CHAPTER 2: REVIEW OF LITERATURE

2.1 Introduction

In this chapter, the literature on service quality in general will be reviewed. Three main areas of interest are to be explored. To start with, the construct service quality is addressed in terms of its various definitions and unique characteristics as compared to product quality. Since the proliferation of service quality research in the early 1980s, different models of service quality have been proposed and empirically tested by different researchers. An overview of these service quality models is indispensable at the outset of this study.

Next, a review on the relationship between service quality and customer satisfaction is presented. Such a review becomes critical as there is a growing tendency for researchers and practitioners to equate service quality with customer satisfaction. Although the constructs are interrelated, they are not synonymous. A need to distinguish these two constructs in terms of their theoretical foundations, use of comparison standards and direction of relationship is envisaged before attempting to measure service quality.

Finally, empirical issues of measuring service quality will be examined. This part of the review will focus on how the construct of service quality will be operationalized and measured. In view of the fact that there are more quantitative studies than qualitative studies in researching service quality, more emphasis will be placed on discussing dimensions/attributes of service quality and prevailing methods of measuring service quality.

2.2 Service quality

Most of the published works about service quality prior to the early 1980s have come from practitioner sources rather than academic research. Early pioneers in service quality study such as Christian Gronroos of Sweden, A. Parasuraman, Valarie Zeithaml and Leonard Berry of United States have laid down building blocks through their rigorous academic research. Their studies were based on synthesis of services marketing literature, customer satisfaction research and the limited writing on services. The following sections will
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discuss most of the earlier theoretical works on service quality, in particular, the characteristics of service quality, its definitions and components.

A close perusal of business industries in the 1990s revealed that the concept of service quality has received a great deal of interest as a key strategic factor for product differentiation and for increases in market share and profits (Bolton, Lemon and Verhoef 2004: 278; Luo and Homburg 2007: 113; Newmand and Cowling 1996, cited in Maddern et. al. 2007). It also revealed that the concept of service quality is primarily based on the quality of services as perceived by customers. When service providers understand how services are assessed by their customers, it becomes possible to identify how to manage these assessments and how to influence them in a positive direction (Gaster & Squires 2003:57; Seth, Deshmukh and Virat 2005). Although it is difficult to define the authenticity of service quality (Brown & Swartz 1989: 93; Schneider and White 200:9), some researchers have reached a consensus on the fact that service quality should be defined and measured from the customers’ perspective. Thus, service quality appears to be predominantly defined from the perspectives of customers in a given service organisation. Many definitions of service quality maintain that this is the result of an assessment process, whereby customers compare their perception of the service to be received (Haywood-Farmer 1988:19). Zeithaml and Bitner (1996: 117) also define service quality as the “delivery of excellent or superior service relative to customer expectations.”

However, the most widely accepted definition of perceived service quality is that it represents the discrepancy between customers’ expectations and their perceptions of the service performance, which is basically founded on the expectancy disconfirmation theory (Churchill & Suprenant 1982; Oliver 1993; Parasuraman, Zeithaml and Berry 1994; Tse and Wilton 1998).

2.2.3 Definitions of Service Quality

Although very much studied, Service Quality is a difficult concept to define. Some definitions have been proposed by leading theorists and numerous studies have been done to explore the dimensions of the construct and to distinguish it from other closely related constructs such as customer satisfaction.

Some examples of definitions include:
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“Service quality is a comparison between expectations and performance”
(Parsuraman, Zeithaml and Berry, 1985, p42);

“An evaluative, affective, or emotional response” (Oliver & Swan, 1989, p.1)

Perception of service quality is determined by “Prior expectations of what will and what should transpire ... and the actual delivered service”
(Parasuraman, Zeithaml, & Berry, 1994, p.111);

“Perhaps [Service] quality factors are those primarily under the control of management ... in contrast, perhaps the [customer] satisfaction factors are those that impact the experiential aspects of the service purchase from the customer’s point of view”

It can be seen that there has been some consensus at the highest and most abstract level that the customer perceived service quality is a customer judgement based on a comparison between prior expectations and performance. However, even this has been called into question, with Cronin and Taylor finding little support for the expectations construct, at least as an explicit construct that customers could readily quantify (Cronin and Taylor, 1994). This does not necessarily invalidate the conceptual definition, as the customer might be making implicit comparisons when arriving at their assessment of the service they have received.

Despite some loose consensus, a clear, usable definition of service quality that can be applied to railway passenger services does not exist in literature. Service quality is a many-faceted concept and many studies have illuminated different aspects of service quality, without providing the definitive definition, if such a thing can exist. It is also unclear how existing definitions will transfer to railway passenger services environment, where aspects of the tangible actions are directed towards customers’ bodies. If a passenger reaches the destination late (e.g. due to train delays), will they perceive the service quality as poor? This is a case of delay in service delivery.

Most studies have attempted to define the service quality in terms of its component parts, or constructs. Accordingly, this discussion takes a “bottom-up” approach to building a definition of railway passengers’ service quality.
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2.3. The Characteristics of service quality models

Parallel to changing the definition of quality and service quality, we need to remember that the measurement models elaborated by researchers have changed as well. This transformation is traceable in time, place and in terms of research areas as well. It can be looked at as the models of the 80s, the 90s as well as the models of the millennium, or that of the Nordic or the American schools. In addition, the models can be distinguished on the basis of further characteristics.

*Framework of definition*: defining the concept of service quality;

*Dimensions*: the dimensions determining service quality emphasized by the model;

*Field of applicability*: which service field the model can be applied to;

*Measurement methodology*: whether the model uses the disconfirmation paradigm or the performance paradigm as the method of measurement;

*Service improvement*: how can the model assist in making decisions aimed at improving service quality?

The above characteristics offer an opportunity to carry out a comprehensive analysis of the individual models.

2.4 Introductions of the most significant models

The following are the 18 service quality models which are found to be the most significant in relation to this research work. In case of each model a short introduction is followed by the major conclusions and findings of the given model.

2.4.1. Technical and functional quality model (Grönroos, 1984)

This model is the starting point of the so-called Nordic school. The model is based on the premise that, in order to achieve customer satisfaction, the quality expected and actually perceived by the customers should be identical. The supplier can only succeed on the market if he/she knows how quality is perceived by the customers as well as characteristics that influence the service quality. According to Bopp (1990), the technical level of the services is most often hidden from the customers, thus he/she has very few
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information in this respect. Donabedian (1982) maintained that in perceiving service quality, customers primarily focus on the functional factor.

Grönnroos defines service quality as *the outcome of an evaluation process, where the customers compare their expectations with the service they have received*” (Grönnroos, 1984, p.37). In his model he differentiated between the three components of service quality

*technical quality*: determines *what* the buyer receives as the result of buying the actual service (result dimension).

*functional quality*: determines *how* the service is provided, according to subjective perception of the customer and the customer evaluates the service procedure (process dimension).

*image*: shows how the characteristics, originated by and connected to the technical and functional service quality, such as traditions, policies, social connections, service standards and goodwill are mingled.

Customers mostly evaluate service quality based on the dimensions of the result and the procedure; however image, functioning as a screen, influences the quality perception in a positive or a negative manner depending on how the buyer judges the supplier and its image.

**2.4.2. Three-dimension model (U. Lehtinen, J.R. Lehtinen, 1991)**

In the authors’ interpretation, service quality may be determined on the basis of three qualities: *physical quality, interactive quality* and *corporate quality*. Physical quality means the quality of the supplier’s circumstances, tools, equipments; interactive quality means the nature of the buyer’s and the supplier’s relationship; corporate quality means the image of the cooperation as perceived by the buyer.

