



# **E**xploring the intellectual basis about service quality: when the speech changes the tone

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## Abstract

**Objective:** To explore the intellectual basis about service quality, analyzing its evolution and indicating main papers and trends.

**Method:** Bibliometric analysis performed in the Web of Science database and later analysis of the cocitation network.

**Originality/Relevance:** There are many studies in the field that review the concept, especially through the Servqual tool, however, none of them are deeply involved in the network centered in Parasuraman, Zeithaml and Malhotra (2005).

**Results:** Data reveal an intellectual basis composed of two connected networks; one focused on the work of Parasuraman, Zeithaml and Malhotra (2005), the analysis object of this article. The identification of groups in temporal cutouts allowed to highlight the importance of analyzes about online services; the concern about loyalty in this context; the evolution of specific research fields and the emergence of quantitative analyzes.

**Theoretical/methodological contributions:** This paper contributes to the understanding of the evolution of the field and its main exponents, delimiting discussion spaces and assisting researchers in their reviews.

**Originality/relevance:** Even though some studies have been devoted to field analysis (Buttle, 1996; Ladhari, 2009; Vasconcelos de Faria, Policani Freitas, & Molina-Palma, 2015; Asubonteng, McCleary, & Swan, 1996; Pereira, Carvalho, Rotondaro, 2013, Roy & Lassar, 2015, Mardani, Jusoh, Zavadskas, Khalifah, & Nor, 2015); none looked deeply into the examination of the intellectual basis on the subject.

**Keywords:** Quality; Services; Servqual; Bibliometrics.

## How to cite this article

Abreu, A. A., Antonialli, L. M., & Andrade, D. M. (2019). Exploring the intellectual basis about service quality: when the speech changes the tone. *Brazilian Journal of Marketing*, 18(2), 139-170.  
<https://doi.org/10.5585/remark.v18i2.3739>

The authors would like to thank FAPEMIG - Fundação de Amparo à Pesquisa do Estado de Minas Gerais - for its support in developing the research.

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## Introduction

Market globalization, broad access to information and market deregulation have created a new, more enlightened and demanding customer (Silva and Silva, 2017). Quality has been, for a long time, an extremely important attribute for the organizational environment. It was from the 1980's, with the seminal works of Parasuraman, Zeithaml, & Berry (1985) and Parasuraman, Zeithaml, & Berry (1988) that arose the concern about ways of measuring this variable, especially in the services sector.

The construction of the field related to quality in services has intense debates in its intellectual basis; specifically those related to the theoretical and methodological basis of methodologies for measuring quality in services (see Abreu & Andrade, 2017). The evolution of the concern with the quality measurement modes progressed in a sequential way, through adaptations and referenced learning (Seth, Deshmukh and Vrat, 2005).

Since then many other models, ways of measuring and identifying variables that result in services quality have been discussed. Voss, Calantone and Keller (2005) sought to examine how frontline employees' performance and consumer orientation affected service, supply chain, and the financial performance of US distribution centers. Based on the quality of internal service (between departments), the authors showed that there is a positive relation between this domain and the market orientation of a company, and that frontline employees play a key role in the service quality delivered to the external customer .

Alnaser, Abd Ghani and Rahi (2018) used the Pakserv model as a test to analyze the satisfaction and loyalty of Palestinian bank clients. The authors found a significant relation between these two elements, in addition to showing that reliability and formality are the two most important dimensions for the service quality in this sector. The Pakserv scale was proposed by Raajpoot (2004) and is considered by the author as a culturally sensitive and not Western methodology.

Hasan, Jaafar and Hassan (2014) state that monitoring service quality has become vital in a web services environment. Oriol, Marco & Franch (2014) carried out a mapping of the quality models for web services, revealing their growth from 2001. Analyzing the characteristics of the quality concept used in the papers, the authors identified important constructs and attributes (such

as availability, response time, cost, among others), besides examining the quality factors used and their depth.

Assuming the widespread use of the Web for educational and professional purposes, however, without a consolidated methodology for its evaluation, Orehovački, Granić and Kermek (2013) analyze the estimated quality and perceived quality in this environment. The authors state that both pragmatic and hedonic attributes need to be evaluated and that attributes related to use quality were considered more important than those related to content quality.

Blut (2016), based on the argument that most of the models previously developed to measure quality in online services are incomplete, develops a hierarchical methodology for quality in electronic services. Composed of four dimensions (website design, fulfillment, consumer service and security/privacy), this tool was applied to internet users who had made at least one purchase in the last six months.

Some authors dedicated themselves to the analysis and revision of the field, with a great emphasis for those based on the measurement methods, especially Servqual (Buttle, 1996; Ladhari, 2009; Vasconcelos de Faria, Policani Freitas, & Molina-Palma, 2015; Asubonteng, McCleary, & Swan, 1996). The work of Pereira, Carvalho & Rotondaro (2013) sought to analyze the evolution of research on services quality. The authors used papers published between 1983 and 2011, on national and international databases, also analyzing the network of citations and cocitations, however, numerically exploring the use of tools, research lines and relevant authors. Roy & Lassar (2015) conducted an intensive systematic review on the quality of health services, discussing conceptual models and measurement approaches. Mardani, Jusoh, Zavadskas, Khalifah, & Nor (2015) also presented a systematic review on the subject, however, their approach was directed to multi-criteria decision-making techniques (MCDM). There is no review work on the subject that deeply explores the intellectual basis of the field of services quality (the cocitation network) and seeks its understanding by generating work groups that identify relevant papers and research areas.

