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A Review of Telecommunications Service Quality Dimensions

Abd-Elrahman Hassanein Abd-Elrahman[1]*

[1]*Faculty of Commerce, Ain Shams University, Cairo, Egypt*

Abstract

The purpose of this paper is to review the service quality dimensions established in various empirical studies conducted across the world specifically applied to telecommunications services. This paper reviews only empirical studies based on survey data and statistical methods of analysis since 2001 till 2017. The critical review of the different service quality models is intended to compile the various dimensions which emerged out of the studies, compare the commonality between them and highlight the limitations of the studies. The findings revealed that the meaning of service quality may have some universal aspects, as demonstrated by the similarities in the underlying dimensions as proposed in the different studies. This paper lends support to the contention that the dimensionality of SERVQUAL and importance of the dimensions vary with the cultural and country context even within the telecommunications industry. It identifies eight service quality dimensions in the telecommunications services – reliability, tangibles, responsiveness, assurance, empathy, network, customer service and convenience. The findings are valuable to academics and practitioners in providing a direction for service quality improvement by indicating the common theme that emerges from the service quality models.

Keyword: Telecommunications service quality, SERVQUAL, Customer services quality, Measure.

Introduction

Over the past few decades service quality has drawn a lot of attention from researchers and practitioners due to its strong impact on organizational performance, customer satisfaction, customer loyalty and profitability. Service quality is often understood as a measure of how well the level of the delivered services matches the expectations of customers [1]. As an example, the definition from Grönroos [2] outlines perceived service quality, as "the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received". Additionally, Parasuraman et al. [3] defined service quality as "the overall evaluation of a specific service firm that results from comparing that firm's performance with the customers' general expectations of how firms in that industry should perform".

Unlike goods quality, which can be measured with some objectivity, service quality (SQ) is elusive and abstract. The unique features of services such as inseparability of production and consumption, intangibility, heterogeneity, and perish ability make measurement of quality a very complex matter [4]. As a result of the absence of objective measures,

*Corresponding author: Dr. Abd-Elrahman Hassanein Abd-Elrahman, Business Administration Department Faculty of Commerce, Ain Shams University, Cairo, Egypt. Tel: +20-2-24821894; E-mail: abdohassanein123@gmail.com

firms must depend on consumers' perceptions of service quality to determine their strengths and/or weaknesses, and put appropriate strategies. This makes development of managerially useful and psychometrically sound scales to measure service quality very important.

Service quality plays a vital role in a firm's competitive advantage [1,5-8]. Services research has widely examined the measurement of service quality to help practitioners successfully manage the delivery of quality service [2,3,9]. Service quality is measured to evaluate service performance, identify service problems, manage service delivery, and as a basis for corporate and employee rewards [3].

The conceptualization and measurement of the service quality construct has been dominated by the use of the SERVQUAL scale introduced by Parasuraman et al. [3]. The SERVQUAL scale proposes a gap-based comparison of the expectations and performance perceptions of consumers. This measurement model is similar to the disconfirmation model traditionally used to assess consumer satisfaction [9]. Grönroos' [2] service quality model was the first attempt, and later other researchers proposed their own conceptualizations [3,9-12]. All these models share a common feature: They propose a multidimensional service quality conceptualization that it is essentially linked to the measurement of consumer quality perceptions. Therefore, service quality measurement models offer a framework for understanding what service quality is, as well as how to measure service quality in each proposed conceptualization.

Recently, the interest in conceptualizing and measuring service quality in the mobile telecommunications sector increased due to the quick increase of penetration rates in most countries around the world and rapid technological advances. Van der Wal et al. [13] used SERVQUAL to measure service quality in a mobile telecommunications company in South Africa. Their results confirmed that the instrument could be used to evaluate service quality in that industry. SERVQUAL was also employed by Johnson and Sirikit [14] to investigate service quality perceptions in the Thai telecommunications industry. The results showed that the instrument is recommended for process-driven service firms such as banking, retailing, telecommunications and health care. Another stream of research aimed to develop service quality conceptualization and measurement models by targeting specifically the mobile telephony sector [7,15-22]. The models developed suggest several dimensions, whose definitions and meaning overlap to a great extend. The aim of this paper is to review the service quality dimensions and models established in various empirical studies conducted across the world specifically applied to telecommunications services.