The dimensions may be compared with the technical and functional dimensions, that is result and procedural dimensions of the Grönnroos model. The researchers took the opinion that the physical quality has a result - and the procedure-nature as well; interactive quality may clearly be connected to the procedure dimension, while corporate quality is judged by the buyer even before service delivery.
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2.4.3. Three-component model (Rust and Oliver, 1994)

Similarly to the model of Lehtinen et al., the model of Rust and Oliver model originates from the Nordic model of Grönroos, but they assigned to the two original dimensions technical dimension (in this model: service - product) and functional quality (in this model: service delivery) – the dimension of service environment. The model was later tested by J.C.B. Llusr and C.C. Zornoza (2002) and they proved that the model is adequate. They named it the Perceived Business Quality – PBC.

2.4. 4. Gap-model (SERVQUAL) (Parasuraman et al., 1985)

Parasuraman et al. maintained – in line with Grönroos – that service quality is: “a form of attitude, related but not equivalent to satisfaction, that results from comparison of expectations with perceptions of performance” (Parasuraman et al., 1988, p. 15).

Pursuant to the GAP-model, the organization and the customer may differ as to how they perceive service performance and this is caused by the “gaps” in providing the service.

GAP 1: The customer’s expectations are not known: the buyer’s expectations and the ideas, the management has regarding that may differ.

GAP 2: Wrong service quality standards: the difference between management’s ideas regarding customer expectations and the customers’ expectation as to its manifestation in the specifications.

GAP 3: Service performance gap: the difference between the specifications regarding service quality and the actual implementation of the service.

GAP 4: When promises do not match delivery: the difference between the qualities of the service and the qualities of the service as communicated to customers.

GAP 5: When the customer does not receive the expected service: the difference of the quality that the customer expects and the actually perceived service quality.

Combining the customer’s and the supplier’s side, shows how the individual components of the model are related and connected to one another. GAP 5 is the central component of the model, because it may be minimized by reducing the other four gaps. “the
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A conceptual model conveys a clear message to managers wishing to improve quality of service: the key to closing Gap 5 is to close Gaps 1 through 4 and keep them closed” (Zeithaml, Parasuraman, Berry, 1990, pp. 45-46). How customers experience service deficiencies, will depend on the size of the gaps. To explore the existence and the degree of the 5 gaps the SERVQUAL model is applied most often.

2.4.5. Zone of tolerance model (Parasuraman et al., 1993, 1994)

The model is based on the premises of the SERVQUAL model, at the same time it contains its criticism as well. Its most significant difference from the original model is that it reconsiders the concept of expectation. The model presumes that consumer expectations manifest themselves at two different levels: desired and adequate service level. The zone of tolerance is between the two levels, where the customer perceives the service as acceptable.

The model, instead of the original two scales (expectation – performance) applies three scales (desired service, adequate service, performance). ZOT offers a more extensive and complete picture on service quality then SERVQUAL. It promulgates data potentially facilitating further analysis, by introducing the “Measure of Service Superiority – MSS”, which is the difference between the perceived and the desired service and the concept of “Measure of Service Adequacy – MSA”, which is the difference between the perceived and the adequate service level.

2.4.6. Attribute service quality model (Haywood-Farmer, 1988)

The model premises that the supplier provides high quality service, if it is capable to continuously satisfy customer expectations and always is familiar with the customers’ preferences. The characteristics of the service are divided into three major groups: physical facilities and processes; behavioural aspects; professional judgment. The authors argue that in order to achieve high quality services, an optimal balance of the different factors should be reached. If the resources are concentrated on a single area, it would cause quality standards to drop.
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2.4. 7. The synthesised model of service quality (Brogowitz et al., 1990)

The authors have included the traditional management methods into their service quality model, which is built on the difference between expectation and perception. The model approaches service quality from a comprehensive aspect. It takes into consideration – besides the already existing buyers – the quality perception of the prospective customers as well. Customers in some way (e.g. did not receive the service yet, but already received an offer on that) know and thus are able to judge the service quality.

The purpose of the model is to encompass the traditional planning - implementation-evaluation/feedback structure in measuring service quality. Utilizing the Gap-model, the authors identified several gaps connected to service quality, such as information, feedback, planning, implementation, communication, as well as the problems related to customer expectations and perceptions. The model also extends the concept of expectations. The authors argued that company image, external influences and the factor of the traditional marketing activities likewise influence the technical and functional quality expectations of the customers.

2.4. 8. SERVPERF model (Cronin and Taylor, 1992)

Cronin and Taylor started out by presuming that the conceptual premises of the SERVQUAL model and the methodology of measuring service quality developed from it are inadequate. They argued that the service quality measurement method, originated from the gap model (perceived performance – minus expectation formula) is not supported by theoretical or empirical research. They pointed out that the marketing literature rather supports its measurements made relative to performance.

To support their hypothesis they compared their SERVPERF model, based on the perception paradigm with (3) three alternative models on the different service areas (banking, cleaning service, fast-food restaurant, pest control): The original disconfirmation based SERVQUAL: \( SQ = P - E \) (performance–expectations), Weighted SERVQUAL: \( SQ = w \times (P - E) \) (importance \( \times \) (performance–expectations)), SERVPERF: \( SQ = P \) (performance), Weighted
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SERVPERF: $SQ = w \times P$ (importance $\times$ performance).

They completed reliance and validity tests by applying the 22 statements of the SERVQUAL scale and the seven point Likert-scale. They examined reliability by the Cronbach alpha numbers. The SERVQUAL model’s (1) indicator was between 0.849 and 0.901, and SERVPERF’s indicator (3) between 0.884 and 0.964. They measured the standard deviation, explained by the models and by adjusted determination coefficient (adjusted $R^2$). The explicative potential of the SERVPERF always exceeded that of the alternative models and the unweighted models showed a higher $R^2$ value in all cases than the weighted counterparts (Cronin and Taylor, 1992).

They held that the SERVQUAL model confuses satisfaction and attitude. Their research results proved the hypothesis: service quality needs to be interpreted both theoretically and practically as the attitude of the customer. Their empirical conclusions also showed that using and administering SERVPERF is simpler (the 22 questions need to be asked only once) and the SERVPERF scale exceeds the reliability and validity of the SERVQUAL. They also pointed out that weighing the results do not improve the model’s capacity to project. They also showed that the five service quality dimensions determined by Parasuraman et al. (1988) cannot be proved in the studied service areas; rather service quality is a unidimensional concept (Cronin and Taylor, 1992, pp. 61-65.).

Parasuraman et al. (1994a) in their response to the critical comments of Cronin and Taylor admitted that SERVPERF has better projection potentials, but maintained that SERVQUAL diagnostic adequacy is higher and that their method provides a lot more information for managerial analysis. While Cronin and Taylor opined that by illustrating service quality determined by the SERVPERF method in relation to time and other indicators and by observing the trends, the managers may receive useful information in support of their decisions (Cronin and Taylor, 1994, p. 130).

2.4. 9. Evaluated performance and normed quality model (Teas, 1993)

The model, similarly to the SERVPERF model, was originated by critical remarks made relevant to the SERVQUAL model and the disconfirmation paradigm it is based on. The author identified the following problems and deficiencies of the SERVQUAL
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model: the ambiguity of the definitions, the theoretical justification of the role of the expectation in measuring service quality, interpreting the connection between service quality and customer satisfaction. The author based on his researches proposed that (instead of the performance-expectation difference identified in the SERVQUAL model, the values determined by two separate models (EP and NQ) (actual-ideal (EP), actual-excellent (NQ)) are used. The SERVQUAL model approached expectations as the excellence level of the given service field and compared the actual performance with this level. In his model Teas introduces the concept of ideal value and uses this as a point of reference. Any deviation from this point of reference in a positive or negative direction will effect how the individual perceives quality:

Normed Quality model:

While the EP model compares the perceived quality with the ideal, the NQ model compares the actually perceived value to the excellent level, that is, practically norms the quality value. Pursuant to the premise of the model, if we define the i unit as excellent level (norm), then the equation of the EP model determines the quality of the excellent (perceived) level \( Q_e \). Accordingly, the quality of another i unit \( Q_i \) if compared with the quality of the excellent level \( Q_e \) will indicate the normal quality (NQ):

\[
NQ = [Q_i - Q_e]
\]

2.4.10 PCP attribute model (Philip and Hazlett, 1997)

The model created by the authors is a hierarchical construction, which is composed of three attribute-groups. All the characters and dimensions describing the service can be assigned to one of the groups. The groups are overlapping and they have a hierarchical connection.