This way, the objective of this article is to explore the intellectual basis about services quality theme, through a bibliometric analysis. The focus is the analysis of the network centered on Parasuraman, Zeithaml and Malhotra (2005), identifying important research groups and completing the analyzes made by Abreu and Meirelles (2017).

**Method**

For the execution of this research, it was adopted the structure used by Prado et al. (2016), directed to bibliometric studies. In this structure, the process of collecting papers consists of five phases, in which the procedures regarding the research operation are established, as can be observed in Table 1 and according to what was done in Abreu & Andrade (2017).

**Table 1-** Stages for bibliometric analysis

Stage	Procedure	Description	
1	Research Operation	1.1	Choice of scientific base(s) or journals(s)
		1.2	Delimitation of terms that represent the field
		1.3	Delimitation of other terms for result calculation
2	Search procedures (filters)	2.1	<i>Title</i> (field term) <i>AND</i> topic (guidance)
		2.2	Use of <i>underline</i> : exact expression
		2.3	Filter 1: just delimitations of articles
		2.4	Filter 2: All years
		2.5	Filter 3: All areas
		2.6	Filter 4: All languages
3	Selection Procedures (Database)	3.1	Download of references - <i>software EndNote</i>
		3.2	Download of references in spreadsheet format
		3.3	Download of references for use in <i>CiteSpace</i>
		3.4	References organization in <i>EndNote</i>
		3.5	Matrix Analysis in spreadsheet organization
		3.6	Data import to analysis software
4	Data adequacy and organization	4.1	Elimination of duplicated articles from the database
		4.2	Articles elimination through brief reading
		4.3	Elimination through terms polysemy analysis
		4.4	Search for complete articles in pdf
5	Scientific production analysis	5.1	Temporal tendencies and volume of publication analysis
		5.2	References and most quoted articles analysis
		5.3	Country of origin analysis
		5.4	Journal analysis
		5.5	Authorship and co-authorship analysis
		5.6	Publication category (areas) analysis
		5.7	Keyword analysis
		5.8	Description, relation and tendency study

Source: Adapted from Prado et al. (2016)

Following these assumptions, the basis chosen for this research was Web of Science (WOS), where the terms *quality* and *service\** were searched in all titles between 1950 and 2017, which generated 11,890 documents. The use of \* for truncation is recommended by Cardoso and Kato (2015), and it aims to find the term and its variations.

The first used filter was the delimitation of areas belonging to administration and correlates, through the selection of documents published in: *Management; Business; Business Finance* and *Economy*. This action returned 2,481 valid documents. After this stage, it was chosen those documents classified as scientific articles, totaling 1,519 items.

All the papers were transferred to the EndNote desktop program and downloaded in their entirety. Subsequently, all titles and abstracts were read in order to insert in the sample only those articles that deal exactly with the proposed theme (service quality). This process allowed the exclusion of 128 articles, ending with 1,391 documents for the execution of the research.

With all the information obtained with the previous processes, the articles were identified again in the WOS database, being, however, transferred to Citespace software, a tool that allows Bibliometric analysis.

## **Results Analysis**

### **Field configuration**

As in Abreu & Andrade (2017), the initial analysis of the articles allows to identify the configuration of the field about service quality. There is a growth that can be highlighted especially from the 80's, date of the works resulting from the partnerships made between Parasuraman, Zeithaml and Berry. Table 2 shows the most cited articles of the sample, which proves the relevance of these authors' papers; Parasuraman, Zeithaml and Berry (1988, 1985) and Zeithaml, Berry and Parasuraman (1996).

**Table 2** - The most cited papers of the sample

	<b>Author</b>	<b>Title</b>	<b>Journal</b>	<b>Citations</b>	<b>%</b>
1	Parasuraman; Zeithaml, and Berry.	Servqual - a multiple-item scale for measuring consumer perceptions of service quality	Journal of Retailing, vol. 64, 1 ed., 1988, p.12-40.	5,679	8.7
2	Parasuraman; Zeithaml and Berry.	A conceptual-model of service quality and its implications for future-research	Journal of Marketing, vol.49, 4 ed., 1985, p. 41-50.	4,960	7.6
3	Zeithaml; Berry and Parasuraman.	The behavioral consequences of service quality	Journal of Marketing, vol. 60, 2 ed., 1996, p. 31-46.	3,143	4.8
4	Cronin and Taylor	Measuring service quality - a reexamination and extension	Journal of Marketing , vol. 56, 3 ed., 1992, p. 55-68.	2,766	4.2
5	Cronin; Brady and Hult.	Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments	Journal of Retailing, vol. 76, 2 ed.,2000, p.193-218.	1,888	2.9
6	Crosby; Evans and Cowles.	Relationship quality in services selling - an interpersonal influence perspective	Journal of Marketing, vol. 54, 3 ed., 1990, p. 68-81.	1,508	2.3
7	Reichheld and Sasser.	Zero defections - quality comes to services	Harvard Business Review, vol. 68, 5 ed., 1990, p. 105-111.	1,384	2.1
8	Gronroos.	A service quality model and its marketing implications	European Journal of Marketing, vol. 18, 4 ed., 1984,p. 36-44.	1,361	2.0
9	Boulding et al.	A dynamic process model of service quality - from expectations to behavioral intentions	Journal of Marketing Research, vol. 30, 1 ed., 1993, p. 7-27	1,128	1.7
10	Bolton and Drew	A multistage model of customers assessments of service quality and value	Journal of Consumer Research, vol. 17, 4 ed., 1991, p.375-384.	944	1.4
	Total			65,081	100