Need for present study

Recently, globalization and liberalization are affecting economies of not only developing, but also developed countries. Organizations are also changing their focus areas from profit maximization to maximizing profits through increased customer satisfaction. The competition pressures are forcing the organizations to not only look at the processes, but also on the way they are delivered. Over the past two decades, business scenario has changed significantly. Some of the key changes that have taken place in the business are [6]:

- Horizontal business processes replacing vertical functional approach;
- Greater sharing of information with all connected links and customers;
- Greater emphasis on organizational and process flexibility;
- Necessity to coordinate processes across many sites;
- Employee empowerment and the need for rules-based real-time decision support systems;
- Competitive pressure to introduce new service/products more quickly;
- Integrated customer-driven processes;
- Quick response to customers' needs;
- Worldwide relationships between various trade partners, suppliers, etc.;
- Easily accessible information through internet;
- Flexible and efficient service/product customization; and
- The tremendous development in the field of communication and information technology.

Owing to the factors like open markets, increase in use of IT, increased customer knowledge and awareness, etc. it becomes a must to deliver the services better than competitors at agreed price. In this context, the subject of service quality needs a new understanding in the current business scenario.

This study can help to identify the various general models applicable for telecommunications. It is also aimed to review the models specifically developed for the telecommunications industry, their strengths and limitations. This study thus attempts to provide benefits to practicing managers and researchers by compiling a large amount of information on service quality in telecommunications at one place.

Perceived service quality

Perceived service quality can be defined as "a global judgment or attitude relating to the superiority of a service relative to competing offerings" [3]. Perceptions pertain to consumers' beliefs concerning the utility emanating from services which they experienced [10]. Previous researches have demonstrated that perceived service quality from the consumer's perspective often differs from the producer's evaluation and is a critical factor in predicting shopping behavior [2].

Another aspect Jiang and Wang, [23] pointed out that, evaluations are not based on service attributes; rather these depend on a customer's feelings or memory. So, customers measure service quality in terms of how much pleasure they have received from a service. Jiang and Wang, [23] concluded that the role of perceived service quality in customer satisfaction is established but the conditions under different

dimensions of effect will or will not influence service quality evaluation and customer satisfaction.

Ueltschy et al. [24] revealed while comparing US and Japan in context that high performance will lead towards high expectations which will eventually yield high customer satisfaction and high perceived service quality. Omachonu et al. [25] explained that according to the American Customer Satisfaction Index (ACSI), customer expectations are evaluated by asking the customer to recall the level of quality they expected on the basis of their knowledge about service or goods and actual experience with a goods or services.

Dimensions of quality

"Quality" is not a singular but a multi-dimensional phenomenon; and the term "Quality" is widely used as a measure of excellence [26]. It is not possible to ensure product or service quality without determining the salient aspects of "quality". The genetic dimensions of "service quality" are identified and discussed in this section. The utility value of these determinants is situation-dependent.

Grönroos [2] argued that "service quality" comprises of three dimensions. These are:

- **The technical quality of outcome:** That is to say, the actual outcome of the service encounter. The service outcome can often be measured by the consumer in an objective manner.

- **The functional quality of the service encounter:** This element of "quality" is concerned with the interaction between the provider and recipient of a service and is often perceived in a subjective manner.

- **The corporate image:** This is concerned with consumers' perceptions of the service organization. The image depends on: technical and functional quality; price; external communications; physical location; appearance of the site; and the competence and behavior of service firms' employees.

Lehtinen and Lehtinen [27] also contend that "service quality" has three dimensions. These were:

- **Physical quality:** This includes such items as the condition of buildings and enabling equipment.