The pivotal attributes are connected to the essence or the result of the service, and the customer chooses the supplier based on these attributes (e.g. capable to provide the service demanded by the customers). These attributes have the greatest impact on customer satisfaction.

The so-called core attributes surround the pivotal attributes and may be interpreted as a compound of the human factor, procedure and the organizational structure. The customer attains the essence of the service via interacting with these “core attributes” (staff,
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procedures etc.). The third level of the model contains the “peripheral attributes”, that is ancillary characters, with which the service forms one unit.

When the customer buys the service for the first time he/she will be satisfied if the pivotal attributes are properly performed, but during later interactions the core and the peripheral attributes will play a greater role in evaluating the level of satisfaction.

2.4.11. Retail service quality and perceived value model (Sweeney et al., 1997)

Sweeney et al. developed their model by studying retail services and described the impact of service quality on value and purchase propensity, as well as their correlations. In their model value means monetary value or “value for money” and in determining service quality, they have relied on the findings of Grönroos.

Pursuant to their model value is impacted by the quality of the product and its price, as well as the functional and technical service quality. Their further research proved that the correlation is more complex; perceived functional service quality affects the value and the perception of service quality through the technical service quality. At the same time the perceived functional service quality has direct effect on customers’ willingness to buy, as opposed to technical service quality and product quality, which only impact customers’ willingness to buy indirectly via the perceived value.

2.4.12. CVW – Customer value workshop (L. Bennington, J. Cummane, 1998)

Bennington and Cummane (1998) developed techniques that differ from the major research directions of the service quality models. Their objective was to develop a method, integrating qualitative and quantitative techniques, thereby offering a deeper analysis of the questions of what exactly creates value for the customers. The method applies the technical version of the model of focus group and a modified version of the Gap-model developed by Parasuraman et al. (1985, 1988).

In the procedure of the CVW the participants (generally a group of 12-15 buyers) are requested to determine such mutually exclusive categories or qualifying groups, which represent the value in an ideal product or service and then to set forth their degree of importance. In the course of the evaluation the supplier’s current performance is compared to the predetermined characteristics.
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The CVW method is rather time-consuming since the multi-phase, moderator introduced procedure contains the following steps: filling-out questionnaires, describing the ideal product/service, applying brainstorming techniques, preparing affinity diagrams, determining the importance of a certain value and multi-step control and feedback procedure. Its major advantage compared to traditional models, is that it is more suitable to support management decisions, because it presents a more accurate and reliable picture of service quality and the potential directions of change and opportunity.

2.4.13. The hierarchical retail service quality model (Dabhokar et al., 1996)

The critical studies on the SERVQUAL model’s factor structure made Dabhokar et al. (1996) conclude that service quality should be interpreted on multiple levels: overall, dimensional and sub dimensional. They have supported their presumption by studying service quality in retail trade businesses, by determining a factor structure different from the SERVQUAL model: physical aspects, reliability, personal interactions, problem solving and policy.

In addition to evaluating the individual characteristics of the dimensions, customers form a general picture on the whole service, which is independent from the total value assigned to the factors. This represents the overall service quality level. Furthermore the authors proved that individual dimensions are a lot more complex, thus they cannot evaluated separately. Further they indicated that we can break down certain dimensions to sub-dimensions (e.g. sub-dimensions of the dimension of reliability are: promise and doing-it-right). Consequently, service quality should be judged on the three levels simultaneously.

2.4.14. Hierarchical model (Brady and Cronin, 2001)

The model developed by Brady and Cronin is also based on the Grönroos dimensions. Besides technical (result) quality and functional (procedure) quality, they introduced the dimension of service environment quality. They construed these three dimensions as factors, which primarily determine service quality, and which all are determined by further three-three subdivisions. Perceived service quality is the result of
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a multi-level evaluation, where the customers evaluate first the primary dimensions, on the basis of the sub-dimensions and then by aggregating those, the perceived service quality of the entire organization.

2.4.15. Antecedents mediator model (Dabholkar et al., 2000)

In order to come up with a more thorough interpretation of service quality, the authors developed a theoretical model which includes analysing the antecedents, consequences and mediators of service quality, as well as the results produced by the hierarchical (multi-dimensional) retail service quality model developed by the authors (Dabholkar et al., 1996). The different quality-factors are not components of the service quality, rather their antecedents. Accordingly, customers - although they evaluate the individual dimensions as well – form a general picture on service quality which is not related to the aggregated evaluation of the factors. They identified factors determining service quality or serving as antecedent to thereof (reliability, personal attention, comfort, features) or determine the relation between customer satisfaction and behavioural intentions.

2.4.16. Fundamental factors of service quality (G.S. Sureshchandar, C.Rajendran, T.J. Kamalanabhan, 2001)

One of the latest service quality models also uses the dimensions of the SERVQUAL model. The authors, contrary to the many criticism against SERVQUAL, concluded that in the SERVQUAL list “the 22 items are reasonably good predictors of service quality in its entirety” (Sureshchandar et al., 2001, p.112.). At the same time, however, these statements are organized around two major character groups: the material characteristics of the service and the subjective/personal connections of the service procedure. They argued that the SERQUAL model only concentrates on one part of the service quality. It neglects areas, such as the characteristics of the service, particularly the core service elements, systematization/standardization of service delivery as well as the supplier’s image, goodwill, and social responsibility.
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2.4.17. Internal service quality, DEA model (Soteriou and Stavrinides, 2000)

The internal service quality model, based on the DEA (Data Envelopment Analysis) method, is applicable if we would like to evaluate the service quality of the units of an organization consisting of multiple decision making units (DMU) (such as bank network; corporations having multiple branch offices, franchises, etc.), or if the decision makers would like to optimally distribute the available resources among the units. The model does not propose a new service quality measurement method, but assists in applying the already available quality-related data (based on a prior service quality measurement method) in the course of making decisions on service quality improvement.

The DEA model by processing the service quality indicators of the units (input) and the performance/consuming resources indicator, determines an optimal target value and relevant to that, evaluates the individual units. The model offers an opportunity for the units, performing under the target value to establish new directions for service quality improvement and for the units over performing thereof, to save resources.

2.4.18. SERVPEX model (M. A. Robledo, 2001)

Robledo’s (2001) model was developed during a comparative analysis of the SERVQUAL and the SERVPERF models. The most important difference is that SERVPEX does not evaluate the perception-expectation disconfirmation on two separate scales – as done by the SERVQUAL – but on a single one, the disconfirmation scale. By properly setting the end points of the seven point Likert scale, applied to evaluate the statements of the questionnaire composed of 26 items, expectations and perceived performance are practically evaluated in parallel. One of the endpoints is described as “a lot worse than I expected” the other as “a lot better than expected”. In the study the 26 statements form three dimensions: tangibles, reliability and customer contacts. The study proved that the SERVPEX model as a projection scale exceeds the performance of the SERVPERF and the SERVQUAL models.
2.5 Summary of all the important service quality models

The continuous evolution of the service quality models is well represented by the professional publications. The scientists always relied on the previous models in developing new ones; they modified the older models to a smaller or larger degree or supplemented those by new elements.

