Research Article

Identify The Need for Developing a New Service Quality Model in Today's Scenario: A Review of Service Quality Models

Ankit Agarwal[1] and Gulshan Kumar[2]*

[1]Research Scholar, Uttarakhand Technical University, Dehradun, India
[2]Research Scholar, Kumaun University, Nainital, India

Abstract

The service industries are mostly customer driven and their survival in the competitive environment largely depends on quality of the services provided by them. Due to the increasing competition in the service sector, customer service is an important part of the organizational growth. The key lies in improving the service selectively, paying attention to more critical attributes as a part of improved customer satisfaction. A large number of research studies for service quality take place in the context of developing countries. There are various models suggested by many authors in relation to service quality but no model take all attributes of service quality. The main objective of this paper is to critically appraise various service quality models and identify issues for future research based on the critical analysis of literature. This study aims at evaluating the different service quality models given by different authors and identifies the need for developing a new model in today's scenario. This study examines 19 models of service quality. Findings of the study explore new model and direction in service quality improvement for different sectors. Data for this study is collected from secondary sources. The empirical findings not only priorities different parameters of service quality but also provide guidelines to focus on the other parameters on which the marketer need to improve.

Keywords: Competitive environment; Service industries; Service quality models; India

Introduction

During the past few decades service quality has become a major area of attention to practitioners, managers and researchers owing to its strong impact on business performance, lower costs, customer satisfaction, customer loyalty and profitability [1-6]. There has been a continued research on the definition, modeling, measurement, data collection procedure, data analysis etc., issues of service quality, leading to development of sound base for the researchers. This documented knowledge base through several studies on the subject can be of great use to researchers and practitioners in providing a direction on how to explore/modify the existing service quality concepts with the changing world scenario (shift from conventional personalized services to web enabled services). In this context model gains specific importance as it not only help in learning the factors associated with it but also will provide a direction for improvements. `

A conceptual model attempts to show the relationships that exist between silent variables [7]. It is a simplified description of the actual situations. It is said that conceptual models in service quality enable management to identify quality problems and thus help in planning for the launch of a quality improvement program thereby improving the efficiency, profitability and overall performance.

This paper makes an attempt to study various service quality models covering the aspects of conventional services to web interacted services. The primary aim of these models is to enable the management to understand and enhance the quality of the organization and its offering. Nineteen conceptual service quality models reported during the period (1984-2003) are reviewed in this paper. Each of them is representative of a different point of view about services.

Need of the Study

Today globalization and liberalization are affecting economies of not only developing but also developed countries. The focus areas for organizations are also changing from profit maximization to maximizing profits through increased customer satisfaction. The pressures of competition are forcing the organizations to not only look on the processes but also on the way they are delivered. During past two decades business scenario has changed drastically.

Some of the key changes that have taken place in the business are:

- Greater sharing of information with all connected links and customers.
- Greater emphasis on organizational and process flexibility.
- Necessity to coordinate processes across many sites.
- Competitive pressure to introduce new service/products more quickly.
- Integrated customer driven processes.
- Quick response to customer's needs.
- Worldwide relationships between various trade partners, suppliers etc.
- Easily accessible information through internet.
- Flexible and efficient service/product customization.

Owing to the factors like opening up of markets, increase in use of IT, increased customer knowledge and awareness etc., it becomes

***Corresponding author:** Gulshan Kumar, Research Scholar, Kumaun University, Nainital, India, Tel: 05942 235 563; E-mail: gulshan_kumar547@rediffmail.com

a must to deliver' the services better than its competitor at agreed price. In this context, the subject of service quality needs a fresh understanding in the current business scenario. This study can help to identify the research gaps and thus attempts to provide benefits to practicing managers and researchers.

Frame Work of the Study

The subject of service quality is very rich in context of definitions, models and measurement issue. The following factors seem to be suitable for comparative evaluations of the models:

- Identification of factors affecting service quality.

- Suitability for variety of services in consideration.

- Directions for improvement in service quality.

- Suitability to develop a link for measurement of customer satisfaction.

- Flexible enough for modifications as per the changes in the environment/conditions.

- Suggests suitable measures for improvements of service quality both upstream and downstream the organization in focus.

- Identifies future needs (infrastructure, resources) and thus provide help in planning.