Source: Research Data

## Bibliometric Analysis

When documents are inserted in Citespace software, it is possible to create the cocitations network, which makes clear the domain of the knowledge field, as was done in Abreu and Andrade (2017). The cocitation analysis can be considered an efficient tool, because according to Grácio (2016, p. 88), it “identifies the link/similarity of two cited documents, via their frequencies of joint occurrence in a list of references of the citing authors”.

Chen (2006) argues that the cocitation network represents the intellectual basis of a research front, which is understood as the emergent and transient clustering of underlying research concepts and questions. It shows how the knowledge structure in an area is perceived by researchers through the frequency with which two authors or documents are cited together (Grácio & Oliveira, 2013, p.197). “A deep feature of a research front is the constant presence of scientific debates, ranging from controversial theories to inconclusive evidences” (Chen, 2003, p. 26).

Figure 1 shows the cocitation network of the sample, that is, the intellectual basis of service quality field from 1980 to 2017.

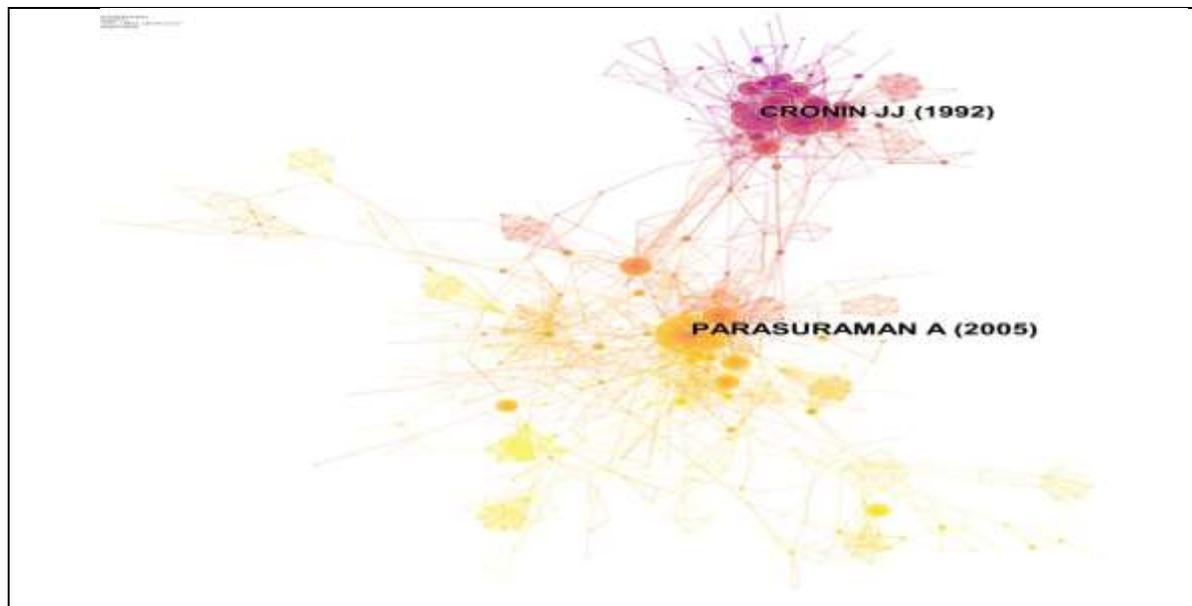


Figure 1 - Cocitation network of service quality field (1980-2017)

Source: Research Data

It is observed in Figure 1, as was verified in Abreu and Andrade (2017), that the intellectual basis of the theme is formed by two main networks strongly integrated: the first focused on the work of Cronin and Taylor (1992), and the second (more recent) on the work of Parasuraman, Zeithaml and Malhotra (2005).

Due to the large number of papers and the impossibility of reading and synthesizing them all in a single article, we opted to choose the network centered in Parasuraman, Zeithaml and Malhotra (2005) for analysis. It was decided to subdivide the network into three temporal spaces (from 2003 to 2007, 2008 to 2012 and 2012 to 2017). For each analyzed temporal space, the cocitation network was recreated and clusters were formed and named. The purpose of this subdivision is to better understand and visualize how the field has evolved over the years, as shown by Chen (2006).

### **Network General Aspects**

As could be explained in the work of Abreu and Andrade (2017), the first network, centered on the work of Cronin and Taylor (1992), has very specific characteristics. In this one, the debate is constructed through questioning the paradigm of the disconfirmation or the theoretical base used for the construction of the Servqual scale, besides the problems found in its application. The authors dedicate themselves to improvements in the tool, timidly starting for a change of debate related to the importance of other organizational variables related to service quality.