The models based on the disconfirmation paradigm (e.g. Grönroos, SERVQUAL, Zone of Tolerance, character-based methods (PCP), character-based service quality model, alternative models focusing on measuring performance SERVPERF, EP/NQ, intermediate (SERVPEX), model searching for the connection between satisfaction, value and purchasing attitude hierarchical retail service quality model and model applying service quality as input.

Reviewing the professional publications proved that the late service quality models and the measurement models mostly originated from the so-called Nordic model developed by Grönroos and the SERVQUAL model established by Parasuraman et al. from the GAP-model. The comprehensive model of Borgowitz et al. (1990) mixes the above two models. The three dimensional model of Lehtinen and Lehtinen, and the model of Rust and Oliver may be considered as a further development of the Nordic model, while the SERVQUAL model and its wider interpretation are presented by the Zone of Tolerance model. From the aspect of the continuing development of the models the criticism triggered by SERVQUAL was of fundamental importance. Cronin and Taylor’s SERVPERF, Teas’ (1993) EP (Evaluated performance)/NQ (Normed Quality) model and Robledo’s SERVPEX model just like the attribute models (Hayward-Farmer; Philip and Hazlett).

The subsequent studies focused on the relation between service quality and customer satisfaction, as well as that of service quality and purchasing attitude, from which newer models were developed. Cronin and Taylor’s (1992) results indicated that customer satisfaction is originated by service quality, while purchasing intent is impacted by satisfaction. The antecedent and mediator model of Dabholkar et al. (2000) model continued to examine this connection.

Cronin and Taylor (1992) also pointed out that customers do not always buy the best-
quality product, but their purchasing decision is determined by how they judge the value of the given service. Introducing concept of value in turn resulted further models (e.g. Sweeney et al., 1997), and hybrid techniques also appeared in this respect CVW model.

The more thorough testing, on how the customer evaluates service quality, drew attention to the fact that service quality is not evaluated by customers on single level, but on multiple, parallel levels. The latest results used hierarchical, multi-level evaluations, for example the models developed by Dabholkar et al. (1996), and Brady and Cronin (2001).

It can be seen that there was a continuous development in identifying the dimensions constituting (or determining) service quality. Researchers always extend the concept of service quality. Beside the dimensions referring to the quality of the service results and the service procedure, new dimensions –interpreting service quality in a wider meaning– are applied, such as service environment or in one of newest model, the social role of the service provider.

By synthesizing the individual models and stressing the common elements M. Suurroja (2003) established a theoretical model, which may serve as basis of further studies in this area. The synthesized perceived service quality model is based on the following premises (to be considered for further research purposes): Service quality is based on performance indicators and not on the discrepancies between expectations, norms and performance. Expectations of course influence service quality but only in an indirect manner. Service quality cannot be interpreted by simply aggregating the results of evaluating the individual dimensions. Service quality is perceived on multiple levels (overall, dimensional, sub dimensional), where the individual dimensions are not components, but rather the antecedents of the overall evaluation of the service quality.

Service quality characters vary depending on the service and are not universal. The focus of the synthesized model is the quality of the service process, and the quality of the service result. In the hierarchical model the central elements are surrounded by the physical environment of the service. Service quality models go through constant changing and development. Besides the theoretical issues (definition of service quality, validity of performance paradigm as opposed to disconfirmation) the models vary as
2.6 The relation between service quality and satisfaction

According to some researchers (for instance, Parasuraman et al., 1988; Woodside et al., 1989, Cronin and Taylor, 1992), quality results in satisfaction, while other researchers (Bitner, 1990; Bolton and Drew, 1991) proved in their essays that the causal relation functioned right reversely: quality originates from satisfaction. Other analyses did not find any causal relation between the two instruments. According to Hofmeister et al., the positive quality assessment does not definitely exclude dissatisfaction, for instance, a person finding a too expensive hotel room by fortune (i.e. that he could find a room at all) will not probably be satisfied with the result even if he appreciates the quality of the service (Hofmeister et al., 2003, p. 52.). Bowers et al. (1994) drew the conclusion that both the quality and the satisfaction were determined by the same factors. Iacobucci et al. (1995) précised this latter statement in their research so that the service quality and satisfaction were determined by different factors. The price, customer service, expertise can rather be related to the quality, while accuracy, physical environment and development of the service to the satisfaction.

Disputes concerning the causal relation between the two concepts basically derive from
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reading of the extension of satisfaction and service quality (i.e. whether it concerns a specific transaction or it is a result of an overall assessment) as well. Parasuraman et al. (1988) defined the perceived quality as the overall assessment of the service. According to their reading, quality may only relate to the full and long-term relation to the service provider, while the satisfaction only to the event of shopping/servicing in question (Parasuraman et al., 1988). In their later works during disputes concerning the SERVQUAL model (Parasuraman et al., 1994a), they connected the opposing theories by mixing the two approaches. In case we regard satisfaction as transaction-specific, then, according to their theoretical model, this can be described as the function of service quality, product quality and the price. This corresponds to the findings of researchers (Woodside et al., 1989) supposing the relation service quality customers satisfaction (SQ SAT). Customers, however, form a global view on the service provider by summarizing the transactions; this means the overall reading. Of course, this impression is determined by the customer’s overall satisfaction, the perceived overall service quality, product quality and price.

In this aspect the satisfaction related to single transaction determines service quality (SAT SQ) as proven by Bitner (1990), Bolton and Drew (1991). Most of the recent researches on the relation between satisfaction and quality support the transaction-specific relation of service quality customers’ satisfaction (Cronin, Brady and Hult, 2000).

In a previous work, Dabholkar et al. (1995) were of the opinion that the logical relation between satisfaction and quality depended on the situation and orientation: if the answering person is oriented by emotions (affects), the satisfaction causes positive service quality in his perception. However, in case he is a cognitive person, then he feels that the satisfaction depends on the perceived quality. In order to test this statement, Brady and Robertson (2001) conducted examinations concerning the services of American and Latin-American fast-food restaurants in various fields of culture. As experienced by them, although people in Latin-America are rather oriented by emotions and in the United States the cognitive orientation is characteristic, there was no difference regarding trends of satisfaction and quality: the perceived quality determined satisfaction. This relation was supported by further essays. For instance,
Chapter 2 : Review of Literature


2.7. Evaluation and Operationalization of Service quality

It is generally recognised that for any research to be of any value, the underlying construct needs not only to conceptually defined, but operationally delineated. The purpose of operationalizing service quality is to bridge the gap between theoretical concept of what it is and the reality of how it can be evaluated. For example, service quality is regarded as global attitude, an abstraction that cannot be observed and measured directly. Therefore, an operational definition of service quality will transform such a concept into observable events. It also allows the concept of service quality to be “transportable” to other industry settings, uniformly understood and used by all interested parties. To neglect the operationalization of service quality is tantamount to overlooking the definition of a problem before attempting to determine a solution to the problem. Since the proliferation of service quality studies in the 1980s, different evaluation methods have been applied. In the following sections, the operationalization of the service quality construct will be explained in detail under both qualitative and the quantitative approaches.