With these issues as focus this present study is undertaken to understand the service quality models in the above light.
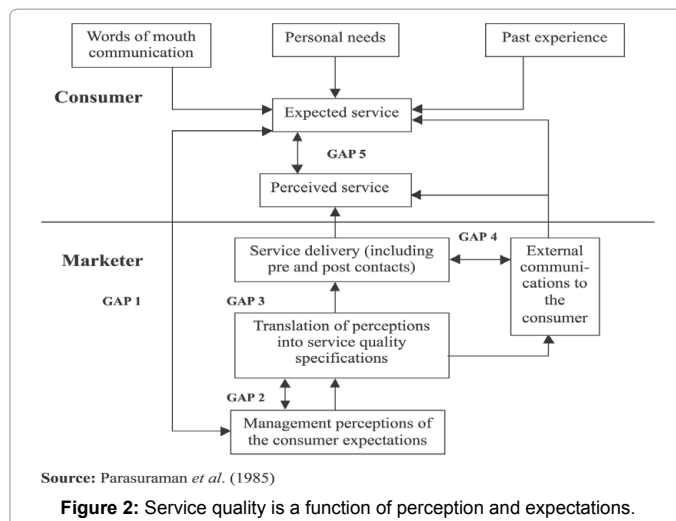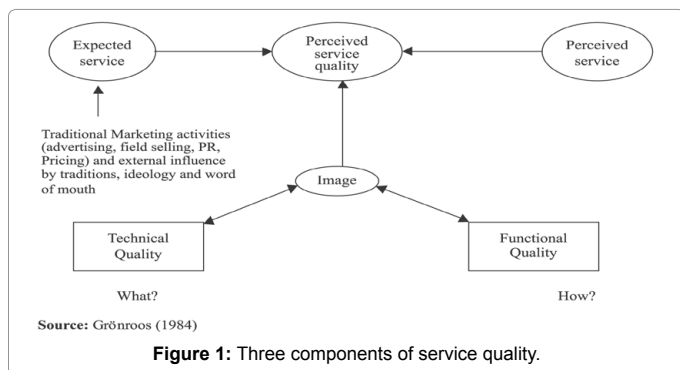
Service Quality Models

The present study is an attempt to review 19 service models in the light of the changed business scenario and analyze the models for the suitability/need for modification in the current context. The models are presented using a standard structure, i.e. covering brief discussion and the major observations on the models. The next section covers the evaluation of these models for above parameters. The brief discussions on the models are as under:

SQ1. Technical and functional quality model

A firm in order to compete successfully must have an understanding of consumer perception of the quality and the way service quality is influenced. Managing perceived service quality means that the firm has to match the expected service and perceived service to each other so that consumer satisfaction is achieved [8]. The researcher identified three components of service quality, namely**:** technical quality; functional quality; and image (Figure 1).

(1) Technical quality is the quality of what consumer actually

Source: Grönroos (1984)

Figure 1: Three components of service quality.

Source: Parasuraman *et al.* (1985)

Figure 2: Service quality is a function of perception and expectations.

receives as a result of his/her interaction with the service firm and is important to him/her and to his/her evaluation of the quality of service.

(2) Functional quality is how he/she gets the technical outcome. This is important to him and to his/her views of service he/she has received.

(3) Image is very important to service firms and this can be expected to build up mainly by technical and functional quality of service including the other factors (tradition, ideology, word of mouth, pricing and public relations).

SQ2: GAP model

Parasuraman et al. [9] proposed that service quality is a function of the differences between expectation and performance along the quality dimensions. They developed a service quality model based on gap analysis. The various gaps visualized in the model are:

Gap 1: Difference between consumers' expectation and management's perceptions of those expectations, i.e. not knowing what consumers expect.

Gap 2: Difference between management's perceptions of consumer's expectations and service quality specifications, i.e. improper service-quality standards.

Gap 3: Difference between service quality specifications and service actually delivered i.e. the service performance gap.

Gap 4: Difference between service delivery and the communications to consumers about service delivery, i.e. whether promises match delivery.

Gap 5: Difference between consumer's expectation and perceived service. This gap depends on size and direction of the four gaps associated with the delivery of service quality on the marketer's side.

According to this model in Figure 2, the service quality is a function of perception and expectations.