### **Analysis of the intellectual basis**

#### **Field structure between 2003 and 2007**

The first analysis was carried out through the construction of the cocitation network of papers from the sample dating from 2003 to 2007. This operation allowed the identification of ten main work groups; that is, ten representatives of the field in this temporal cut, as can be observed

in Figure 2. An important detail to be clarified is the groups: blues are connections made in 2003; the purples in 2004; pinks in 2005; oranges in 2006 and yellows in 2007.



Figure 2 - Clusters generated between 2003 and 2007

Source: Research Data

To support the understanding of each group, Table 3 indicates three characteristics of each agglomeration: Its label (name generated by the software based on the titles, keywords or indexed terms); the number of references (articles) arranged in each cluster; the base reference (paper that is part of the collected sample) and its coverage index (percentage covered by the paper in relation to the group members). In the third column, are presented the most relevant papers of the cluster (those with the highest occurrence in the group) and their frequency.

**Table 3 - List of clusters and their papers (2003-2007)**

<b>Cluster/ Reference number</b>	<b>Base reference / coverage (%)</b>	<b>Most relevant articles of the cluster / frequency in the group</b>
Eletronic Services/19	Fassnacht & Koese (2006)/32 Fassnacht & Köse (2007)/ 16	Brady & Cronin Jr (2001) / 18 Parasuraman, Zeithaml, & Malhotra (2005) /9
Information Systems Management/16	Yang & Fang (2004) / 69	Zeithaml, Parasuraman, & Malhotra (2002) / 16 Van Dyke, Kappelman, & Prybutok (1997) / 10
Web Presence/14	Kuo, Lu, Huang, & Wu (2005)/36	Meuter, Ostrom, Roundtree, & Bitner (2000) / 8
Service Quality/12	Mukherjee, Nath, & Pal (2003)/ 33 Babakus, Yavas, Karatepe, & Avci (2003)/25%	Zeithaml, Berry, & Parasuraman (1996) / 10
E-service quality/10	Rabinovich (2007)/ 30 Heim & Field (2007)/ 20%	Wolfenbarger & Gilly (2003)/8
Satisfaction Rates/ 7	Laroche, Ueltschy, Abe, And, & Yannopoulos (2004)/ 43	Gwinner, Gremler, & Bitner (1998)/ 6
Loyalty Incentive /6	Naidoo & Leonard (2007)/33 Fassnacht & Köse (2007)/17	Não apresenta
Encounter Quality/5	Laroche et al. (2004)/20 Raajpoot (2004)/20	Furrer, Liu, & Sudharshan (2000)/6

Source: Organized by the author

Table 4 shows the three papers with greater centrality in the analysis of the temporal cut. This measure is very important because it indicates the article relevance to the network. This interaction centrality of a network node measures its importance, its position in this context, therefore, a high centrality may indicate a node that leads to emerging trends (Chen, Hu, Liu, & Tseng, 2012).

**Table 4** - Most relevant papers among the clusters in the analysis 2003-2007

Position	Centrality	Reference	Cluster
1	0.23	Zeithaml, Parasuraman, & Malhotra (2002)	Information Systems Management
2	0.20	Brady & Cronin Jr (2001)	Electronic services
3	0.16	Dabholkar, Shepherd, & Thorpe (2000)	Electronic services

Source: Organized by the author

Observing Tables 4 and 5, it can be seen that between 2003 and 2007 the field related to service quality has evolved into new discussions regarding the applied analyzes in the context of online services. The groups Electronic Services (2006); Information Systems Management (2004); Web presence (2005) and E-Service Quality (2006) allow us to state that the discussion initiated in Kettinger and Lee (1997) spread out through the network, producing new results, without abandoning the concern with the way of measuring quality. This is what can be seen in the first and largest cluster and its members, especially in the work of Brady & Cronin Jr (2001), which in turn can also be considered a reference for the network, as can be seen in Table 4. The authors argue that the quality perceived by clients should be conceived as a hierarchical and multidimensional construct, that is, the quality perception is shaped based on the evaluation of three main dimensions: The interaction; the environment and the final result. At the same time, the first cluster has also the paper of Parasuraman, Zeithaml, & Malhotra (2005) and the proposal of a scale to measure the online service quality as a relevant member.

The concepts of the two strongest members of the first cluster merge in their two basic references: the development of a hierarchical measurement model applicable to the context of services offered electronically (Fassnacht & Koese, 2006) and the discussion about the quality of web services and their effects: perceived value, satisfaction, loyalty and trust (Fassnacht & Köse,

2007). The authors show that as higher satisfaction, greater is the confidence and consequently, greater loyalty in this context.

Still in the first cluster (Electronic Services), another paper can be considered as reference for the network (even if it does not show frequency for the group to which it belongs). Dabholkar, Shepherd, & Thorpe (2000) maintain a similar line to that of Brady & Cronin Jr (2001), keeping the discussions about the concept of quality in services, especially the mediating role of quality in relation to the satisfaction and behavioral intentions. Another relevant work for the network is from Zeithaml, Parasuraman, & Malhotra (2002), being part of the second cluster (Information Systems Management), according to Table 4. In this cluster, the authors synthesize the literature on the quality of services delivered by the web, identifying attributes and drawing attention to the need of understanding the composition, antecedents and consequences of this type of analysis.