2.7.1 Evaluation Approaches

Since the exploratory study of service quality by Grönroos (1984) and Parasuraman et al. (1985) in the mid 1980s, the subject has triggered intense interest among academics and practicing managers leading to a proliferation of relevant research studies using a wide variety of evaluation approaches. Some studies on service quality are geared to comparisons of service quality level in different countries (e.g., Lewis, 1991; Schlegelmilch, Carman and Moore, 1992) where as some are undertaken for inter-firm (e.g., Ennew, Reed and Taylor, 1992; Parasuraman et al., 1988, 1991a).Given similarity of concepts between service quality and customer satisfaction, a need to examine these two constructs is also important. Selected empirical studies on service quality and customer satisfaction are summarised in tables 2.1 and 2.2 respectively.
## Table 2.1 Summary of Selected Empirical studies on service quality

<table>
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<tr>
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<tbody>
<tr>
<td>1. Research objective</td>
<td>To develop a conceptual model of service quality</td>
<td>To develop a multi–item service quality measurement instrument.</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>14 in-depth interviews and 12 focus group interviews on retail banking, credit card, securities brokerage, and product repair &amp; maintenance industries.</td>
<td>1st Stage: Survey of 200 respondents of 5 service industries. 2nd Stage: Survey of 200 respondents for each of 4 firms: a bank, a credit card company, an appliance repair and maintenance company, and a long distance telephone company.</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Open –ended questions</td>
<td>First Stage: Development of a 97-item instrument to capture expectations and perceptions separately on a 7 – point scale from “strongly agree” (7) to “strongly disagree” (1); about half of the statement pairs were worded negatively. Second Stage: Refinement to a 34 – item instrument from stage one and added questions on overall service quality evaluation.</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>None</td>
<td>Coefficient alpha, content validity, Convergent validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>None</td>
<td>Factor analysis, MANOVA</td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>See Teas (1993b) for definitional Problems of expectations minus perception</td>
<td>See Babakus and Boller (1992); Brown, Churchill, and Peter (1993); Carman (1990); Cronin and Taylor (1992, 1994); and Teas (1993b) for arguments against the scale</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Development of the “gap” model And 10 determents of service quality</td>
<td>Development of 22 item measurement instrument (SERVQUAL) to measure service quality across 5 dimensions.</td>
</tr>
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### Table 2.1 Summary of Selected Empirical Studies on Service Quality (contd..)

<table>
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<tbody>
<tr>
<td>1. Research objective</td>
<td>To measure service quality of credit unions</td>
<td>To report on the findings of replication studies using SERVQUAL measurement instrument</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>Mail survey of 2500 members of credit unions. Usable questionnaires : 1224</td>
<td>Survey of 200 customers from each of the following service organisations: a dental school patient clinic, a business school placement centre, a tyre store and an acute care hospital.</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Rating of 45 statements and an overall evaluation on a 7 – point Likert scale</td>
<td>22 – item SERVQUAL instrument (Parasuraman, Zeithaml, and Berry, 1988) with modification on wording for each service category.</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Coefficient alpha, content validity</td>
<td>Coefficient alpha , content validity, construct validity, nomological validity, discriminant validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>Factor analysis, multiple regression</td>
<td>Factor analysis</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>1. Large sample</td>
<td>1. Scales already defined in previous SERVQUAL studies. 2. Construct validity and nomological validity indicated</td>
</tr>
<tr>
<td></td>
<td>2. High reliability (0.71 to 0.90)</td>
<td>2. Questionable discriminant validity.</td>
</tr>
<tr>
<td></td>
<td>3. Comprehensive scale measurement instrument</td>
<td>3. Problem of difference score (see brown, Churchill and peter, 1993)</td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>Seven factors identified only accounted for 58% of total variance.</td>
<td>1. Factors with high reliability inconsistent across different replication studies (0.51 - 0.87) 2. Questionable discriminant validity. 3. Problem of difference score (see brown, Churchill and peter, 1993)</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Customer satisfaction was positively related to and had the greatest impact on overall service quality evaluation</td>
<td>Highlight drawbacks of SERVQUAL instrument : 1. Need to customise SERVQUAL instrument to suit individual settings. 2. Service quality dimensions not generic 3. Need to account for service quality of multiple service functions separately.</td>
</tr>
</tbody>
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### Table 2.1 Summary of Selected Empirical Studies on Service Quality (contd..)

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Parasuraman, Berry and Zeithaml (1991a)</th>
<th>Babakus and Boller (1992)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research objective</td>
<td>To refine the SERVQUAL instrument; and to compare with other studies using SERVQUAL instrument</td>
<td>To assess the shortcomings of the SERVQUAL instrument (Parasuraman, Zeithaml, and Berry,1988)</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>Mail survey of 1800 -1900 customers for each of 5 companies ( 1 telephone company,2 insurance companies and 2 retail banks); response rate ranged from 17-25% ; aggregate response rate :21%</td>
<td>Mail survey of 2375 users of electricity and gas; usable questionnaires : 689</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>22 – item SERVQUAL instrument; “should” terminology changed to “will”; negatively worded items changed to positively worded items;2 new items under tangibles and assurance substituted; other minor wording adjustments to original SERVQUAL; relative importance of 5 dimensions added by allocating 100 points</td>
<td>22 – pair statements of SERVQUAL with additional questions on complaint behaviour, single-item satisfaction on a 7 – point scale, an overall rating of service quality on a 4-point scale</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Coefficient alpha, content and construct validity; predictive validity</td>
<td>Coefficient alpha , convergent validity and discriminant validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>Factor analysis, multiple regression</td>
<td>Confirmatory factor analysis</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>1. High reliability and construct validity 2. Gap scores generated by revised SERVQUAL fairly stable. 3. Consistent factor structure.</td>
<td>1. Large sample size 2. Scale measurement already defined in other SERVQUAL studies 3. High reliability (0.67 to 0.83) across 5 dimensions</td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>1. Interdimensional overlap is greater than the original SERVQUAL scale 2. See Babakus and Boller (1992); Brown,Chrchill, and peter (1993);Carman (1990);Cronin and Taylor(1992,1994); and Teas (1993b) for arguments against the scale</td>
<td>1. See Bolton and Drew (1991a) for concerns for measuring service quality of utility companies. 2. Questionable convergent and discriminant validity.</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Revised SERVQUAL scale performed better than the original SERVQUAL scale in terms of reliability, factor structure, and validity</td>
<td>5-dimensional structure of the SERVQUAL instrument not envisaged</td>
</tr>
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</table>
Table 2.1 Summary of Selected Empirical Studies on Service Quality (contd..)

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<tbody>
<tr>
<td>1. Research objective</td>
<td>To suggest that SERVQUAL model is inadequate; and to examine the relationship between service quality, customer satisfaction and purchase intention</td>
<td>To suggest an alternative method (non-differential score) to SERVQUAL instrument to measure service quality of financial institutions.</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>Personal interview s of 730 customers(banking 188, pest control 175, dry cleaning 178, fast food 189); usable questionnaires: 660</td>
<td>2 versions of questionnaire (1 and 2 below) to 230 undergraduate business students. About half of the participants completed each version.</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>22- pair SERVQUAL statements; 22 statements of importance measures; 1 statement on purchase intentions; 1 statement on overall quality; 1 statement on overall satisfaction; rating on 7 point semantic differential scales.</td>
<td>First version: 22 item statements from SERVQUAL but rephrased to “How”; 7-point scale with verbal descriptors (“much worse than I expected” to “much better than I expected”); single-item to measure overall service quality; 5 global measures to assess 5 dimensions; 3-item behavioural intentions measure. Second version: SERVQUAL instrument</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Coefficient alpha, content validity, convergent validity, discriminant validity</td>
<td>Coefficient alpha, content validity, convergent validity, discriminant validity and Nomological validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>Factor analysis, multiple regression and structural equation modelling</td>
<td>Correlation, multiple regression</td>
</tr>
</tbody>
</table>
| 6. Major Strengths           | 1. Large sample size  
2. Introduction of performance-based service quality measurement instrument  
3. High reliability (0.85 to 0.96) | 1. Introduction of non-difference score approach.  
2. High reliability: modified SERVQUAL (0.96); SERVQUAL (0.94) |
| 7. Major Weaknesses          | 1. Bias on limiting the study to highest market share firms  
2. Firms investigated mostly from low involvement service categories | See Parasuraman, Berry and Zeithaml(1993) for arguments against the psychometric and practical issues of the proposed non-difference score measurement instrument. |
| 8. Research Findings         | Performance based SERVPERF outperformed SERVQUAL; service quality was an antecedent of customer satisfaction and had less effect on purchase intention. | Non-difference score SERVQUAL outperformed difference – score SERVQUAL in terms of reliability, discriminant validity, and variance restriction effects. It also reduced the length of the questionnaire. |
Table 2.1: Summary of Selected Empirical Studies on Service Quality (contd..)

