

Original Article

Application of Service Quality Measurements in the Service Industry: What are the Changes?

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Abstract - This paper discusses the application of service quality measurements in different organizations and firms. The study focused on research articles that can be found online through Google scholars, research gate, or sage websites. We collected a total number of 21 papers that we divided publications into three periods. The first period goes from 1990 to 1999, the second is defined from 2000 to 2007, and the last one goes from 2010 up to 2018. We analyzed the way that service quality models have been applied in the marketing literature. We found that SERVQUAL was the most popular model used compared to SERVPERF and the one that can be easily adapted depending on the nature of the organization. On the one hand, when the service quality model is applied in private services, two of the five traditional measurements are more used, i.e., empathy and responsiveness. On the other, when SERVQUAL is applied in public services, new measurements such assurance are created. We expect the results to be helpful in future research studies that we suggested.

Keywords - Service quality, SERVQUAL, Service industry, SERVPERF.

I. INTRODUCTION

Service Quality is hard to understand, and it is an evolving concept that has changed a lot in the course of time.

The marketing literature has emphasized the distinction between perceived quality and objective quality. Perceived quality based on customer view is the set of measurements that contribute to the perception of a product or a service that is given to this consumer. At the same time, the objective quality based on service and on the production of this service would be the whole measurements contributing to the service quality whose level has been previously set by the organization independently of the perception that customers may have (Parasuraman et al. 1990).

Service Quality is an overall judgment of consumers about service superiority (Parasuraman et al.,1988). It integrates consumer expectations and perception of the service provider (Gronroos,1994; Parasuraman et al., 1985). Most studies that were realized on the service quality measurements in the service industry relied more on the relationship

between service quality and customer satisfaction (Azman Ismail, 1996), or they focused on the Relationship between service quality and customer loyalty (Deng W et al., 2010; Amy Wong, Amrik Singh Sohal, 2003; Yeo et al. 2011), or they were more interested in reviewing the different models applied in the service industry (Ali R. G. et al.,2015; Frederick A. Frost, Mukesh Kumar,2000).

The purpose of this paper is to see how the service quality measurements have been applied in different areas of the service industry, from private services such as banks to public ones such as hospitals. To make it possible, we used secondary data from online academic journals. For a better understanding of this paper, we chose to divide this work into three main parts: we start from the literature review in order to explain the basic approaches of the concept related to our paper. Further, we describe the methodology used, then we analyze and discuss the results, and the last part is dedicated to the general conclusion.

II. LITERATURE REVIEW

A. Understanding the service and the service industry

Let's begin by defining the service and its specificities and then spread it over the service industry. Service is a temporal experience, experienced by the client with his emotions and can be as good quality or bad one. To consider a service, we must take into account five specificities defining this one: intangibility, the inseparability between production and consumption, the customer participation in the service process, as well as the heterogeneity of the service (Lendrevie et al.,2006). Each of the specificities is defined as below:

- The intangibility makes the service appreciation harder, as well as communication and price justifications which are more difficult to explain.

- The production and consumption inseparability makes it impossible to store services and often obliges physical proximity between customers and service delivery places.

- Customer involvement in the service production makes customers more or less active and may require customer education.



- The direct relationship between customers and contract employees for the service production makes the organizational boundaries sensitive and emphasizes the importance of contact employees in the quality perception from part of the customer.

- The heterogeneity of the service quality can vary significantly depending on the service provider, the client, or the moment when the service occurs (Lendrevie et al., 2006).

Among other things, services have a strong organizational dimension: service production. Indeed, service production is the organization of material and human resources necessary for the production of services, and it includes four main types of interactions: the interaction between customers and contract employees; the interaction between the physical environment and customers or the physical environment and contact employee; the interaction between the organization internal part and the one in contact with customers and the interaction between clients themselves (Lendrevie et al.2006).

Eiglier and Langeard (1989) argue that service is at the same time the goal and the result of the service production system. The service production system is defined as the systemic and coherent organization of all physical and human components related to the customer-business interface required to achieve a service delivery whose business characteristics and quality levels have been determined.

The service can also be represented by the contact employee from a consumer's point of view ([13]). Then, the service relationship is defined as the content of interactions with the organization's employees. They accomplish the organization's objectives, creates its image, and sell the service; it becomes the strategic articulation of the success of commercial relations.