More succinctly, extending the analysis to the other groups, as already observed, the perspective about the quality applied to services in electronic contexts is maintained. In the second group, besides the reference work of Zeithaml, Parasuraman, & Malhotra (2002), there is also the application of Servqual to the context of online services (Van Dyke, Kappelman, & Prybutok, 1997) and the identification of quality dimensions for online brokerage services (Yang & Fang, 2004). The Web Presence cluster represents the concern for quality and call centre technologies (Meuter, Ostrom, Roundtree, & Bitner, 2000) and internal portals strategically used by organizations to connect employees to corporate information (Kuo, Lu, Huang, & Wu, 2005). E-Service Quality, a group with less representation, has in the work of Wolfinbarger & Gilly (2003) the proposal of creating a scale to measure services provided by e-retailers (eTailQ).

The other groups refer to diverse concerns such as quality as a form of customer retention and financial return (Service Quality Cluster); findings about the relation between quality perception and cultural context (Encounter Quality and Satisfaction Rates). However, the Incentive to Loyalty cluster is highlighted, since it represents the most recent group of analysis (2007), which may indicate a path to be covered by the field in the next analysis. This group is open to concerns about the continuity of electronic services and fidelity in this process.

**Field structure between 2008 and 2012**

As in the 2003-2007 analysis, the same steps were carried out in the 2008-2012 cut. Figure 3 shows a denser network, with a larger number of articles in the sample and consequently a larger cocitation network, which is an indicator of activity in the field.

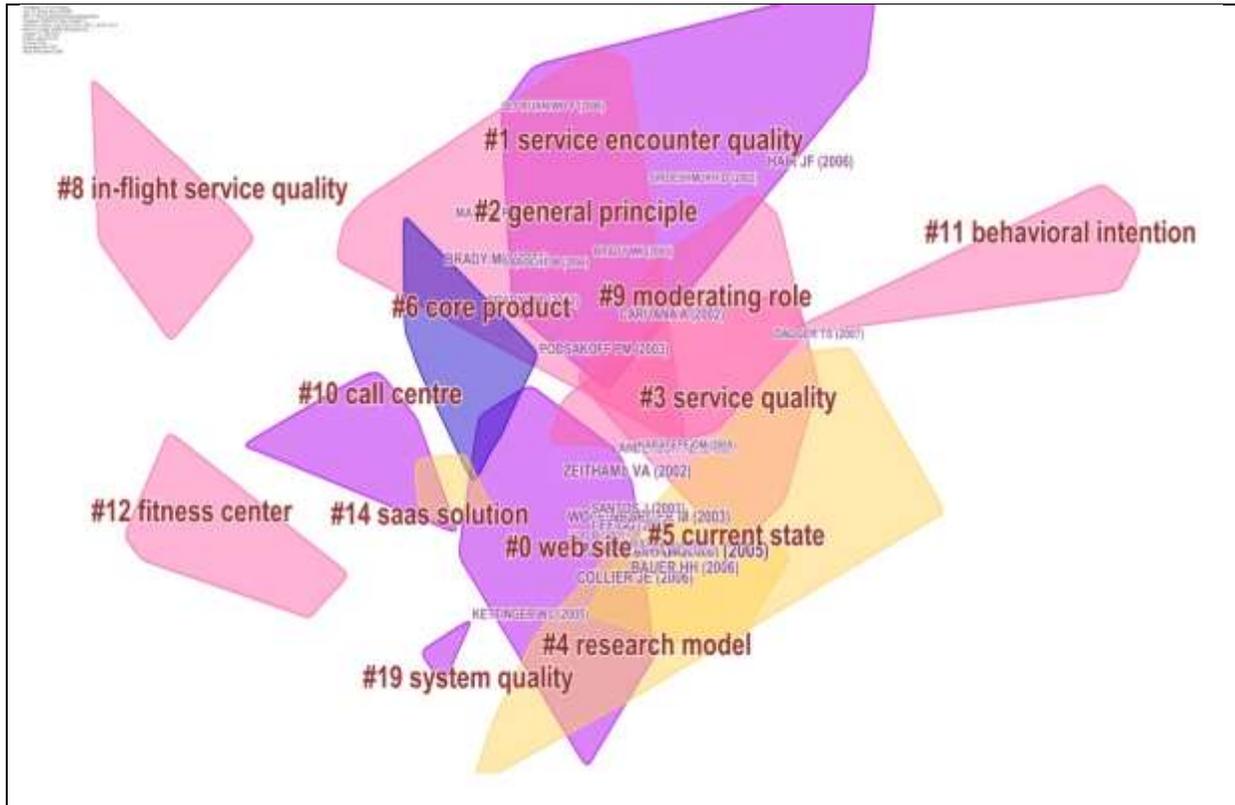


Figure 3 - Clusters generated between 2008 and 2012  
Source: Research Data

Clusters and their labels, as well as the number of members and characteristics of the group as relevant articles (in number of occurrences) and papers with greater coverage were also elucidated.