<table>
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<tbody>
<tr>
<td>To develop a valid and reliable scale for measuring physical distribution service quality perception of industrial customers</td>
<td>To replicate the SERVQUAL instrument in an ocean freight shipping setting.</td>
<td></td>
</tr>
<tr>
<td>Research Design</td>
<td>The instrument was pretested to 33 respondents. The refined instrument was mailed to 797 respondents. 446 questionnaires were usable.</td>
<td>Personal interview of 114 shipping managers.</td>
</tr>
<tr>
<td>Measurement</td>
<td>Both expectation and perception battery of items were included in the questionnaire. The questionnaire contained 36 service quality items, 2 items on overall service quality, and 2 items on purchase intentions. The survey data were divided into halves. The first half was used to further refine the 36 items whereas the second half was used to verify the unidimensionality and reliability of the scale.</td>
<td>The SERVQUAL instrument</td>
</tr>
<tr>
<td>Validity and Reliability Evidence</td>
<td>Coefficient alpha, convergent validity, predictive validity</td>
<td>Composite reliability, convergent validity, discriminant validity, nomological validity, and predictive validity.</td>
</tr>
<tr>
<td>Statistical Analysis</td>
<td>Confirmatory factor analysis</td>
<td>Confirmatory factor analysis and correlation analysis</td>
</tr>
<tr>
<td>Major Strengths</td>
<td>1. Moderate sample size. 2. The data analysis compared both the gap and perception only measurement frameworks. 3. Strong evidence of reliability and validity. 4. Extended the service quality research to a business-to-business setting.</td>
<td>1. The data analysis compared both the gap and perception only measurement frameworks. 2. Strong evidence of reliability and validity. 3. Extended the service quality research to a business-to-business setting.</td>
</tr>
<tr>
<td>Major Weaknesses</td>
<td>Only 27% (gap) and 34% (perception only) of the variance in the overall SQ was accounted for by the SQ items.</td>
<td>Relatively small sample size.</td>
</tr>
<tr>
<td>Research Findings</td>
<td>The gap-based framework outperformed the perception-only framework in terms of model fitness.</td>
<td>Overall, the perception-only measurement achieved better results than the gap-based measurement.</td>
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</table>
Most of the service quality studies from mid 1980s to mid 1990s focussed on gap based (perception minus expectation) evaluation framework (e.g., Babukus and Boller, 1992; Carman, 1990; Parasuraman et al., 1988, 1991a) and finding determinants of service quality (e.g., Bienstock et al., 1997; Parasuraman et al., 1988, 1991a) in accordance with established scale development process (e.g., Churchill, 1979) for different industries. The major strengths of these studies, among others, include using large samples and multiple industries to develop and validate the measurement scales by means of exploratory factor analysis and confirmatory factor analysis (e.g., Babukus and Boller, 1992; Parasuraman, Zeithmal and Berry, 1988, 1991a). However, generic service quality dimensions and consistent factor structure were not found in replication studies (e.g., Babukus and Boller, 1992; Carmand, 1990).

On the other hand, customer satisfaction research during that period was related mostly to investigating multiple comparison standards in satisfaction formation (e.g., Spreng, MacKenzie, and Olshavsky, 1996; Tse and Wilton, 1988). The product – oriented satisfaction research in the 1980s (e.g., Churchill and Supernant, 1982; Oliver, 1980) was moved to a more service-oriented satisfaction research in the 1990s (e.g., Bitner, Booms, and Tetreault, 1990; Halstead, Hartman, and Schmidt, 1994). This may be attributable to the rapid growth of the service industry in the world economy. One of the common features of these studies involves the use of structural equation modelling technique for testing model robustness. Halstead et al. (1994), summarise four major advantages of using structural equation modelling technique: (1) parameter estimates can be made through the use of weighted least squares method (WLS), even when assumptions of normality have been violated; (2) estimation of latent variables can be made by measuring multiple indicators of latent variables with measurement errors; (3) measurement models can be evaluated for unidimensionality by placing a priori constrains on the off-factor loadings; and (4) competing theoretical models can be systematically evaluated to establish the best representation of the data. These model-testing studies have enriched customer satisfaction literature with a greater understanding on the comparison standards and the satisfaction formation process as well as its consequences.
Table 2.2 Summary of Selected Empirical Studies on Customer Satisfaction

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<tbody>
<tr>
<td>1. Research objective</td>
<td>To test the relationship among expectation, disconfirmation, satisfaction, attitude, and intention.</td>
<td>To test the disconfirmation model of satisfaction in a retail service setting through a longitudinal study.</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>First stage: Mail survey of 2,000 residents and 1,000 university students. Responded: residents (28%) and students (45%). Second Stage: Mail survey 1st stage respondents on feelings toward the federal flu programme and flu shots. Responded: 291 resident and 162 student “vaccines”; and 65 resident and 86 student “non-vaccines”</td>
<td>Self-administered questionnaires to 346 customers aged 15 and above of a restaurant. 243 customers responded.</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Pre – exposure variables: Expectations: 5 - point scale from “no change” to “certain”; evaluation: 5-point good-bad scale; overall attitude: one-item semantic differential scale; behaviour intention: 11 point scale from “no chance” to “certain”. Post exposure variables: Disconfirmation: 2 item overall disconfirmation on a 7 point scale; satisfaction 6-item Likert scale; behaviour: self respect.</td>
<td>Before the meal: Rate the expectation on food and services on seven attributes. To be completed before order was taken. After the meal: Rate the evaluation of food and services on the attributes and to measure satisfaction and intentions.</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Coefficient alpha</td>
<td>Split- half sample.</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>Multiple regression</td>
<td>Step wise regression, structural equation modelling</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>High reliability(0.94 for combined sample on pre-exposure variable and 0.82 on post exposure variables)</td>
<td>“Before” measures did not bias the “after” measures through the use of “after only” group. Longitudinal study rather than cross sectional study preferable.</td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>1. Multicollinearity of the complete recursive system for data analysis 2. Community sample, rather than national sample, was considered non representative; low response rate.</td>
<td>1. Incentive for recruiting respondents might cause bias. 2. Respondents might interact with each others while completing questionnaires.</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Disconfirmation was a positive predictor of satisfaction (and attitude and intention). Expectations were also positively related, but disconfirmation had the greater effect on satisfaction.</td>
<td>Inferred disconfirmation was a positive predictor of satisfaction and had a greater influence on satisfaction than either expectations or perceived disconfirmation. Perceived disconfirmation had the smaller effect on satisfaction for all variables tested.</td>
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</table>
## Table 2.2 Summary of Selected Empirical Studies on Customer Satisfaction (contd..)