- **Corporate quality:** This refers to the organization's image and profile.

- **Interactive quality:** This derives from the interaction between service organizations' personnel and the customer as well as the interaction between customers.

Lehtinen and Lehtinen [27] argue that in examining the determinants of quality it is necessary to differentiate between the quality associated with the process of service delivery and the quality associated with the outcome of the service. This is a useful separation and it is taken into account in reviewing the determinants of "service quality". These attempts to identify the service quality determinants suffer from lack of sufficient detail. Their most significant contribution is to divide service "quality" into quality of process and quality of outcome. Other researchers and interested organizations have suggested a more detailed classification.

Garvin [28] identified eight key attributes that a product or service must have to be considered of high quality. These attributes, referred to as dimensions of quality, are:

- Performance – deals with the primary purpose of the product or service or how well the product or service is achieving its objective.

- Features – deals with added touches, bells, and whistles or secondary characteristics that the product or service possesses or extra features present in the product or service.

- Reliability – measures the consistency of performance of the product or service over time.

- Durability – measures the useful life of the product or service.

- Serviceability – deals with the ease of servicing the product when necessary or resolving conflicts and complaints from customers. Many of the issues here deal with service after sales.

- Conformance – deals how the product or service satisfies customers' expectations.

- Perceived quality – is often referred to as reputation since it is the perceived reputation of the product or service based on past performance and other intangibles that may influence its perceived quality.

- Aesthetics – deals with sensory characteristics and outward appearance of the product or service. Characteristics such as feel, looks and sounds are important.

These dimensions have been very well applied in measuring the quality of products and to a lesser extent in measuring the quality of services. Unlike products, services are intangible and may vary from customer to customer. It is more difficult to standardize services and to use the same yardstick for products to measure the quality of services. The quality of service is more or less in the eye of the beholder.

When the SERVQUAL scale was developed by Parasuraman et al. [3,10], their aim was to provide a generic instrument for measuring service quality across a broad range of service categories. Relying on information from 12 focus groups of consumers, Parasuraman et al. [10] reported that consumers evaluated service quality by comparing expectations (of service to be received) with perceptions (of service actually received) on ten dimensions:

- Reliability (performance consistency, dependability);

- Responsiveness (service timeliness, staff willingness);

- Competence (skills/knowledge possession to perform services);

- Access (the ease of approachability and contact);

- Courtesy (staff attitude demeanor);

- Communication (informing, listening customers);

- Credibility (trustworthiness, honesty);

- Security (risk/doubt);

- Understanding/knowing the customer;

- Tangibles (physical evidence of service)

In a later [3] work, the authors reduced the original ten dimensions to five. Some of the dimensions identified here are already in Garvin's eight dimensions of quality. However, Parasuraman et al. [3] added new dimensions to cover the human element in service quality. Garvin, for example, covered the first three dimensions listed below while the last two are specifically designed for service quality.

- Tangibles (the appearance of physical facilities, equipment, and personnel);

- Reliability (the ability to perform the promised service dependably and accurately);

- Responsiveness (the willingness to help customers and provide prompt service);

- Empathy (the provision of individual care and attention to customers); and

- Assurance (the knowledge and courtesy of employees and their ability to inspire trust and confidence).

Each dimension is measured by four to five items (making a total of 22 items across the five dimensions). Each of these 22 items is measured in two ways:

- The expectations of customers concerning a service; and

- The perceived levels of service actually provided.

In making these measurements, respondents are asked to indicate their degree of agreement with certain statements on a seven-point Likert-type scale (1 = "strongly disagree" to 7 = "strongly agree"). For each item, a so-called "gap score" (G) is then calculated as the difference between the raw "perception-of-performance" score (P) and the raw "expectations score" (E). The greater the "gap score" (calculated as G = P minus E), the higher the score for perceived service quality.