SQ3. Attribute service quality model

This model states that a service organization has "high quality" if it meets customer preferences and expectations consistently. According to this, the separation of attributes into various groups is the first step

towards the development of a service quality model. In general, services have three basic attributes: physical facilities and processes; people's behavior; and professional judgment. Each attribute consists of several factors. The researcher tried to map different type of service settings as per degree of contact and interaction, degree of labour intensity and degree of service customization in to this model [10].

SQ4. Synthesized model of service quality

A service quality gap may exist even when a customer has not yet experienced the service but learned through word of mouth, advertising or through other media communications. Thus there is a need to incorporate potential customers' perceptions of service quality offered as well as actual customers' perceptions of service quality experienced. This model attempts to integrate traditional managerial framework, service design and operations and marketing activities. The purpose of this model is to identify the dimensions associated with service quality in a traditional managerial framework of planning, implementation and control. The synthesized model of service quality considers three factors, viz. company image, external influences and traditional marketing activities as the factors influencing technical and functional quality expectations [11].

SQ5. Performance only model

The researcher investigated the conceptualization and measurement of service quality and its relationship with consumer satisfaction and purchase intentions; they compared computed difference scores with perception to conclude that perceptions only are better predictor of service quality [1]. They argued on the framework of Parasuraman et al. [8], with respect to conceptualization and measurement of service quality and developed performance only measurement of service quality called SERVPERF by illustrating that service quality is a form of consumer attitude and the performance only measure of service quality is an enhanced means of measuring service quality. They argued that SERVQUAL confounds satisfaction and attitude. They stated that service quality can be conceptualized as "similar to an attitude", and can be operationalized by the adequacy-importance model. In particular, they maintained that Performance instead of "Performance-Expectation" determines service quality.

SQ6. Ideal value model of service quality

The model argues for value approach to service quality, modeling it as an outcome of satisfaction process. This value-based model of service quality suggests the use of a perceived ideal standard against which the experience is compared. It shows that implicit negative disconfirmation on a pre-conscious value level, is then hypothesized to determine satisfaction on a "higher" attitude level. This negative disconfirmation is the major determinant of consumer satisfaction, more attention should be given to cognitive processes by which consumers' service concepts are formed and changed [12].

SQ7. Evaluated performance and normed quality model

According to the author the conventional disconfirmation model has conceptual, theoretical and measurement problems. He pointed out those following issues in the measurement of service quality, i.e. SERVQUAL as: conceptual definition ambiguity; theoretical justification of expectations in the measurement of service quality; the usefulness of the probability specification in the evaluated performance (EP) measurement; and link between service quality and consumer satisfaction/dissatisfaction [13].

SQ8. IT alignment model

This model links the service and the information strategies of the organization. It describes the use of IT for improving service quality through a number of case studies from variety of sectors (banking, courier, and transportation, manufacturing and services industries). This model describes in detail where IT had been used or could be used to improve specific service quality dimensions including reliability, responsiveness, competence, access, communications, and security, understanding and knowing the customers. According to the model, it is important that service quality and information system (IS) strategies must be tightly coordinated and aligned. The model explains the process of aligning service and aligning strategies [14].

SQ9. Attribute and overall affect model

The attribute model is based on what consumers would expect from such option. It is based on cognitive approach to decision making, where consumers would use a compensatory process to evaluate attributes associated with the technology based self-service option in order to form expectations of service quality. The overall affect model is based on the consumers' feeling towards the use of technology. It is based on an effective approach to decision making where consumers would use overall predispositions to form expectation self service quality for a technology-based self-service option. In both the models expected service quality would influence intentions to use technology-based self-service option [15].

SQ10. Model of perceived service quality and satisfaction

This model attempts to enhance the understanding of the constructs perceived service quality and consumer satisfaction. This model is modification to Oliver's model. The model highlights the effect of expectations, perceived performance desires, desired congruency and expectation disconfirmation on overall service quality and customer satisfaction. These are measured through set of ten attributes of advising (convenience in making an appointment, friendliness of the staff, advisor listened to my questions, the advisor provided accurate information, the knowledge of the advisor, the advice was consistent, advisor helped in long-range planning, the advisor helped in choosing the right courses for career, advisor was interested in personal life, and the offices were professional) [16].