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<tbody>
<tr>
<td>1. Research objective</td>
<td>To test the interrelationships among expectations, perceived performance, disconfirmation and satisfaction for a durable and non durable goods</td>
<td>To propose experience-based norms as standard for comparison under the confirmation / disconfirmation paradigm.</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>Field survey of 126 respondents who were aged 19 and 65 were recruited at a shopping mall. Incentive was offered. Half of the video disc player (VDP) and half for the hybrid plant.</td>
<td>Two-stage on site survey (before and after dining) of a consumer panel of 120 persons randomly selected to capture the norms construct in restaurant dining. 87 panel members completed the entire study.</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Three levels of expectation and three levels of performance for two goods. Both attribute-specific and global measures were taken.</td>
<td>Pre consumption measures: Product type norm: 5 point rating scales on 9 attributes. Best brand norm: 5 point rating scales on best restaurant. Brand Expectations: 5 point rating scales on focal restaurant. Post consumption measures: Performance: composite score on 7 attributes together with a single-item overall measurement; disconfirmation: a single item for each norm/expectation on a 5 point scale; feeling: bipolar 5-point scales.</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Coefficient alpha</td>
<td>Composite reliability, convergent validity, discriminant validity, nomological validity,</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>Analysis of variance, structural equation modelling</td>
<td>Structural equation modelling</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>1. High reliability (ranged from 0.85 to 0.95 for both goods) and convergent validity</td>
<td>1. All the constructs (except two) exhibit high reliability (i.e. over 0.70)</td>
</tr>
<tr>
<td></td>
<td>2. Research on satisfaction process for durable products</td>
<td>2. Measure taken to test the demand effect by including handout/mailback questionnaire to customers.</td>
</tr>
<tr>
<td></td>
<td>3. Explored role of performance in determining satisfaction directly.</td>
<td></td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>Some constructs were operationalized using a single item or two items.</td>
<td>1. Disconfirmation measure with single item scale.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Particular standard used by each respondent not identified.</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Disconfirmation and performance were both positively related to satisfaction for the plant, but disconfirmation had the greater effect. For the VDP, only performance had a significant positive impact on satisfaction, accounting for 88% of the satisfaction variance</td>
<td>Disconfirmation was positively related to satisfaction for all three restaurant settings. Disconfirmation of product norms and best-brand norms was consistently better than brand expectations in explaining satisfaction variation. Performance was positively to disconfirmation.</td>
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# Table 2.2 Summary of Selected Empirical Studies on Customer Satisfaction (contd..)

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<tbody>
<tr>
<td>1. Research objective</td>
<td>To examine the role of perceived performance and compared the effects of alternative disconfirmation and comparison standards.</td>
<td>To study customer perception of equity and satisfaction with the salesperson in an automobile purchase.</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>Laboratory experiment of student volunteers from advanced marketing management courses of a university about psychological states towards new electronic, hand-held, miniature record player. 62 students completed the experiment.</td>
<td>Onsite survey of new car buyers on equity consideration towards salesperson and dealer followed by a mail survey on customer feelings of equity towards the transaction with salesperson. Total responses were 426 from 791 requests. Usable: 415</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Three comparison standards (expectations, ideal and equity), four disconfirmation constructs (subjective, perceived-expected, perceived-ideal, and perceived – equitable) together with perceived performance</td>
<td>Perception of input and output: 28 items on 4 elements measured on a 7-point Likert scale; equity: 5 items on a 7-point Likert scale; satisfaction: 6 items with bipolar adjective; disconfirmation: 3 items with “worse than expected” to “better than expected” scale; intention: 4 items bipolar adjective scale</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Discriminant and convergent validity</td>
<td>Item reliability and convergent validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>2*2 factorial design, pairwise correlation</td>
<td>Structural equation modelling</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>Extended further the Churchill and Superenant’s (1982) performance-only measurement of customer satisfaction.</td>
<td>1. Multiple items for each construct 2. Large sample size</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Performance and disconfirmation were both positively related to satisfaction, but performance exceeded all the expectation measures and disconfirmation as a predictor of satisfaction</td>
<td>Disconfirmation was a positive predictor of satisfaction. But fairness had the greatest effect on satisfaction.</td>
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## Table 2.2 Summary of Selected Empirical Studies on Customer Satisfaction (contd..)

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<tbody>
<tr>
<td><strong>1. Research Objective</strong></td>
<td>To study critical service encounters leading customer satisfaction/dissatisfaction.</td>
<td>To examine the relationships among performance, disconfirmation, and satisfaction in a higher educational setting.</td>
</tr>
<tr>
<td><strong>2. Research Design</strong></td>
<td>Personal interviews of 719 customers of hotels, restaurants, and airlines. Usable responses: 699</td>
<td>1223 questionnaires were sent to alumni. 475 usable responses were returned.</td>
</tr>
<tr>
<td><strong>3. Measurement</strong></td>
<td>Use of Critical Incident Technique (CIT) to capture a specific instance in which good or poor service interactions occur and to classify the incidents into 12 resulting categories.</td>
<td>Performance: 5 items for intellectual environment, 2 items for employment preparation. Both on a 5 point scale ranging “very strong” (5) to “very weak” (1). Disconfirmation: 2 items for two performance measures. Satisfaction: 3 items to measure overall satisfaction.</td>
</tr>
<tr>
<td><strong>4. Validity and Reliability Evidence</strong></td>
<td>None</td>
<td>Item reliability, convergent validity and discriminant validity.</td>
</tr>
<tr>
<td><strong>5. Statistical Analysis</strong></td>
<td>Descriptive Statistics</td>
<td>Structural equation modelling.</td>
</tr>
<tr>
<td><strong>6. Major Strengths</strong></td>
<td>1. CIT was useful in commercial applications. 2. More than 700 incidents were collected.</td>
<td>1. Large sample size to compensate for non-normality of variables through the use of polychoric correlation matrix</td>
</tr>
<tr>
<td><strong>7. Major Weaknesses</strong></td>
<td>Problems with CIT processing and analysing anecdotal materials (Johnston, 1995)</td>
<td>Students’ expectations were not accounted for. Single item to measure disconfirmation. Variance explained not mentioned. There might be other antecedents to alumni satisfaction.</td>
</tr>
<tr>
<td><strong>8. Research Findings</strong></td>
<td>Identify sources of satisfaction and dissatisfaction.</td>
<td>Confirmed that a performance-disconfirmation model, which contained multiple sources of performance and separate disconfirmation provided a better representation of satisfaction formation process than the traditional single source model.</td>
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### Table 2.2 Summary of Selected Empirical Studies on Customer Satisfaction (contd..)

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<tbody>
<tr>
<td>1. Research objective</td>
<td>To test a comprehensive model of the determinants of consumer satisfaction involving two comparison standards</td>
<td>To examine the determinants of customer satisfaction or dissatisfaction in the context of business professional service</td>
</tr>
<tr>
<td>2. Research Design</td>
<td>207 subjects recruited from a local church to participate in an experiment about camcorder. Subjects were asked about their views on desire, expectation, and perceived performance about the camcorder</td>
<td>Mail survey of 142 client of management consulting services. Usable: 128</td>
</tr>
<tr>
<td>3. Measurement</td>
<td>Multi-item scales were developed to measure: (a) desires, expectation and perceived performance; (b) desires congruency and expectations congruency; (c) information satisfaction; (d) attribute satisfaction; and (e) overall satisfaction.</td>
<td>Multiple items were used to measure the purchase situation variables (Novelty, importance, complexity, Individual characteristics (Uncertainty an stakeholding), expectations, performance, disconfirmation, fairness, satisfaction/dissatisfaction, and repurchase intentions.</td>
</tr>
<tr>
<td>4. Validity and Reliability Evidence</td>
<td>Item reliability, discriminant validity</td>
<td>Reliability, convergent validity, discriminant validity</td>
</tr>
<tr>
<td>5. Statistical Analysis</td>
<td>ANOVA, Structural equation modelling</td>
<td>Confirmatory factor analysis, path analysis</td>
</tr>
<tr>
<td>6. Major Strengths</td>
<td>The results provided strong support for the hypothesis and helped clarify the roles of desires, expectations and performance in the satisfaction formation process</td>
<td>Longitudinal design</td>
</tr>
<tr>
<td>7. Major Weaknesses</td>
<td>The subjects did not actually purchase the product which might affect the depth or intensity of their satisfaction reactions to some extent.</td>
<td>Small sample size</td>
</tr>
<tr>
<td>8. Research Findings</td>
<td>Confirmed the importance of desires congruency and information satisfaction in the satisfaction formation.</td>
<td>The disconfirmation paradigm could be applied to industrial buying situation</td>
</tr>
</tbody>
</table>

Also revealed in Table 2.1, the methods used to measure service quality are based on different schools of thought and can be mainly classified into two groups: incident and attributes based methods (Stauss and Hentschel, 1991; Mattsson, 1994). The former method tends to qualitative and concerns deviations from the normal case whereas the latter is
quantitative and forces the respondents to assume a certain level of normal performance. Therefore, these methods are, in fact, measuring different aspects of quality and processes.