Methods

Literature search

A literature search was conducted using combination of keywords such as "service quality, SERVQUAL, service quality in telecommunications, service quality in mobile telecommunications, service quality in telecom, service quality in wireless networks" from the literature databases Scienceirect, and Emerald Insight. The studies were limited to empirical English studies based on survey data and statistical methods of analysis and having the service quality construct defined from the customers' perspective. Customer satisfaction studies are omitted from the review as service quality and satisfaction are recognised as different conceptualizations such that service quality evaluations formed prior to satisfaction [7, 15, 29-30].

This review is not restricted to one article per survey instrument i.e. when more than one article was identified reportedly using the same survey instrument (for e.g. SERVQUAL), all the articles which were found were included for analysis such as [3-18]. Also, the review is not confined to one article per country i.e. when more than one article were identified and reported from the same country [18,21], were included for the analysis.

The review comprise of 22 studies that are selected from three literature databases "ScienceDirect", "Emerald Insight" and "Springer Link"; and include 18 journals as shown in Table I. The quality dimensions of telecommunications services from the customers' perspective that has resulted from the combination of keyword searches limiting to articles in English are summarized in Table 2. The articles are presented in a comparative tabulated form based on three categories of information Author(s) and year, Application field and Quality dimensions. They will yield to extensive and close analysis to find out the direction of research in this field.

Figure (I) displays the numbers of studies per year that measured telecommunications service quality since 2001 till 2017. It is clear that the numbers of studies done during the five years period between 2001 and 2005 is (7); then it decreased to (5) during the next five years; then raised to (6) during the next five years between 2011 and 2015. This means that the attention to measuring the service quality of this vital sector didn't diminish, and the debate around what dimensions should be used is still open. With the development of such handheld devices as personal digital assistants, tablets and smart phones, wireless and mobile technologies and their associated applications have become essential for daily life. Recently, there have been many research projects directed to measure the service quality of new services provided through the technology of mobile networks (e.g. mobile education, mobile health services, mobile commerce, and mobile banking) [22,34,39].

Summary and Discussion

The literature review of the telecommunications SQ researches makes it clear that the construct of

Table 1: Journals

Journal Name	Total
Electronic Commerce Research and Applications	2
International Journal of Bank Marketing	2
Managing Service Quality	2
Computer Standards & Interfaces	1
Computers in Human Behavior	1
Decision Support Systems	1
Digital Policy, Regulation and Governance (Info)	1
Electronic Markets	1
International Journal of Commerce and Management	1
International Journal of Quality & Reliability Management	1
Journal of Business Research	1
Journal of Services Marketing	1
Management Decision	1
Marketing Intelligence & Planning	1
Procedia - Social and Behavioral Sciences	1
Production and operations management	1
Telecommunications Policy	1
The TQM Journal	1

Table 2: A review of the telecommunications service quality scales.