**Table 5** - List of clusters and their papers (2008-2012)

Cluster/ Reference number	Base reference / coverage (%)	Most relevant articles of the cluster / frequency in the group
Web Site/ 50	Liu, Guo, & Hsieh (2010)/ 32% Carlson & O’Cass (2010)/26%.	Parasuraman, Zeithaml, & Malhotra (2005)/ 49 Collier & Bienstock (2006) / 22 Wolfenbarger & Gilly (2003) /20 Zeithaml, Parasuraman, & Malhotra (2002)/20
Service Encounter quality /41	Jayawardhena (2010)/27	Hair Jr., Black, Babin, & Anderson (2010) /15 Sirdeshmukh, Singh, & Sabol(2002)/8
General principles /35	Morales & Ladhari (2011)/31	Malhotra, Ulgado, Wu, Agarwal, & Shainesh (2005)/10
Service Quality /28	Miguel-Dávila, Cabeza-García, Valdunciel, & Flórez (2010)/32	Caruana (2002)/13
Research Model /26	Sousa & Voss (2012)/23 Lin (2012)/23	Vargo & Lusch (2004)/7
Current state /26	Petnji Yaya, Marimon, & Fa (2012)/58	Bauer et al (2006)/ 19
Core Product / 20	Cenfetelli, Benbasat, & Al-Natour (2008)/35 Shonk & Chelladurai (2008)/25	Brady & Cronin Jr (2001)/16 Podsakoff, MacKenzie, Lee, & Podsakoff (2003)/ 13
In-flight service quality /16	Chen, Tseng, & Lin (2011)/62	Park, Robertson, & Wu (2004)/6
Moderating Role /15	Gil-Saura & Ruiz-Molina (2011)/ 40	Al- Hawari & Ward (2006)/4
Call center /13	Ramseook-Munhurrun, Naidoo, & Lukea-Bhiwajee (2009)/38	Homburg & Stock (2004)/4 Yoon, Beatty, & Suh (2001)/4 Babakus, Bienstock, & Van Scotter (2004)/4
Behavioral Intention /11	Lai & Chen (2011)/36	Dagger, Sweeney, & Johnson (2007)/9
Fitness Center/9	Yildiz (2011)/44	Saravanan & Rao (2007)/4 Hung, Huang, & Chen(2003)/4
SaaS Solution (Software Service) /5	Benlian, Koufaris, & Hess (2011)/40	None
Information Quality/ 3	Gorla, Somers, & Wong, (2010)	Kettinger & Lee (2005)/11 DeLone & McLean (2003)/7

Source: Organized by the author

Papers from the temporal cut that had higher value of centrality (considered as references to the network) were also listed, according to Table 6.

**Table 6** - Most relevant papers among the clusters in the analysis 2008-2012

Position	Centrality	Reference	Cluster
1	0.24	Brady et al. (2005)	General principles
2	0.14	Al-Hawari, Hartley, & Ward (2005)	Service Quality
3	0.14	Chang & Yeh (2002)	General principles

Source: Organized by the author

Observing Tables 5 and 6, it is noticed that there is still great relevance for the researches that involve the electronic environment (Web Site Cluster). However, a very important finding is that at this stage the groups are more overlapping, indicating how much the field presents certain convergence in debates. Cocitations on the network are condensed into clusters that agglomerate, leaving apart only those groups with specific directions (such as the group In-Flight Service Quality, Behavioral Intention and Fitness Center), both of pink color that refers to 2010.

The first and most relevant group reaffirms the trend demonstrated in 2003-2007 period about the concern with quality in services offered online. It is based on E-S-Qual; scale proposed by Parasuraman, Zeithaml, & Malhotra (2005) to measure services electronically delivered and also present in the first group of analysis 2003-2007; through applications to the electronic retail sector from Collier & Bienstock (2006) and Wolfinbarger & Gilly (2003) until the review about the quality of services delivered in the online environment of Zeithaml, Parasuraman, & Malhotra (2002); and which is also part of the Information Systems Management group, from the 2003-2007 cut.

An important finding in this network is obtained by observing the second largest cluster: Service Encounter Quality. In this group, Hair Jr., Black, Babin, & Anderson's book (2010) and its quantitative research techniques are the most recurrent, which demonstrates the growth by these types of analysis in the field. At the same time, and corroborating with the perspectives from the analysis 200-2007, the work of Sirdeshmukh et al. (2002) explores the behavior of providers of services based on consumer confidence and its relation to value and loyalty in exchanges. The

source of the group has the same debate line: Jayawardhena (2010) develops a conceptual model that incorporates quality of customer care and service, satisfaction, perceived value, loyalty to the company and employees. It is important to note that this group overlaps with three others (General Principles, Moderating Role and Service Quality).

The General Principles group is focused on quality analysis as a global tool, which is related to economic and socio-cultural factors (Malhotra, Ulgado, Wu, Agarwal, & Shainesh, 2005); which can also be observed in Morales & Ladhari (2011). The cultural question was also a subject of concern and debate in groups from 2003-2007 analysis. In this group, it is also find two of the works considered reference for the network, as can be observed in Table 6. The reading of the three papers allows affirming that, based on the affirmation of Chen et al. (2012) about the importance of works with higher centrality in the network that the concern with quality measurement models in services reappears at this stage. However, it is important to clarify how the works indicate a new perspective on this goal, pointing out new trends: Brady et al. (2005) test four models that involve the variables: sacrifice; quality; value; satisfaction and behavioral intention. The authors conduct their research in a multicultural analysis (application in several countries) and in several temporal cuts. Al-Hawari, Hartley, & Ward (2005) discuss the development of a model that covers different automated service channels for banks. Chang & Yeh (2002) are oriented to the domestic airlines proposing an evaluation model based on the fuzzy multicriteria analysis and the use of algorithms to solve problems.