SQ11. PCP attribute model

The researcher proposes a model that takes the form of a hierarchical structure-based on three main classes of attributes-pivotal, core and peripheral. According to the model, every service consists of three, overlapping, areas where the vast majority of the dimensions and concepts which have thus far been used to define service quality. These ranked levels are defined as-pivotal (outputs), core and peripheral (jointly representing inputs and processes). The pivotal attributes, located at the core, are considered collectively to be the single most determining influence on why the consumer decided to approach a particular organization and exert the greatest influence on the satisfaction levels. They are defined as the "end product" or "output" from the service encounter; in other words, what the consumer expects to achieve and receive, perhaps even "take away, when the service process is duly completed [17].

Core attributes, centered on the pivotal attributes, can best be described as the amalgamation of the people, processes and the service organizational structure through which consumers must interact and/or negotiate so that they can achieve/receive the pivotal attribute. Peripheral attributes which can be defined as the "incidental extras"

or frills designed to add "roundness" to the service encounter and make the whole experience for the consumer a complete delight. When a consumer makes an evaluation of any service encounter, he is satisfied if the pivotal attributes are achieved, but as the service is used more frequently the core and peripheral attributes may began to gain importance.

SQ12. Retail service quality and perceived value model

The influence of service quality on value and willingness to buy in a specific service encounters through two alternative models. Value can be defined as a comparison between what consumers get and what they give, suggesting that value is a comparison of benefits and sacrifices [18]. Value construct used in this model is "value for money".

Model 1: this model highlights that in addition to product quality and price perceptions, functional service quality and technical service quality perceptions both directly influence value perceptions.

Model 2: this model highlights that in addition functional service quality perceptions directly influence consumers' willingness to buy. Functional service quality perceptions also influence technical service quality perceptions, which in turn influence product quality perceptions and neither of the two directly influence value perceptions.

On analysis, of modification indices for model 2 (being superior to model 1) it is possible to make significant improvement in this model by allowing technical service quality to influence perceived value directly.

SQ13. Service quality, customer value and customer satisfaction model

The researcher proposed an integrative model of service quality, customer value and customer satisfaction. The proposed model focuses mainly on post purchase decision process. Arrows in the model indicate causal directions. The model incorporates key variables such as perceptions, service quality, consumer satisfaction, customer value and intentions to repurchase. The model provides evidence that customer value has a significant role in customer's post-purchase decision-making process [19].

SQ14. Antecedents and mediator model

A comprehensive model of service quality includes an examination of its antecedents, consequences, and mediators to provide a deeper understanding of conceptual issues related to service quality. This model examines some conceptual issues in service quality as: the relevant factors related to service quality better conceived as components or antecedents and the relationship of customer satisfaction with behavioral intentions [20].

SQ15. Internal service quality model

The researcher has developed an internal service quality model based on the concept of GAP model [9]. The model evaluated the dimensions, and their relationships, that determine service quality among internal customers (front-line staff) and internal suppliers (support staff) within a large service organization. The internal gap 1 shows the difference in support staff's perception (internal supplier) of front-line staff's expectation (internal customers). Internal gap 2 is the significant difference between service quality specifications and the service actually delivered resulting in an internal service performance gap. Internal gap 3 is the gap which focuses on the front-line staff (internal customers). The gap is based on the difference between front-line staff's expectations and perceptions of support staff's (internal supplier) service quality.

SQ16. Internal service quality DEA model

The researcher presented a service quality model that can be used to provide directions to a bank branch for optimal utilization of its resources. The model does not aim to develop the service quality measures, rather guides how such measures can be incorporated for service quality improvements. The model points out resources that are not properly utilized. The inputs to the model consist of two sets: consumable resources such as personnel, space, time etc. and the number of accounts in different categories. The output of the model is the level of service quality perceived by the personnel of the branch. The data envelope analysis (DEA) model compares branches on how well they transform these resources (inputs) to achieve their level of service quality (output) given the client base. The DEA model will identify under performers and suggest ways for their improvement. The input minimization DEA model will provide information on how much could the consumables resources be reduced while delivering the same level of service quality, while the output maximization DEA model will provide information on how much service quality can be improved using the same consumable resources [21].

SQ17. Internet banking model

One of the key challenges of the internet as a service delivery channel is how service firms can manage service quality as these remote formats bring significant change in customer interaction and behavior. This study proposes and tests a service quality model of internet banking. The research uses participant observation and narrative analysis of UK internet web site community to explore how internet banking customers perceive and elements of this model. In the context of internet, five key elements are treated as central influences on perceived service quality: They are: customer expectations of the service; the image and reputation of the service organization; aspects of the service setting; the actual service encounter; and customer participation [22].