| Research	Sector or Field	Quality Dimensions
Leisen and Vance (2001) [31]	Telecommunications	(5) dimensions of SERVQUAL: (reliability, tangibles, responsiveness, assurance, and empathy)
van der Wal et al. (2002) [13]	Mobile telecommunications	(5) dimensions of SERVQUAL: (reliability, tangibles, responsiveness, assurance, and empathy)
Johnson and sirikit (2002) [14]	Telecommunications	(5) dimensions of SERVQUAL: (reliability, tangibles, responsiveness, assurance and empathy)
Wang and Lo (2002) [30]	Telecommunications	(6) dimensions: tangibles, network quality, reliability , responsiveness, assurance and empathy
Athanassopoulos and Iliakopoulos (2003) [32]	Telecommunications	(5) dimensions: branch network, billing, corporate image, fault repair, and service provision
Kim et al. (2004) [15]	Telecommunications	(6) dimensions: call quality, pricing structure, mobile device, value-added services, convenience in procedures, and customer support
Aydin and Ozer (2005) [16]	Telecommunications	(6) dimensions: coverage area, customer services, adding service, vendor, campaign, and advertisement
Kumar and Lim (2008) [33]	Mobile telecommunications	(4) dimensions: network quality, data services, billing service, and customer service
Kuo et al. (2009) [17]	Mobile value-added services	(4) dimensions: customer service and system reliability, navigation and visual design, content quality, and connection speed
Negi (2009) [19]	Mobile telecommunications	(7) dimensions: tangibles, reliability, responsiveness, assurance, empathy, network aspect, and convenience
Lu et al. (2009) [18]	Mobile telecommunications	(10) dimensions classified into three broad categories: interaction quality (attitude, expertise, problem solving and information), environment quality (equipment, design and situation) and outcome quality (punctuality, tangibles and valence)
Santouridis and Trivellas (2010) [7]	Mobile telecommunications	(6) dimensions: network, value-added services, mobile devices, customer service, pricing structure, and billing system
Akter et al. (2010) [34]	Mobile health services	(9) dimensions classified into three broad categories: platform quality (system reliability, system availability, system efficiency, and system privacy), interaction quality (responsiveness, assurance, and empathy) and outcome quality (functional benefit, and emotional benefit)
