Models of Service Quality – A brief literature Review

by

Dr Nadith Kawshalya

www.service-quality.co.uk
An extensive study has been carried out by Dr Nadith Kawshalya - Chief Commercial Officer of London School of Marketing, Dr Penny Hood – Founding Director of Hood International Consultants, to understand why students chose to study at privately funded higher educational institutions in the UK and their expectations. This study was carried out from January 2009 to October 2014, with over 12,700 students taking part in the research.

This study formed a part of a research lead to Doctor of Philosophy (at Anglia Ruskin University) and funded by London School of Marketing concluded specific patterns and student needs that are unique to private higher educational institutions in the UK.

You may use the article for academic purposes with the following reference:

Kawshalya N (2016), *Models of Service Quality – A brief literature review*, Service Quality and Performance Model for Independent Colleges in the UK, [www.service-quality.co.uk](http://www.service-quality.co.uk), March, Issue 1.0, Essex
Models of service quality

It is widely agreed among researchers and practitioners alike, that service quality can be defined as the mismatches that exist prior to the consumers’ expectations of the service and the resulting perceptions they hold after experiencing the service (Parasuraman et al., 1988; Cronin and Taylor, 1992; Abdullah, 2006a).

Angell et al., (2008: p 238) states, 'practitioners and academics alike have found that providing a high level of service quality can secure the potential to earn higher market share, improved profitability. Approaches to measuring service quality have also gradually evolved around the disconfirmation paradigm.' The disconfirmation paradigm is based on the difference between the service receiver’s expectations prior to the service encounter, and their perception of how it was delivered on its completed delivery (Angell et al., 2008).

The disconfirmation paradigm has been conceptualised and used as the cognitive comparison between the consumer's pre-purchase standard i.e., expectations, and what they actually received i.e., perceived level of service. The disconfirmation paradigm has been in academic literature for several years for example, early satisfaction research (Locke, 1977) and recent research in service quality (Jiang et al., 2000; Parasuraman et al., 1988) measured disconfirmation as the difference between a standard (expectations) and the received levels of each attribute.

Further, the disconfirmation paradigm has, over the years, evolved into the 'disconfirmation theory' propounded by Parasuraman et al., (1988), while others argue that it is 'derived from a comparison of performance with ideal standards' (Teas, 1993b: p 34) or observations of performance-only (Cronin and Taylor, 1992).

Disconfirmation theory has had a long history in areas such as job satisfaction (Locke, 1977), cognitive psychology (Anderson, 1981), and self-image congruence (Sirgy et al., 1997). Therefore, the disconfirmation theory has been proven to be an effective tool in measuring set standards against the actual delivery. However, Cronin and Taylor, (1992) and Abdullah (2006a) developed performance-only modules and argued that those customers’ assessments of continuously provided services may depend solely on performance; thereby suggesting that performance-based measures explain more variance in an overall measure of service quality. Modules such as SERVPERF (performance only) and HedPERF (performance only) tools only require customers to provide one set of feedback based on the actual level of service delivery. Thereby providing an alternative approach to the 'disconfirmation theory' (Abdullah, 2006a and 2006b; Cronin and Taylor, 1992; Angell et al., 2008).

Research carried out by both Cronin and Taylor, (1992), as well as Abdulla (2006a, 2006b, 2006c and 2006d), confirms that performance-only models performed better that the disconfirmation based, SERVQUAL model, therefore, supporting the argument that the service quality is only based on the performance alone (Boulding et al., 1993). However, the principles of the gap model, which is a term widely used to describe various disconfirmations between different factors associated with the overall service quality, remain true for both of these concept (Brochado, 2009). For example, both HedPERF as well as SERVPERF models use a gap model, by using performance-only as the measurement concept.
A review of the literature reveals five key service quality models currently being used to measure service quality within the educational sector. They are as follows:

- HEdPERF - Higher education performance (Abdullah, 2006a)
- SERVQUAL - Service quality (Parasuraman et al., 1985)
- SERVPERF - Service performance (Cronin and Taylor, 1992)
- Weighted SERVPERF - Weighted service performance (Cronin and Taylor, 1992)
- Weighted SERVQUAL - Weighted service quality (Parasuraman et al., 1991).