2.7.1A Qualitative Approaches

One qualitative approach to measure service quality is by using critical incident technique (CIT). Strauss and Hentschel (1991) consider CIT as essentially a method of collecting and classifying. They refer to critical incidents as “specific interactions between customers and service employee that are especially satisfying or especially dissatisfying” (p.29). They also point out four reasons that CIT is particularly useful to measure quality. Firstly, Services are process-oriented and the dominating mode of experience within the process is episodic and not attitude based. Secondly, services are basically intangible. Therefore, the transformation of concrete incident-based experience in abstract attitude-based evaluations is more difficult than products. Thirdly, the customer is partly involved in the service production process. She/he will experience her/his participation as sequence of incidents and not as a sum of attributes. Lastly, face-to-face communications are not abstract discussions of service quality attributes, but of special incidents.

Other qualitative techniques may include focus group interviews, in-depth personal interviews, and observational methods. Since the proliferation of service quality research in mid-1980s, focus group interview and in-depth personal interview have been primarily used for exploratory study and for development of an attribute-based measurement instrument (e.g., Parasuraman et al., 1985, 1988).

About observational methods, Grove and Fisk (1992) claim that: These methods are well suited to capture the process nature of services phenomena due to their ability to examine service interactions unconstructively as they occur. This is crucial since service quality includes both process and outcome dimension and processes are the raw material by which services are constructed.

The above review on the qualitative approach to the study of service quality suggests that no single technique is ideal as there are both advantages and disadvantages. An appreciation of the strengths and weaknesses of each construct is required to match the situational factors and the unique features of the industry under study. Recent empirical studies on service quality tend to combine both qualitative and quantitative approaches in research design (e.g., Bienstock et al., 1988). Therefore, an understanding of the quantitative approach is also
required. The following section will address the main features of quantitative approaches.

2.7.1B Quantitative Approaches

The quantitative approach to measuring service quality is typically attributes-based. In addition, the investigation of service quality tends to multi-dimensional because most services are bundled with core, facilitating, and supporting elements. For example, airline services include core element (transportation), facilitating elements (check-in procedures) and supporting elements (in-flight meals). The use of single statement, for example, rated on a poor to excellent scale, is conceptually unreliable in view of complex consumer behaviour and of less value to the management in shaping service delivery strategy. A number of empirical studies have used multi-item instruments to measure service quality.

For quantitative studies, Crompton and Love (1995) identify that there are five alternative operationalizations of quality, including: (1) attribute expectations; (2) attribute expectations and attributes importance; (3) attribute performance and attribute importance;(4) attribute performance and attribute expectations; and (5) attribute performance, expectations, and importance. The operationalization of the service quality concept in most empirical studies (e.g., Avkiran 1994, Brown and Swartz,1989;Carman,1990; Durvasula,Lysonski,and Mehta,1999; Lewes,1991; Parasuraman et al.,1988,1991a) tends to adopt P-E (perception minus expectation) measurement framework although Cronin and Taylor (1992) argue that there is little theoretical or empirical evidence supporting the relevance of the P-E as the basis for measuring service quality.

Underlying this P-E operationalization, perceived service quality is assumed to increase as the differences between P and E increases across various service quality attributes. It is important to note that this P-E service quality concept is different from the expectancy - disconfirmation paradigm in traditional customer satisfaction / dissatisfaction models. First, the P-E gap concert represents a comparison with a form (i.e., expectation as ideal standard) as opposed to the predictive standard used in customer satisfaction research. Bolton and Drew (1991a) propose another perspective to the comparison standard. They postulate that service quality is a function of a customer’s disconfirmation experiences, expectations and perceived performance levels. Their research results confirm the importance of performance and disconfirmation experience in the quality evaluation of telephone service whereas
expectations do not play a part. The discussion is summarised in Table 2.3.

**Table 2.3  Current Operationalizations of Service Quality**

<table>
<thead>
<tr>
<th>Operationalization</th>
<th>Researcher/(s)</th>
<th>Primary characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception –Expectation (ideal) model</td>
<td>Carman(1990) Babuksus and Boller (1992) Parasuraman,Zeithaml and Berry (1985,1988)</td>
<td>To moderate service quality as function of ideal standard of expectations and perceived performance. Service quality judgement depends on the size and magnitude of the gap between perceived performance and expectation. With expectations of service held constant, the higher the perception, the higher the service quality will be.</td>
</tr>
<tr>
<td>Perception-Expectation (prediction) model</td>
<td>Parasuraman,Zeithaml and Berry (1991a)</td>
<td>To model service quality as a function of predictive standard of expectation and perceived performance. Unlike the perception –expectation (ideal) model, this approach emphasises the expectation as prediction as a comparison standard which is realistic in most of the service encounters.</td>
</tr>
<tr>
<td>Performance Disconfirmation Model</td>
<td>Bolton and Drew (1991a)</td>
<td>To model service quality as a function of perceived service performance for the prior period and the level of (dis)satisfaction with the current level of service performance.</td>
</tr>
<tr>
<td>Evaluated performance Model</td>
<td>Teas (1993b)</td>
<td>To model service quality as a function of the probability of optimal performance. This model posits that the perception of service quality is positively related to the maximum likelihood that the performance is close to the optimal point.</td>
</tr>
<tr>
<td>Perceived performance Model</td>
<td>Cronin and Taylor (1992)</td>
<td>To model service quality as a function of current perceived performance. Service quality is solely determined by the level of performance.</td>
</tr>
<tr>
<td>Importance Performance Model</td>
<td>Ennew, Reed and Binks (1993)</td>
<td>To model service quality as a function of importance and perceived performance.</td>
</tr>
</tbody>
</table>

Despite the divergence in perceptive between P-E model and P only model there is no definitive study to confirm which model works better. It seems from review of literature, that P-E model works better in high involvement services or business to business services and P
only model low involvement services or consumer services. Although there is no clear indication about the relative superiority between the P-E approach and P – only approach, the process of operationalizing service quality tends to be fairly similar. The process of operationalizing service quality involves three independent but related stages, including identifying service quality dimensions and attributes, specifying importance or weighting of service quality dimensions, and determining how each dimension is to be measured.

2.8 Chapter Review

This chapter has outlined the conceptual framework of service quality and its related construct, customer satisfaction as well their theoretical relationship. In addition, empirical issues about measuring service quality and customer satisfaction were examined. To conclude, there is no complete agreement that customer satisfaction and service quality are either the same or different constructs. Even if there are differences, some researchers feel that the differences are not significant or they are not aware that there are differences. Clarifying the conceptual differences between these two constructs is in many ways relatively easier than teasing apart the empirical differences. Although the current literature seems to put more emphasis on the quantitative approach to measuring service quality, qualitative techniques, in particular focus group interviews and in-depth personal interviews are a useful approach to uncover service quality dimensions and attributes before designing a quantitative study. In the following chapter the literature on transportation service quality will be explored before formulating a theoretical model for this study of Railway Passenger Service Quality (RSPQ).

2.9 Chapter References


Chapter 2: Review of Literature


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Chapter 2 : Review of Literature

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