Zhao et al. (2012) [35]	Mobile telecommunications	(3) dimensions: interaction quality, environment quality, and outcome quality
Abdel-Rahman (2012) [29]	Mobile telecommunications	(7) dimensions: tangibles, reliability, responsiveness, assurance, empathy, network aspect, and convenience
Liang et al. (2013) [21]	Mobile telecommunications	(7) dimensions: core service failure, high price, ethical problems, competition, inconvenience, service encounter failure, and family/friends/group impact
Ozer et al. (2013) [20]	Mobile services	(5) dimensions: availability, perceived risk, easy to use, compatibility of mobile devices, and entertainment services
Alnsour et al. (2014) [36]	Telecommunications	(5) dimensions of SERVQUAL: (reliability, tangibles, responsiveness, assurance, and empathy)
Chen and Yang (2015) [37]	Telecommunications	(13) dimensions classified into three broad categories: system service quality (efficiency & effectiveness, functionality, integration, construct cost and security), information service quality (accuracy, integrity, usability and readability), and customer service quality (after-sales service, flexible-price policy, technique support and training)
Huang et al. (2016) [22]	Mobile commerce services	(9) dimensions: efficiency, system availability, content, privacy, fulfillment, responsiveness, compensation, contact, and billing
Jun and Palacios (2016) [38]	Mobile banking	(17) dimensions classified into two broad categories: mobile banking application quality (mobile convenience, accuracy, diverse mobile application service feature, ease of use, control, speed, aesthetics and security), and mobile banking customer service quality (continuous improvement, competence, credibility, courtesy, understanding the customer, communication, reliability, access and responsiveness).
Arcand et al. (2017) [39]	Mobile banking	(5) dimensions classified into two broad categories: utilitarian dimensions (security/privacy and practicity), and hedonic dimensions (design/aesthetics, sociality and enjoyment)
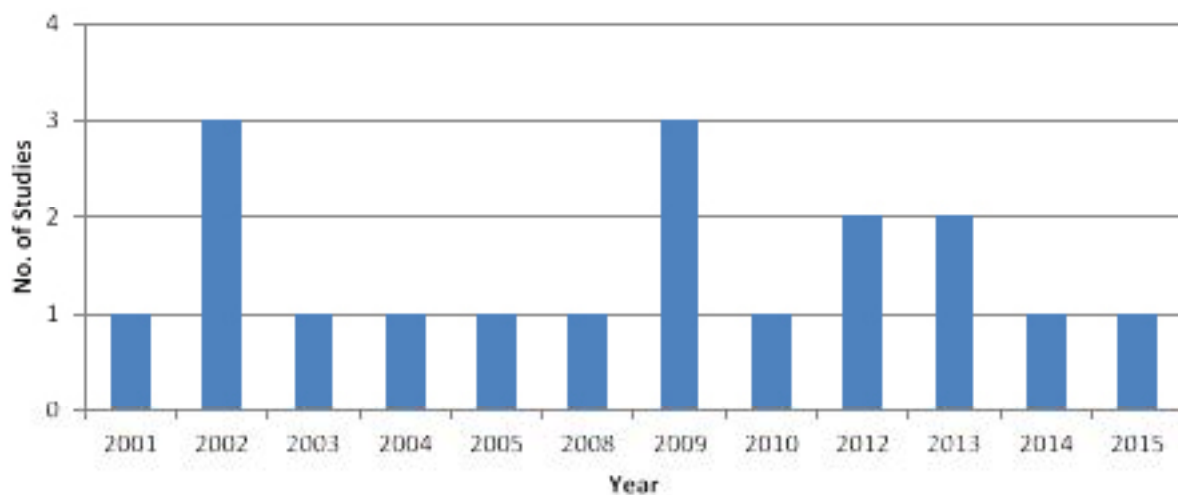
Figure 1: Reviewed studies that measured telecommunications service quality.
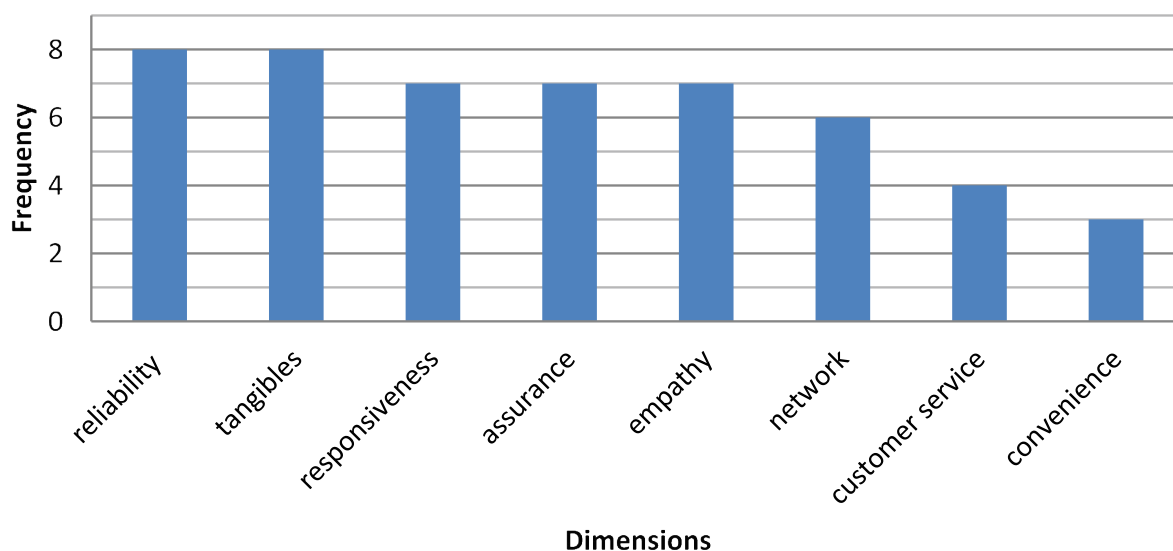