Even though these models have not been specifically developed, apart from HEdPERF, for the educational sectors, various researches have been carried out around the world using these models within educational institutions (Assaf et al., 2008; Gallifa and Batalle, 2010; Kiran, 2010; Sultan and Wong, 2010; Nejati and Nejati, 2008; Jamali and Tooranloo, 2009; Banwet and Datta, 2003; Sahney et al., 2004 & 2008; Kwan and Ng, 1999; Chen et al., 2006; Prugsamatz et al., 2006). SERVPERF, Weighted SERVPERF, SERVQUAL and Weighted SERVQUAL use tangibles, reliability, responsiveness, assurance and empathy as service quality dimensions, whereas HEdPERF uses non-academic aspects, academic aspects, reputation and programme issues as its dimensions, whilst adopting the gap model to identify the areas of service quality improvements (Abdullah, 2006a; Parasuraman et al., 1985; Cronin and Taylor, 1992).

These concepts were developed on the basis of three underlying principles (Parasuraman et al., 1985 and Asubonteng et al., 1996); service quality is more difficult for the consumer to evaluate than tangible goods quality, service quality perceptions result from a comparison of consumer expectations with actual service performance, and finally service quality evaluations are not made solely on the outcome of service as they also involve evaluations of the process of service delivery. Therefore, the service quality models assume these principles, and are developed by taking these aspects as cornerstones of the models.

Brochado, (2009: p 178), compared the different aspects of the above models as follows:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Service quality concept</th>
<th>Number of items</th>
<th>Service quality dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVQUAL (Parasuraman et al., 1988)</td>
<td>Perceptions’ of performance – expectations</td>
<td>22 x 2</td>
<td>Tangibles, reliability, responsiveness, assurance, empathy</td>
</tr>
<tr>
<td>SERVPERF (Cronin and Taylor, 1992)</td>
<td>Perceptions’ of performance</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Weighted SERVQUAL (Parasuraman et al., 1991)</td>
<td>Dimension’s importance x (Perceptions’ of performance – expectations)</td>
<td>22 x 2 + 5</td>
<td></td>
</tr>
<tr>
<td>Weighted SERVPERF (Cronin and Taylor, 1992)</td>
<td>Dimension’s importance x</td>
<td>22 x 2 + 5</td>
<td></td>
</tr>
</tbody>
</table>
As seen from the table, the first four models used the same five service quality dimensions, with the SERVQUAL model using disconfirmation theory and SERVPERF choosing performance-only measurement. On the other hand, HEdPERF, which a model developed specifically for the measurement of service quality within the higher education sector, used an amended five dimensions, which are more specific to education sectors. It is however notable that the total numbers of items in the measurement scales were in excess of 40, for all instruments apart from SERVPERF. The validity and the reliability of these models have been tested by various researchers using a variety of statistical benchmarks including Cronbach’s coefficient alpha as well correlation coefficient (Aldridge and Rowley, 1998; Angell et al., 2008; Oldfield and Baron, 2000; Galloway, 1998; Cuthbert, 1996a; Clarke et al., 2007). Even though the studies mentioned before, used these models to measure service quality at a variety of state funded higher educational institutions, an extensive survey by the researcher found a significant lack of testing of these models within the private educational sector in the UK. Therefore, the researcher subsequently looked at other service quality models and their use within the education sector.

Seth et al., (2005) carried out an extensive analysis of the available service quality tools which incorporate and analyse the following service models developed from the early 1990s; Technical and functional quality model (Grönroos, 1984), GAP model (Parasuraman et al., 1985), Attribute service quality model (Haywood-Farmer, 1988), Synthesised model of service quality (Brogowicz et al., 1990), Performance only model (Cronin and Taylor, 1992), Ideal value model of service quality (Mattsson, 1992), Evaluated performance and normed quality model (Teas, 1993a), IT alignment model (Berkley and Gupta, 1994), Attribute and overall affect model (Dabholkar, 1996), Model of perceived service quality and satisfaction (Spreng and Mackoy, 1996), PCP attribute model (Philip and Hazlett, 1997), Retail service quality and perceived value model (Sweeney et al., 1997), Service quality, customer value and customer satisfaction model (Oh, 1999), Antecedents and mediator model (Dabholkar et al., 2000), Internal service quality model (Frost and Kumar, 2000), Internal service quality DEA model (Soteriou and Stavrinides, 2000), Internet banking model (Broderick and Vachirapornpuk, 2002), IT-based model (Zhu et al., 2002) and Model of e-service quality (Santos, 2003).

Out of the variety of models analysed, Nitin et al., (2005) concluded that the SERVQUAL model is the most used and criticised model of all the above and its validly and reliability has been tested and proven across a wide range of sectors. Thus concluding that the SERVQUAL instrument is one of the most reliable and valid tools to measure the service quality.