The loyalty variable reappears in the group Service Quality: its effect on the repurchase attitude (Caruana, 2002) and its application to banking services; how quality influences satisfaction and how it affects loyalty in this environment (Miguel-Dávila, Cabeza-García, Valdunciel, & Flórez, 2010).

New logics related to the service quality, such as value co-creation and the weight of relationships represent one of the points of the Research Model group. In addition, Sousa & Voss (2012) analyze the impact of quality on e-loyalty intention and Lin (2012) proposes a model that explores the effects of multichannel service quality on customer loyalty.

The Current State group returns to the concern with the quality in online services, however, calling attention to hedonic aspects (Bauer et al., 2006) and revising the scale proposed by Parasuraman, Zeithaml, & Malhotra (2005); E-S-Qual (Petnji Yaya, Marimon, & Fa, 2012).

The work of Brady & Cronin Jr (2001) and its advocacy of a hierarchical way of measuring quality, present in the first group of the 2003-2007 analysis, are also part of the Core Product group. This concern about measuring quality is also reflected in Podsakoff, MacKenzie, Lee, & Podsakoff (2003), where biases in research methods are examined, identifying their sources, influences and forms of control.

The Moderating Role group is related to the relation among quality, financial performance and satisfaction in banking services (Al-Hawari & Ward, 2006) and identification of quality antecedents and their influence on customer commitment and loyalty in B2B (Business to Business) and B2C (Business to Customer) contexts (Gil-Saura & Ruiz-Molina, 2011).

The last five groups, with less representation, are related: to the perspective of the collaborators about the quality (Homburg & Stock, 2004; Yoon, Beatty, & Suh, 2001 and Ramseook-Munhurrun, Naidoo, & Lukea-Bhiwajee, 2009); to the proposition of a multidimensional hierarchical scale to measure the quality in health services and to predict intention and satisfaction and the second work (Dagger, Sweeney, & Johnson, 2007) and behavioral intentions in public services (Lai & Chen, 2011). In the proposal of the SQS-FC scale (Service Quality Scale for Fitness Centers) (Yildiz, 2011); in the Saas-Qual proposition, a specific measurement instrument for the verification of quality in software services (Benlian, Koufaris, & Hess, 2011) and in the ambiguity related to customer expectation about the service (Kettinger & Lee, 2005) and the relation between the quality of information systems and organizational impact (Gorla et al., 2010).

### **Field structure between 2013 and 2017**

Finally, the same analysis carried out for the periods 2003-2007 and, 2008-2012 was carried out for 2013-2017. The cocitation network formed between 2013 and 2017 was also analyzed and 14 groups were found, according to Figure 4.