As for the service industry, there are market services, which are easily available on the market, and non-market services, which are obtained in more specific frameworks and rules. We also notice two other kinds of services which are private and public services. Public service is an activity of general interest, carried out under the control of the public authority by a public or private body with prerogatives enabling it to fulfill its obligations (in particular as regards continuity and equality). Any other service activity which does not fall under the exception defined by the previous category must be considered as a private activity. Then, banks, insurance, transportation, tourism, restaurants, for example, are the most services known in the scope of management studies.

B. Service quality

Service Quality is defined according to [13] as a global impression of the client about the inferiority or superiority of an organization and its provided services. Moreover, in the literature about service

quality, there are two main schools of thought: the American school and the European school. The American school (with Parasuraman, Zeithaml, and Berry) conceives the service quality as characteristics directly related to services offered, and the European school (notably with Christian Gronroos) relies on the service structure, on its diverse components to measure quality for each of them. The disconfirmation paradigm is a bedrock of these schools.

Among others, Eiglier and Langeard (1987) state that good service quality is the one that in a given situation satisfies customers. These authors seek to compare customer perceptions about the service quality with the expectations he previously had. Quality is defined as the difference between expectations and perceptions. Thus, quality is expressed by the ability to meet customer expectations on various dimensions of the service, where quality is the ability of the service provided by the organization or firm to satisfy a client's need. According to Parasuraman et al. (1985), service quality is a kind of attitude, similar but not equivalent to satisfaction, resulting from the comparison between consumer expectations (influenced by past experiences, word of mouth, and external communication of the organization) and perceptions of the service performance.

C. The Nordic and American Schools' approaches

Service quality is certainly a multi-dimensional concept. From an organizational point of view, it is sometimes useful to be able to model the dimensions of perceived quality management in the minds and language of employees and managers as simply as possible. With regard to the service structure, several approaches have been distinguished. Between these approaches, the literature recognizes two main schools of thought: the American and the Nordic one.

Regarding the Nordic school, Grönroos (1984) has developed a perceived quality management model suitable for the service industry. This model was based on two main dimensions (technical quality and functional quality) that he suggested developing best in the management of this kind of organization. He spoke of technical quality in a broad sense, based on the global model. The technical quality depends mainly on the competence and training of employees. In health care services, for example, all caregivers in their particular function, such as doctors, psychologists, nurses, physiotherapists, pharmacists, may contribute to the technical quality by the specific skills of its function.

About the functional quality, it refers to all goals set up within the organization to carry out the defined activities. The organization and the synergistic means relating to the activities' coordination of various actors and services. Coordination of inter-service activities often seems neglected in the organization. Nowadays, the

technology available to take advantage of the professional skills of various actors and value the development of research and teaching is the perfect example of functional quality;

Regarding the previous approach, years later, Parasuraman A., Valarie A. Zeithaml, and Leonard L. Beny (1988) operationalize the quality of services by comparing perceptions of service delivery with expectations using their SERVQUAL model, while the SERVPERF model only maintains perceptions of service quality. Finally, the works of Parasuraman, Zeithaml, and Beny are the most common in service quality studies. These three authors identified different sources of gaps that may exist between client perceptions and expectations with respect to the Gap model (Parasuraman et al., 1985). Among others, in this gap model, authors have developed five dimensions of service quality, and three of them, i.e., responsiveness, assurance, and empathy, are directly related to attitudes and employees' behavior. The dimensions of the perceived quality by Parasuraman et al. (1985) have been developed according to a traditional concept of service experience and have placed particular emphasis on interaction and interpersonal contact between the client and the organization employees. There we find the difference with the Nordic school approach.

Parasuraman(1993) conceptualizes the relationship between consumer expectations, service experience history, service level perception, service quality, and consumer satisfaction). In this way, quality is appreciated by the gap with the consumer expectations. For their part, Cronin and Taylor (1992) advocate the use of consumer perceptions to determine service quality. Thus, customers have service expectations that are explicit and implicit. Explicit expectations are torn by the promises made at the time of purchase. The company, therefore, has absolute control over explicit expectations. On the other hand, the implicit expectations, which are tainted by customers' perception of the enterprise image, the reputation, and the premium price to pay for such service, are much more difficult to measure and manage. Usually, organizations measure only explicit commitments.