In addition, Francois et al., (2007), conducted research comparing SERVQUAL with a similar but more performance oriented SERVPERF framework and found that both instruments are effective in
measuring service quality and concluded that SERVQUAL, which measures both expected and perceived level, hence uses disconfirmation theory, when compared to SERVPERF, which mainly measures expectations, i.e. performance only, is more time consuming and biased. For example, at a typical higher educational institution, students take a mixture of qualifications using various study modes, including full time, part time, blended learning and distance learning, as well as different course durations, including short weekend qualifications and four to five year degree programmes. These differences make the measurement of service quality a complex and dynamic process. For example, the service quality models discussed so far are effective in providing a snap shot of service quality at any given time. However, what is important is the service quality delivery during the full student experience; therefore a longitudinal approach is required in approaching service quality measures, rather than a cross-sectional based approach (Aldridge and Rowley, 1998; Angell et al., 2008).

An empirical study carried out by Gallifa and Batalle (2010), involving a private multi campus Spanish University, identified that the student perceptions worsened because of lack of improvement over time; therefore supporting Angell et al’s., (2008) suggestion of the need for a longitudinal approach to service quality. Other personal factors such as the age, ethnicity, gender, disability, disability type, residence and mode of study can also influence both expected and perceived quality of service (Aldridge and Rowley, 1998; Angell et al., 2008). Therefore, an effective service quality model should aim to find correlations that the service delivery has with these factors over a period of time (Aldridge and Rowley, 1998).

Further, Oldfield and Baron (2000) argue that an effective service quality is made up of three significant dimensions; service processes (flexible processes and avoids rigidity), interpersonal factors of front line staff members, and physical evidence. This study also reveals that the students’ evaluation of service quality varies depending upon the length of time the students have been on the course, which supports Angell et al’s., (2008) argument of the need for continuous and longitudinal measurement of expectations and perceptions. Therefore, an effective service quality measurement should be able to measure service quality trends over a period of time and identify gaps, where applicable (ibid).

According to Brady and Cronin, (2001), the developments in the measurement of service quality models was led by two schools of thought, the Nordic School, which is generally linked with Europe and Scandinavia, and the American School. The Nordic School assumes a simpler model of assessing service quality by dividing into two areas, technical and functional quality, whereas the American School of thought focused on more a diverse range of dimensions, as discussed above, driven by studies of Parasuraman et al., (1985). However, this research adapts a simpler and broader categorisation of models proposed by Seth et al., (2004). For example, Seth et al., (2004) divided service quality models into two broader categories: gap model and all other models. For example, and as discussed before, the gap based service quality models have been led by the developments of SERVQUAL (Parasuraman et al., 1985), which identified five service quality dimensions as indicators of service quality. SERVQUAL model and its dimensions influenced several other models including; Synthesized model of service quality (Brogowicz et al., 1990), Performance Only Model/SERVPERF (Cronin and Taylor, 1992), Normed quality and evaluated performance model (Teas, 1993b), Retail service quality and perceived value model (Sweeney et al., 1997), Antecedent mediator model
(Dabholkar et al., 2000) and higher education performance model (Abdullah, 2006a). All these models have used adapted versions of SERVQUAL dimensions as well as elements of the gap model to measure and analyse service quality performance. As identified by Seth et al., (2004), gap models have proven more valid and reliable in measuring service quality by a variety of studies over time. Therefore, the gap model leads the way in terms of measurement of service quality in comparison to other models. The development of the SERVQUAL model (Parasuraman et al., 1985) has been instrumental in the development of gap based models. However, before looking at the SERVQUAL model in detail, the section below looks at some of the key concepts that did not follow the gap based approach. This study identified three key models in the area as follows, as these three models offer alternative views to the gap model.


One of the early service quality concepts that adopted disconfirmation theory was developed by Grönroos (1984). Grönroos’s technical and functional quality model was developed on the underlying principle where, companies must understand customer perceptions of service quality, in order to stay competitive and grow. With this principle in mind, Grönroos’s model of technical and functional quality then linked to the image of the company.

Grönroos's (1984) model is also called a two-factor Nordic service quality model, and offers an alternative argument for gap based theories. For example, the Nordic service quality models are based on the principle that customer satisfaction equals customer knowledge minus their prospection (Buswell and Williams, 2003).

In support of the Nordic theory, Grönroos (1990: pp 48) viewed that services are not coincident and create a difference between whether or not the services are received by the individuals or organisations. In his support he states, 'The services are complicated circumstances and suggest that the service must be concrete, to get rid of as much risk as possible from actual customer's minds when choosing a service provider'. Therefore, in accordance to the Nordic model, total quality of a service is a combination of three various components; corporate image, technical quality and functional quality (Buswell and Williams, 2003).