Figure 2: The Most frequently used dimensions for measuring telecommunications service quality.

telecommunications SQ is multidimensional, with the number of reported dimensions ranging from three [35] to thirteen [37]. In case of telecommunications services, the conventional method of measuring service quality was no longer relevant. As a result, research has identified new dimensions of service quality, such as navigation and visual design, ease-of-use, availability, value-added services, network, perceived risk, system service quality, information and content quality.

It is apparent that there is no consensus on the number and the nature of the dimensions of the telecommunications SQ construct identified in previous research. It is true that some dimensions (such as 'reliability' and 'network') appear consistently in the various models, which indicates that there are some common dimensions used by customers in evaluating telecommunications SQ [7,19,36].

According to Figure (II), among the various dimensions the literature review cites, eight appear consistently:

('reliability', 'tangibles', 'responsiveness', 'assurance', 'empathy', 'network' 'customer service', 'convenience').

The first of these, reliability, which is also one of the prominent dimensions in the traditional SERVQUAL instrument, refers to the performance of a promised service in an accurate and timely manner and to the delivery of intact and correct products (or services) at times convenient to customers [30]. In the researches reviewed here, this dimension is a significant determinant of (i) overall service quality [19,31], (ii) satisfaction [17], (iii) perceived value [17], and (iv) customer loyalty [36].

The second dimension, tangibles, consists of the physical facilities, equipment and appearance of personnel. Clients often trust the tangible evidence that surrounds the service when making their assessment, as there is no physical element to be assessed in services [19]. The reviewed researches revealed that tangibles dimension is a significant determinant of customer satisfaction and customer value [30]. It revealed using similar dimensions that express

the same meaning like: navigation and visual design and environment quality.

The third of the dimensions that appears consistently in the researches reviewed here is responsiveness, which refers to the willingness and ability of the service provider to meet and adapt to customers' needs [36] or to help users and deliver prompt services [34], the effectiveness of the site's problem-handling process and return policy [22]. It was identified as a dimension of M-S-QUAL, which assesses mobile commerce shopping experiences for virtual and physical product. Responsiveness was found to be the dimension that has the greatest impact on loyalty within the Jordanian culture [36].

The fourth common dimension, assurance (including competence, courtesy, credibility and security), deals with the trust and confidence of the service provider based primarily on the knowledge and courtesy of employees [36]. The literature revealed that assurance dimension is a significant determinant of customer satisfaction [42]. It was used in some telecommunications SQ scales [14,19,30].

The fifth dimension, empathy (including access, communication and understanding the customer), relates to the provision of caring and personalized attention to customers [36]. It has been identified as a significant determinant of customer value [30].

The sixth common dimension, network aspect, refers to the clarity of voice and the area coverage [7] plus frequency of dropped calls [19,26] Network quality is one of the most basic services offered by a mobile service provider and is important for both voice calls and data services. The literature review revealed that network aspect is a significant determinant of customer satisfaction and customer value [30] and a significant determinant of customer loyalty [7].

The seventh common dimension, customer service, refers to the series of activities for servicing customers before, during and after a purchase, including the after sales service, flexible-price policy, technique support and training [8]. It is the success of problem resolution, the courtesy of customer service representatives, the help provided by call-centers and the provision of consistent advice [7]. It has been identified as a significant determinant of customer satisfaction and loyalty [7] and perceived value [17].

The eighth common dimension, convenience, refers to easiness of subscribing and changing service, and staff friendliness, when subscribing and changing [38]. It has been identified as the most significant determinant of overall service quality and a significant determinant of relationship quality with the customers and customer loyalty [29].

However, other quality dimensions have been identified by researchers; value-added services, entertainment services, data services, mobile device, pricing structure, billing, interaction quality, customer service quality, service provision, environment quality, outcome quality, information and content quality, corporate image, vendor, campaign, advertisement. Liang et al. [21] identified seven critical factors, listed in descending order of influence, that cause customers to switch mobile phone service providers:

core service failure, high price, ethical problems, competition, inconvenience, service encounter failure, and influence from family/friends/group.

Little effort has been made by the authors reviewed here to examine the structures for telecommunications service quality. Only two hierarchical multi-dimensional models of telecommunications service quality were found [18,37]. Two other hierarchical models were developed for measuring mobile banking SQ [4-19] and one for mobile health services [34].

New Mobile Services Quality

With the development of such handheld devices as personal digital assistants, tablets, and smart phones, wireless and mobile technologies and their associated applications have become essential for daily life. According to the International Telecommunication Union [40], there were 774 billion mobile subscribers in 2017, a number equivalent to 103.5 % of the world's population [40].