III. METHODOLOGY

This paper is not more than than a quantitative study based on secondary data. We collected papers in all kinds of service sectors from online journals. We chose to select papers from 1990 up to 2018. A number of 21 research papers were collected with the purpose of analyzing the variation of service measurements used in different services.

Table 1. Service quality works from 1990 to 1999

Reference	Application scope	Servqual adaptation	Measurements used for the study
Carmen (1990)	Health	Yes	From user interviews, authors arrange some Servqual items to fit the specific field of the research here health but keep the 5 dimensions of the initial model of Servqual.
Babakus et Mangold (1992)	Hospital	No	None
Bowers and al. (1994)	Hospital	Yes	The authors propose two new dimensions to the field of health care. Caring for patients involves human and personal involvement in the service and patient outcomes that involve relief of pain and life saved.
Mc Alexander and al (1994)	Health	Yes	Servqual is adapted to the specific context of the research by using expert interviews from the sector concerned. The authors keep the 5 dimensions of the initial model.
Donnelly and al. (1995)	Municipality	No	None
Wisniewski and donelly (1996)	Housing service	Yes	Servqual model is adapted to the specific context of the research using expert context interviews; some items are discarded while others are added. Their model does not propose new dimensions and does not allow generalization to the public sector.
Orwig and al (1997)	US Air National Guard	No	The authors conclude by stating that Servqual is inadequate for the field studied and suggest that it is necessary to adapt the model in the public sector.
Donnelly and Shiu	Housing services	Yes	Authors arrange their Servqual items so that they correspond to the specific field of the research but keep the 5 dimensions of the initial model.

Table 2. Service quality works from 2000 to 2007

Reference	Sector of application	Adaptation to servqual	Measurements used for the study
Nelsen and Host (2000)	Municipalities	Yes	The authors work on the perception that city hall agents have on the service quality. They dismiss the Servqual dimensions to which employees can not answer (tangibility and assurance).
Gowan et al. (2001)	Public agency	Yes	7 servqual items that did not make sense in the studied context were discarded. No items have been added.
Wisniewski (2005)	Scotland hospital	No	None
Murrow (2002)	Health	Yes	Servqual is adapted to the specific context of the research. Authors add to the five dimensions of Servqual a dimension called 'technical competence.'
Sabadie (2003)	National Society of French railroads and French family allowance found	Yes	The deputy author adds to Servqual a second model that integrates 4 components: equal treatment, participation, claims management, and transparency.
Iyer and Muncy (2004)	Health	No	None
Roshnee R. Ramsaran Fowdar (2005)	Hospital	Yes	Authors add to Servqual applied in the health sector, two specific dimensions and items. Both dimensions focus on the main effects or outcomes for patients' and employees' professionalism.
Sanchez Perez et al . (2007)	Public transportation	Yes	Specific items to the transport industry are integrated. The authors identify 5 dimensions of service quality: reliability, tangibility, empathy, guarantee, and responsiveness. The dimensions of helpfulness and assurance disappear in favor of the appearance of guarantee and responsiveness dimensions.

Table 3: Service quality works from 2010 to 2018

Reference	Sector of application	Adaptation to SERVQUAL	Measurements used for the study
C.N. Krishna Naik et al. (2010)	Retail unit in India	No	The authors used the five traditional dimensions of the perceived service quality.
Brendan E. Asogwa et al. (2014)	Academic library in Nigeria	No	The authors used the five traditional dimensions of service quality. No dimension has been added.
A.T.Wijsekera and R.L.S. Fernando (2016)	Service sector in Sri Lanka	Yes	Five dimensions have been used to conduct the study: Communication, Responsiveness, Tangibility, Assurance, and Empathy. The authors added items; they went from 22 to 45 items. The reliability dimension has been replaced by communication.
Mohamednour Ahmed and Ahmed Ibrahim (2017)	Hospital in Sudan	Yes	5 dimensions have been used for government hospitals: tangibles, confidence, responsiveness, empathy, and reliability. The dimension of Assurance disappears in favor of confidence.
Stephen Banahene et al. (2017)	Private Universities in Ghana	Yes	The authors used the five dimensions of servqual and SERVPERF and HEDPERF items.
Rehaman B. and Husnain M. (2018)	Hospital in Pakistan	Yes	Five dimensions have been studied; no item has been added.

measurements have been evolved in the marketing literature.