According to Grönroos (1984), technical quality refers to what consumers actually receive as a result of their interaction with the company, and on the other hand functional quality refers to how customers receive the respective technical outcomes. Further, as both technical and functional quality are important to customers, the delivery of these will lead to the company’s image as providers of better service quality, which will ultimately lead to competitive advantage.

Most importantly, Grönroos's two factor Nordic models didn’t specify service quality dimensions, but instead simply defined those as the most important aspects of service delivery. The other weaknesses of this model include that a) the dimensions of technical and functional quality do not necessarily describe all the elements of a service adequately, b) the model assumes that neither of the two dimensions should enjoy preference over the other, therefore it is impossible to prioritise the organisational objectives and develop specific action plans to manage and improve service quality, and c) because the model is based primarily on services in which human interaction takes place, it will not be able to adequately accommodate services in which physical and technological elements play an important role, such as in the educational sector (Brady and Cronin, 2001).
Haywood-Farmer (1988) - Attribute service quality model

Haywood-Farmer (1988), in developing the attribute service quality model, divided service dimensions into three areas as; professional judgement, physical facilities and processes and behavioural aspects. These areas were then further broken down into specific measures, and prioritised on the basis of various sectors. For example, Haywood-Farmer, categorised various sectors on the basis of their level of customer interaction and customisation of services. Further, the attribute service quality model assumes that a service organisation has high quality if it meets customer preferences and expectations consistently, throughout their service interactions.

Haywood-Farmer further suggested that companies, depending on their sector of operation, must adopted three key service dimensions to meet their customer expectations. For example, services with labour intensity is low, organisations must focus physical facilities to compensate with low labour interactions. Therefore, the model highlights that too much emphasis on any one of the three service dimensions above, while letting others be excluded may lead to negative impact on customers’ perceptions. For example, if a service organisation emphasises heavily on procedure, customers are likely to perceive that the organisation is rigid and inflexible. However, the model's adaptability and variability of different business scenarios can be questioned, as the model does not offer clear interpretation of factors that can affect customer satisfaction (Seth et al., 2005).

The final model that comprises the non-gap based model is developed my Mattsson (1992).

Mattsson (1992) – Ideal value model of service quality

Mattsson (1992) defined service quality in terms of customer value outcome i.e. ideal standard and experienced outcome, and measured against attitude level. Further, the model categorised value and service experience into experienced based, ideal, minimum tolerable and desirable. This value based model further suggests that the use of a perceived 'ideal' standard against which the experience is compared and then determine the disconfirmation of customer values. The model is based on the assumption that factors such as ideals and experiences define the value received by the customer, which has a direct influence on the overall satisfaction of service received. Further, the gap between the ideal and the experience, determine the level of satisfaction.

The above model however is considered too simplistic and difficult to adapt in various organisational circumstances, as the model’s concepts are too broad to be applied to specific instances (Seth et al., 2004). Further, the model also concentrates on the process as the determinant of overall customer satisfaction, which itself is a limitation (Buswell and Williams, 2003).

According to Seth et al., (2004), the sequentiality of the developments throughout the time indicates that researchers constantly attempted to modify the current thinking to improve their models. For example, aspects such as ease of use, appearance, linkage, reliability, efficiency, support, communication, security, incentive and so on have repeatedly appeared in many models. Further, it is also evident that the impact of models such as SERVQUAL (Parasuraman et al., 1985) and Performance Only Model - SERVPERF (Cronin and Taylor, 1992) as well as the Nordic based model by Grönroos (1984), had a major influence on the thinking of researchers and their understanding of the best way to measure quality.
**Recommended additional reading:**


Crosby, P. B. (1979), *Quality is Free: the art of making quality certain*, New York: New, American Library


Department for Business, Innovation and Skills – BIS (2012) *Applying student number controls to alternative providers with designated courses* (Available at www.gov.co.uk, accessed on 30th November 2012)


[http://www.hesa.ac.uk/index.php/content/view/2090/161](http://www.hesa.ac.uk/index.php/content/view/2090/161) (Accessed on 11th December 2013)

[http://www.qaa.ac.uk/partners/students/reviews/pages/REO.aspx](http://www.qaa.ac.uk/partners/students/reviews/pages/REO.aspx) (Accessed, 10th August 2013)


Kawshalya, N & H Hood (2015), *Definitions of quality and characteristics of service quality*, Service Quality and Performance Model for Independent Colleges in the UK, [www.service-quality.co.uk](http://www.service-quality.co.uk), October, Issue 1.0, Essex