SQ18. IT-based model

This model highlights the importance of information technology (IT)-based service options. Service providers are using IT to reduce costs and create value-added services for their customers. It proposes a service quality model that links customer perceived IT-based service options to traditional service dimensions. The model attempts to investigate the relationship between IT-based services and customers' perceptions of service quality. The model focuses on the linkages among the service dimensions as measured by SERVQUAL, the constructs representing the IT-based service quality, preferences towards traditional services, experiences in using IT-based services, and perceived IT policies [23].

SQ19. Model of e-service quality

This study proposes a conceptual model of e-service quality with its determinants. It is proposed that e-service quality have incubative (proper design of a web site, how technology is used to provide consumers with easy access, understanding and attractions of a web site) and active dimensions (good support, fast speed, and attentive maintenance that a web site can provide to its customers) for increasing hit rates, stickiness, and customer retention [24].

Observation and Evaluation of Service Quality Models

Owing to the importance of service quality, there has been a systematic development of a variety of concepts and models.

- Gronroos [8] (SQ1) observed that word-of-mouth (WOM)

has a more substantial impact on potential customers then traditional marketing activities, and also highlighted the need for service quality research based on consumers' views.

- Later Parasuraman et al. [9] (SQ2) modeled service quality as a gap between consumer and marketer sides at different levels, using WOM as a key contributor to the expected service. Later Parasuraman et al. [25,26] developed and revised service quality measurement tool, SERVQUAL. This gap model and SERVQUAL as a base was used (SQ15), for internal service quality modeling.

The measurement of service quality through gap model and SERVQUAL was criticized by:

- Cronin and Taylor (SQ5) [1] and Teas (SQ7) [13] and they proposed SERVPERF (a service quality tool for measuring perceptions only) and EP (Evaluated Performance) model respectively. This was again criticized by Parasuraman et al. [26], and further counter-acted by Cronin and Taylor and Teas [1,27].

- Cronin and Taylor [1] pointed out that service quality is an antecedent of consumer satisfaction, which has a significant on purchase intentions. This led to the development of model of perceived service quality and satisfaction (SQ10) [16].

- Cronin and Taylor [1] pointed out that consumers don't always buy best quality service, they might instead purchase on the basis of their assessment of value of service. This highlighted the importance of "value" and thus acts as a motivating point for researchers to include/model value for improvement/understanding of service quality.

- In this liberalized economy, to remain competitive, service providers are increasingly offering their customers IT-based service options. Service providers are using IT to reduce costs and create value-added services for their customers. Furey [28] suggests that IT can help enhance service quality by increasing convenience, providing extra services, and collecting service performance information for management use.

- This led the related developments of models by Berkley and Gupta (SQ8) [13]; Dabholkar (SQ9) [15]; Broderick and Vachirapornpuk [22] (SQ17); Zhu et al. [23] (SQ18) and Santos (SQ19) [24].

- It seems that practitioners required an approach to maximize service quality with available inputs, and this led to the development of DEA-based model (SQ16) [21].

From the review, it is clear that there does not seem to be a well-accepted conceptual definition and model of service quality nor there is any generally accepted operational definition of how to measure service qualiy. However majority of models and definitions support the view of evaluating service quality by comparing their service quality expectation with their perceptions of service quality they have experienced.

Category A. Gap model/SERQUAL-based: The models under this category are those models, which are developed either using gap model or its modification as base or scale using SERVQUAL items or its modification for measurement of service quality.

The evaluation of the models as identifying their findings and weaknesses are presented:

Category B. Other models: Following Table 1 summarizes categorization of the earlier discussed models along with the salient features of each of these models. These tables also presents an attempt to map the models based on the factors given in the earlier section "Frameworks for study". It is clear from the review that none of the models caters to the factors highlighted in that section, and so this demands research in this direction. Another issue emerging from the review is the identification of internal and external customers. From service delivery point of view, one needs to clearly understand distinction between these two classes of customers. This issue further gains strength, as it is expected that the key to the success of any organization depends on the dedicated employee base represented by the internal customers. Unless internal customers are satisfied, it may be difficult to visualize good quality service for the external customers. The role and commitment of top management in delivering quality service to its customer also gains importance in the light of growing competitive pressure and globalization of services.