We divided this research into three main periods in order to easily understand the different changes that occurred in both private and public services. We will conduct an analysis of frequencies and then identify how the service quality

IV. RESULTS & DISCUSSION

This synthesis shows that in the vast majority of researches, the service quality model developed by Parasuraman is applied in all the service sectors. Indeed, if minor adjustments are made, these concern the sectors studied and do not consist in the formalization of specific dimensions to service values. In other words, most of the researches is not about developing a perceived service quality measurement model; both private and public sectors are just a context for the application of service quality. Among the 21 empirical studies presented, there are three ways of applying the service quality models.

More than one-third (6 about 21) of perceived quality measurement models in a service setting use SERVQUAL without adapting it. The question of the adaptability of a model coming from the private sphere in a public context is not debated in this research except in one case. Orwig et al. (2001) show the limitations of an application of the service quality model without adaptation. They deduce from their study that the dimensionality of the model is problematic in the public sphere, whereas it is particularly stable in the private sphere (Carman, 1990). This conclusion leads them to the applicability question of the SERVQUAL model in a hospital context, and they indicate that future research is needed to determine whether the inadequacy of the SERVQUAL model in the hospital context is specific to the field studied or if it is symptomatic for the entire sector (Orwig et al., 2001).

Almost half (9 about 21) of the research presented proposes to adopt the SERVQUAL model to the specific field of research. This is not a question of integrating service specificities in a general way, but it is more about the exact context of the application, then the specificities are considered as related to the activity sector. Nielsen and Host (2000), for example, develop a measurement model for a municipality's service quality from agents' perception, excluding one of the users. They decide to discard the tangible and assurance dimensions that employees cannot answer.

In the same idea, Wisniewski and Donnelly(1996) dismiss SERVQUAL items that are meaningless in the context of housing services, but they incorporate new items without revealing new dimensions. Bowers et al.(1994) and Roshnee Ramsaran Forward (2005) apply SERVQUAL to the hospital services. Each of them develops the model by suggesting new dimensions: one dimension is about employees, and the other deals with effects on patients. In the first case, Bowers' dimension represents the employee commitment, whereas in the second case, i.e., Roshnee's dimension focuses on employees' professionalism.

A.T.Wijesekera and R.L.S. Fernando (2016), Mohamednour Ahmed, and Ahmed Ibrahim (2017)

applied the service quality model; responsiveness and empathy seem to be the most important measures.

Finally, the conceptualization and measurement of the service quality is a source of discussions in the marketing literature. The topic that has been driving the debate so far is the one of quality as a key differentiator of any organization. To this extent, measuring and study service quality as a multi-dimensional concept remains a very interesting field to explore.

V. CONCLUSION

To conclude, the objective of the paper was to examine the way service quality measurements have been used in marketing studies. We underlined that the emergence of principles in service quality has two specific requirements: the accessibility of services and the service improvement (Cluzel Metayer, 2006). Thus, a broader conception of quality prevails in the private sector and cannot be equated with one of the public spheres. Evaluating and measuring service quality, defined as "the ability to satisfy the need for the customer satisfaction," implies, therefore, the development of extended models incorporating all dimensions. SERVQUAL model of service quality, developed by Parasuraman et al. (1988), which refers to the marketing service literature, inspires many of the service quality initiatives in both public and private sectors.

A literature review dedicated to the service quality measurements shows that in the vast majority of cases, the SERVQUAL model is applied passively to the researchers without taking into account the specific dimensions of PSQ. For this part of the research, it is very important to talk about changes that Parasuraman brought in the service industry in general and in hospitals especially. Among the different measurement tools, empathy, responsiveness, and communication are the most valued above any adaptation.

This study reveals to be interesting in the extent that it will contribute to the modeling process in terms of service quality as well as explanations and clarifications on the measurements used to assess quality or customer satisfaction based on the service provided by an organization. It is also important to note that the research findings can be performed by comparing a large sample of research papers. Future studies can focus on the application of service quality measurements as a corporate strategy to find their strengths and weaknesses.

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