These figures imply the very rapid evolution of internet access and the mobile market, with ever- increasing numbers of people using handheld devices. Advanced and mature mobile communication technologies have facilitated the development of a variety of mobile applications, including location-based services, mobile reading services, electronic books, mobile TV, and mobile music. Recently, there have been many research projects directed to measure the service quality of new services provided through the technology of mobile networks (e.g. mobile education, mobile health services, mobile commerce, and mobile banking) [22,34,39].

Jun and Palacios [38] identified mobile banking application quality (mobile convenience, accuracy, diverse mobile application service feature, ease of use, control, speed, aesthetics and security), and mobile banking customer service quality (continuous improvement, competence, credibility, courtesy, understanding the customer, communication, reliability, access and responsiveness) as the key SQ dimensions in the case of mobile banking. Again Arcand et al. [39] identified utilitarian dimensions (security/privacy and practicity), and hedonic dimensions (design/aesthetics, sociality and enjoyment) as the key SQ dimensions of mobile banking.

Huang et al. [22] identified efficiency, system availability, content, privacy, fulfillment, responsiveness, compensation, contact, and billing as the key SQ dimensions in the case of mobile commerce services. For mobile health services quality, Akter et al. [34] identified platform quality (system reliability, system availability, system efficiency, and system privacy), interaction quality (responsiveness, assurance, and empathy) and outcome quality (functional benefit, and emotional benefit).

Conclusion

It is apparent from this review that certain general observations can be made regarding the dimensionality and structure of the telecommunications service quality as presented in these researches: (i) There is no consensus on the number and nature of the dimensions

of the telecommunications SQ construct but globally eight dimensions recur more consistently ('reliability', 'tangibles', 'responsiveness', 'assurance', 'empathy', 'network', 'customer service', and 'convenience',). It is thus apparent that the five SERVQUAL dimensions constitute key factors in the telecommunications context. Of the 22 studies, 8 adopted SERVQUAL/modified SERVQUAL. (ii) Some of the telecommunications SQ dimensions in this review are identical (or at least similar) to those reported for conventional service quality; (iii) The researches reviewed here concentrate on functional quality and only a few researches deal with outcome quality [18,35]; (iv) In the conventional service context, measurements of service quality have focused primarily on the interactions of consumers with the firm employees (human-human encounters) during delivery and consumption of a service besides using some marketing mix variables. On the other hand for this technology-enabled service, measures of service quality focus mainly on consumer interactions with the technology beside human based interactions [41]; (v) Despite the general support for a hierarchical multi-dimensional model of service quality [42], little effort is made by the authors reviewed here to examine the structures for telecommunications service quality; (vi) This literature review lends support to the contention that the dimensionality of SERVQUAL and importance of the dimensions vary with the cultural and country context even within the telecommunications industry.

Limitations and future scope of research: This paper reviews only empirical studies based on survey data and statistical methods of analysis since 2001 till 2017. It may not have enabled a complete coverage of all existing articles in the field of telecommunications service quality. Yet, the review process covered a large proportion of studies available. A complete coverage of all existing articles in the field of telecommunications service quality would be so difficult and almost impossible. Again the paper focuses on analyzing the dimensions of telecommunications service quality models to find out the direction of research in this field.

- A comprehensive in-depth content analysis that focuses on scales development; mode of administration and scores used; and method adoption, would be suitable for another research.

- Future studies need to consider the quality factors for novice and long-term customer cohorts so that the factors could be identified leading to an improvement in the overall quality of telecommunications.

- Future studies should focus on developing service quality models of new services provided through the technology of mobile networks (e.g. mobile education, mobile health services, mobile commerce, and mobile banking).

- The components of service quality and overall service offering should encompass not only the identified construct (e.g. core, relational), but also constructs/items that reflect the service offering, i.e. it should focus on complete service package.

- More studies on assessment of service quality from the management perspectives would help understand and enhance the concept and implementation of service quality.

More studies are needed to measure service quality within the Arab countries of the Middle East and compare its results with international studies.

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