Research Issues

Based on the survey of literature, some research issues are identified which require attention from researchers and practitioners. These research issues may be categorized into the following categories for better understanding of the subject:

Category I: Relation between various attributes of service.

Category II: Role of technology such as IT.

Category III: Measurement issues.

Following Table 2 attempts to highlight these issues with reference to 19 models surveyed. A brief account of these issues is given below.

Category I: Relation between various attributes of service

Quality of service is affected by and affects a number of variables such as value, attitude, expectations and aspirations etc. These variables may also guide purchasing behavior, financial performance etc. In this regard it may be interesting to develop a theoretical framework to establish clear linkages between various variables. Similarly, it needs to be explored if various attributes of service quality are independent.

Category II: Role of technology such as IT

Technology plays an important role in improving quality of service. IT initiatives such as EDI (electronic data interchange), POS (point of sales) information systems and systems such as ERP (enterprise resource planning) may act as an enabler for value enhancement. The following issues may need further attention:

- What type of information system architecture is needed for effective delivery of quality service?

Category III: Measurement issues

It is interesting to study measurement-related issues. Often, the behavior and outcomes may be guided by the way quality of service is being measured. The following issues are important in this regard:

- How to quantify and measure quality of service?

- How to link quality of service and business performance? Is there any evidence to say that improved quality of service has enhanced financial performance of the organization?

- How does one benchmark on various dimensions of services?

Contributions and Concluding Remarks

An attempt is made in this paper to review various service quality models. The models are summarized in above tables. The models cover

Model No./Type	Key Findings / Applications	Weaknesses / Limitations
SQ1. Technical and functional quality model	1. Service quality depends on technical quality, functional quality and corporate image of the organization in consideration. 2. Functional quality is more important than the technical quality.	1. The model does not offer an explanation on how to measure functional and technical quality.
SQ2. Gap model	1. The model is an analytical tool. It enables the management to identify systematically service quality gaps between a numbers of variables affecting the quality of the offering. 2. This model is externally focused. It is capable of assisting the management to identify the relevant service quality factors from the viewpoint of the consumer.	1. The model does not explain the clear measurement procedure For the measurement of gaps at different levels.
SQ3. Attribute service quality model	1. This model provides a base of segregating service organization on three dimensions for better management of quality. 2. The model has the potential to enhance understanding of the Concepts of service quality and help to guide about targeting towards the right customer segment. 3. This model is useful both in the design stage and periodically as the service and possibly customer taste evolve.	1. It does not offer the measurement of service quality. 2. It does not offer a practical procedure capable of helping management to identify service quality problems or practical means of improving service quality.
SQ4. Synthesized model of service quality	1. This model identifies variables that require systematic mgt. attention in planning & implementation controlling service–marketing strategies that minimize service quality gap.	1. Needs empirical validation. 2. Need to be reviewed for different type of service settings.
SQ5. Performance only model	1. Service quality should be conceptualized and measured as an attitude. 2. The performance-based SERVPERF is efficient in comparison with SERVQUAL, as it directly reduces the number of items by 50 per cent and the results are better. 3. Service quality is an antecedent of consumer satisfaction and may have a better effect on purchase intentions than service quality.	1. Need to be generalized for all types of service settings. 2. Quantitative relationship between consumer satisfaction and Service quality need to be established.
SQ6. Ideal value model of service quality	1. This model provides a new learning perspective on how an ideal standard can be formed and how it can be sustained mentally. 2. The model highlights attention to the importance of negative disconfirmation experience as a determinant for satisfaction outcome.	1. Fewer number of items used for value and customer satisfaction Needs to be defined for all types of service settings.
SQ7. EP and NQ model	1. The model raised a number of issues pertaining to conceptual and operational definitions of expectation and revised expectation. 2. The criterion and construct validity of the EP model was higher than both the SERVQUAL and NQ model.	1. This model was tested for limited sample size and for narrow service setting.
SQ8. IT alignment model	1. This model describes how IT can be used to improve customer service along key service quality dimensions including reliability, responsiveness, competence, access, communication, security and understanding the customer. 2. Allows managers to understand the commonly used technologies in their industry and determine appropriate technology suiting their requirements.	1. It only highlights the impact of IT on service quality. The model Does not offer a way to measure and monitor service quality. 2. The model is silent about the level of IT use for particular Service settings.
SQ9. Attribute and overall affect model	1. The attribute-based model is favored in forming the evaluations Of service quality for technology-based self-service options. 2. The overall affect model is also supported but it does not add further explanatory power to the attribute-based model.	1. Needs to be generalized for different self-service options. 2. Effect of demographic variables, price, physical environment etc. is not considered.
SQ10. Model of perceived quality and satisfaction	1. This model shows that service quality and satisfaction are distinct and desires congruency does influence satisfaction. 2. A key determinant of service quality and customer satisfaction is meeting customer desires. Rising expectations have a positive effect on customer satisfaction perceptions of performance, but they also have a negative effect on satisfaction through disconfirmation.	1. The model does not highlight how the service quality is achieved and operationalized. 2. The model is weak in providing directions for improvements in service quality.

