified form the fact that, the difference between the mean (.03) has not differed in a great degree from the standard error (.07876) (Field 2005). In other words, there is an insignificant difference between the expected service and the perceived service of University of Worcester regarding empathy items. The participants have perceived the quality of service of University of Worcester almost the same in comparison to their expectation in terms of empathy items.

In a nutshell, there is significant difference between expected and perceived service in tangible and assurance dimensions. But in both dimensions along with reliability and empathy the perceived service have been proved to score higher than what was expected. Only expected service in the responsiveness dimension is insignificantly higher than what was perceived.

6.   Conclusion

The research project shows that the main gap between expected service quality and the perceived service quality lies in the tangible and assurance aspects of the service of the University of Worcester. But the other variables, reliability, responsiveness and empathy, students' perception of the service quality have come close to their expectation. For all the variables, except responsiveness, the perception of the experience have lived up to the expectation of the students. As this research shows that, there is a gap between expected and perceived service. These gaps can be narrowed down if information about these subjects were available. The information allow customers to know what to expect.

If a longitudinal research had been undertaken, the change and course of the formation of expectations of the students could have been measured. Longitudinal research design involves a fixed sample of population, whose response will be repeatedly measured over time (Malhotra 2006). For example the expectation part of the research can be conducted after the arrival of the student. And the perception part of the study can be measured at the end of the semester. This type of research, was done by Hill (1995) and Oldfield and Baron (2000) where they explored the changes of perception (As cited by Mai 2005).

Different types of requirements effect differently on the level of satisfaction (Kano 1984 as cited by Chen and Lee 2009). In a tertiary institute like University of Worcester, where students come from different background, their requirements will be different too. So this type of research can be beneficial to evaluate of the satisfaction of the students. There are 22 public universities and 49 private universities in Bangladesh (www.isrt.ac.bd). Each and every one of them has to look after their quality in order to maintain their reputation. In general, service quality promotes customer satisfaction, stimulates intention to return,

and encourages recommendations (Nadiri and Hussain 2005 as cited by Nadiri *et al* 2009).

Additionally knowledge about how different dimensions of service quality impact on the total service quality, may help them to design the service delivery process (Barone and Franco 2009). In general term, satisfied customers patronises business as they remain loyal. Though in higher education loyalty is not an issue in terms of repeat purchase, but personal recommendations and dropping out from the courses are. So a clear understanding of the expectation and satisfaction of the students are required, because, customer satisfaction, in this case- the students satisfaction, is the indicator of future recommendation of the institute (Fornell 1992; Reichheld and Sasser 1990, Chan*et al*. 2003 as cited by Mai 2005).

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