SQ11. PCP attribute model	1. Provides a simple, effective and general framework of assessing Service quality for any service sector. 2. Highlights the area of improvements for service quality Depending on the frequency of encounter. 3. The dimensions to these three levels of attributes are individual sector-dependent and with reference to consumer.	1. The model is lacking in providing general dimensions to three levels of attributes (Lacks empirical validation).
SQ12. Retail service quality and perceived value	1. The technical service quality is an important contributor to product quality and value perceptions and hence influences willingness to buy. 2. Functional service quality has indirect influence on willingness to buy through product quality and value perception; however. it has influence on willingness to buy that is independent of product assessment (poor staff manners).	1. The model considers only one value construct, i.e. value for Money. 2. Fewer number of items per construct is taken in this study.
SQ13. Service quality, customer value and customer satisfaction model	1. The model can be used as a framework for understanding consumer decision process as well as evaluating company performance. 2. This model provides directions and targets for customer-oriented company efforts.	1. Model needs to be generalized for different types of service Settings. 2. Model variables are measured through relatively fewer items.
SQ14. Antecedents and mediator model	1. Consumers evaluate different factors related to the service but Also form a separate overall evaluation of the service quality. 2. The antecedent's model can provide complete understanding of Service quality and how these evaluations are formed. 3. Customer satisfaction is a better predictor of behavioral intentions. 4. A strong mediating role was found, confirming that it is important to measure customer satisfaction separately from service quality when trying to determine customer evaluations of service.	1. Antecedents of customer satisfaction have not been explored. 2. The model measures behavioral intention rather than actual behavior. 3. Needs to be generalized for different service settings.
SQ15. Internal service quality model	1. The perceptions and expectations of internal customers and internal suppliers play a major role in recognizing the level of internal service quality perceived.	1. Need to be generalized for all types of internal environments. 2. Effect of changes in external environment on model is not Considered.
SQ16. Internal service quality DEA model	1. Indicates the resources, which can be better utilized to produce higher service quality levels.	1. Does not provide the measurement of service quality. 2. Model ignores other bank performance measures.
SQ17. Internet banking model	1. Implication for the management of quality in internet banking service arises in two areas a) within the service interface and b) with the management of increased customer role. 2. The level and nature of customer participation had the greatest impact on the quality of service experience and issues such as customers' "zone of tolerance" and the degree of role understanding by customers and perceived service quality.	1. Not much empirical work carried out. 2. The model is based on the experience of one web site only, needs to be validated with other experiences.
SQ18. IT-based model	1. IT-based services have a direct impact on the reliability, responsiveness and assurance dimensions and an indirect impact on customer satisfaction and perceived service quality. 2. IT can help service providers achieve higher level of customer Satisfaction. 3. The customer evaluation of IT-based services is affected by preference towards traditional services, past experience in IT-based services and perceived IT policies.	1. Fewer number of items chosen to measure the feeling of self-control and comfort in using IT-based services. 2. Does not provide a measure of service quality of IT-based Transactions.
SQ19. Model of e-service quality	1. It provides a better understanding of e-service quality and, therefore, to achieve high customer retention, customer satisfaction, and profitability. 2. This e-service quality model can be of assistance to all companies that engage e-commerce or plan to do so.	1. Model did not provide specific measurement scales. 2. No statistical analysis carried out.

Table 1: The evaluation of the models as identifying their findings and weaknesses.

the domain from conventional personalized services to the internet-enabled services including the organizational and behavioral aspects. These models provide a useful framework for quality of service. It is further observed that the service quality outcome and measurement is dependent on type of service setting, situation, time, need, etc. factors. This further adds to the complexity of the subject. In addition to this even the customer's expectations towards a particular services are also changing with respect to factors like time, increase in the number of encounters with a particular service, competitive environment, etc. These demands for a continuous effort to learn and validate, modify

Model no./type	Category	Select research issues
SQ1. Technical and functional quality model	I	How technical and function quality influences a service delivered and how the customer perceives these dimensions?
SQ2. GAP model	III	How to measure the gaps at different levels using a standard measurement tool. What are the factors affecting? Whether these gaps differ from industry to industry?
SQ3. Attribute service quality model	III	How to measure service quality in a particular service encounter using this model. On what attributes it depends and how to determine relative importance of attributes for a service encounter?
SQ4. Synthesized model of service quality	I	What factors contribute to the information and feedback, design, implementation and communication gaps? How service managers can minimize the gaps through the performance of planning, implementation and control tasks?
SQ5. Performance only model	I	What is the role of value in the determination of a service? How value affects the purchase decision
SQ6. Ideal value model	I	What is the cognitive process by which consumer service are formed and changed?
SQ7. EP and NQ model	I	How to generalize the EP model results for all types of service settings, whether change in the type of service needs re-examination of model?
SQ8. IT alignment model	II	How IT can enhance customer satisfaction. Whether the investment in IT depends on competition, market growth and other similar factors. How much to invest and up to what level IT should be used?
SQ9. Attribute and overall affect model	II	What is the role of attitude and behavior towards using a technology on expectations of service quality?
SQ10. Model of perceived quality and satisfaction	I	How to determine the balance between positive and negative effect of expectations?
SQ11. PCP attribute model	III	What should be weighing of these levels of attributes? On what factors it depends. Whether this changes with the type of service settings?
SQ12. Retail service quality and perceived value	I	What is the impact of functional value, emotional value and social value on product quality, service quality, perceived price, value for money and willingness to buy?
SQ13. Service quality, customer value and customer satisfaction model	III	What are the measurement issues associated with perceived value and customer satisfaction? Whether the determinants of perceived value and customer satisfaction change with type of service setting?
SQ14. Antecedents and mediator model	I	What is the role of actual behavior and actual repurchase on predictive power of service quality and customer satisfaction evaluation? What are the antecedents of customer satisfaction, whether these are correlated with antecedents of service quality?
SQ15. Internal service quality model	III	Which of the SERVQUAL dimensions is most important in measurement of internal service quality? Whether responsiveness plays a bigger role than reliability for all types of service settings?
SQ16. Internal service quality DEA model	I	Can data envelope analysis be used as a tool to derive the linkage between service quality, profitability and operating efficiency? What will be impact on model of other performance measures included as output?
SQ17. Internet banking model	II	Whether the model can be applied to other internet service encounters. Whether the interrelation of entities will change with the change in demographic variables?
SQ 18: IT-based model	II and III	How to measure service quality of IT-based transactions?
SQ19. Model of e-service quality	II and III	What are the items of the determinants considered in the model and how to measure e-service quality? Whether the there will be change in the study with type of business (goods, different types of sites etc.)?

Table 2: A brief account on research issues of 19 models.

the existing concepts of service quality. The present paper is an attempt to enhance the understanding of the subject.

This review of models clearly highlighted the following research streams in this field:

- General Service quality model developed with different types of service encounters.

- Refinement of these models with the new situations.

- Modeling based on new concepts (derived out of weaknesses /leanings from the existing models).

- Considering new variables/situations with existing models and remodel/test the findings.

The review of these 19 service quality models highlighted various issues, debates, strengths and weaknesses pertaining to the models. It is noted that the models have a focus on only one link (i.e. either marketer to consumer or front-line staff to supporting staff). On other side, researchers [29,30] have continuously pointed out the positive correlation of internal service quality (considering all the processes

and operations associated in delivery of product or service) with business performance and the service quality delivered to the customer (including the distribution, marketing and other support functions). From the study of these models, it appears that the key ingredients to service quality improvements are:

- Clear market and customer focus.

- Motivated staff.

- Clear understanding of concepts of service quality and factors affecting the same.

- Effective measurement and feedback system.

- Effective implementation system.

- Efficient customer care system.

Researchers and practitioners view the subject in the context of service under consideration. It is clear from the review that none of the models currently satisfies the set framework, this clearly highlights the need for further research. This review highlighted some of the research agenda from the review of service quality models.

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