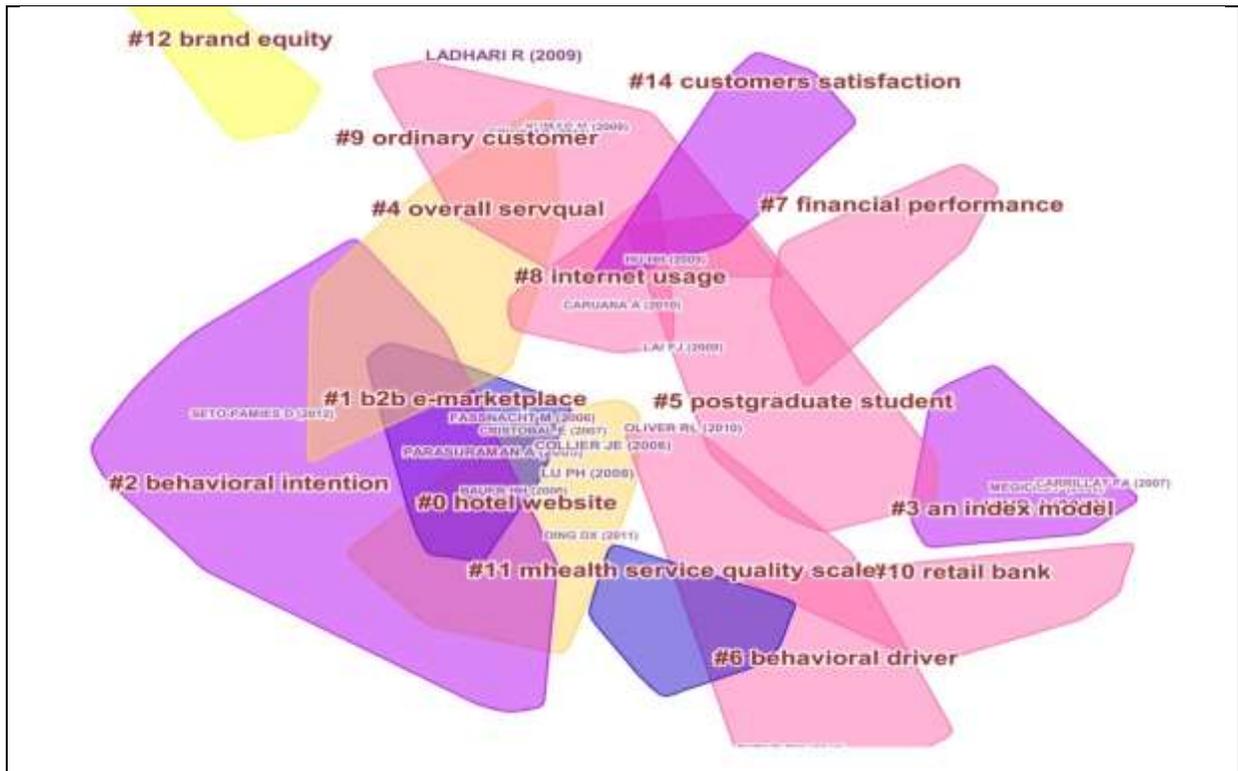


Figure 4 - Clusters generated between 2013 and 2017  
Source: Research Data

Table 7 indicates the main characteristics of each group: cluster name and number of participants; papers with greater coverage of these members and most relevant articles (in terms of frequency) of each cluster.

**Table 7** - List of clusters and their papers (2013-2017)

<b>Cluster/ Reference number</b>	<b>Base reference / coverage (%)</b>	<b>Most relevant articles of the cluster / frequency in the group</b>
Hotel Website /34	Hahn, Sparks, Wilkins, & Jin (2017)/26	Ding, Hu, & Sheng (2011)/ 7 Chang, Wang, & Yang (2009)/ 6
B2B e-marketplace (Business to Business)/ 26	Janita & Miranda (2013)/62	Yen & Lu (2008)/11 Collier & Bienstock (2006)/10 Parasuraman, Zeithaml, & Malhotra, (2005)/10
Behavioral Intention / 26	Rajic, Dado, & Taborecka-Petrovicova (2013)/31 Rajic et al. (2013)/23	Setó-Pamies (2012) /7 Choudhury (2013)/6
Indexes model /25	Sultan & Wong (2014)/40	Hair Jr., Black, Babin, & Anderson (2010) /23 Angell, Heffernan, & Megicks (2008)/8
Overall Servqual / 25	Hamzah, Lee, & Moghavvemi (2017)/36 Tan, Hamid, & Chew (2017)/24	Kumar, Tat Kee, & Taap Manshor, (2009)/7
Postgraduate Students /24	Khalaf, Khourshed, & Khourshed (2017)/25 Ho (2015)/12	Ladhari (2008)/5
Behavioral Driver /24	Stanworth, Hsu, & Chang (2015)/42	Kline (2011)/11 Oliver (2010) /9
Financial Performance /20	Bagur-Femenías, Perramon, & Amat (2015)/55	Yee, Yeung, & Edwin Cheng (2010) /6
Internet Use /20	Quach, Jebarajakirthy, & Thaichon (2016)/40 Quach, Thaichon, & Jebarajakirthy (2016)/30	Hu, Kandampully, & Devi (2009)/8 Lai, Griffin, & Babin (2009)/8 Caruana & Ewing(2010)/8

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Ordinary costumer /20	Dabestani, Shahin, Shirouyehzad, & Saljoughian (2015)/45 Dabestani, Shahin, & Saljoughian (2017)/15	Ladhari (2009)/20 Crick & Spencer (2011)/7
Retail Bank /19	Hossain, Dwivedi, & Naseem (2015)/53	Kuo, Wu, & Deng (2009)/6 Chen (2008)/6
M-Health Service Quality /16	Akter, D'Ambra, & Ray (2013)/50	Petter, Straub, & Rai (2007)/5 Dagger, Sweeney, & Johnson(2007)/5
Brand Equity / 14	Sierra, Iglesias, Markovic, & Singh (2017)/50	None
Consumer Satisfaction /11	Chen, Chang, Wang, & Huang (2015)/27 Sadeh & Garkaz (2015)/27	Tsai, Hsu, & Chou (2011)/5

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Source: Organized by the author

In the same way, Table 8 shows the papers with greater centrality, that is, those that can be considered as references in the analyzed network.

**Table 8 - Most relevant papers among the clusters in the analysis 2008-2012**

Position	Centrality	Reference	Cluster
1	0.33	Caruana & Ewing (2010)	Internet Use
2	0.26	Carlson & O'Cass (2011)	Internet Use
3	0.17	Chang, Wang, & Yang (2009)	Hotel website

Source: Organized by the author

A brief analysis of Table 7 shows that the focus on quality in services offered in electronic contexts loses some of its strength, opening space for research in specific services such as hotel

management, higher education, mobile health services and banks. This finding corroborates with that observed in the network formed in 2008-2012, in which some groups dedicated to singular sectors were separated from the central cluster of the network. However, these groups (dedicated to some particular sectors) condensed in the network, overlapping other groups of the analysis.

The first and largest group is focused on the analysis of the quality of online call centre and proposition of E-SelfQual (Ding et al., 2011); proposition of a assessment scale for hotel websites quality (Chang, Wang, & Yang, 2009), and the importance of loyalty in e-commerce (Hahn et al., 2009). This last work is considered one of the reference points for the network (according to Table 8). In this paper, the authors test the relations among the perception of e-service quality, customer satisfaction and loyalty, as well as the moderating effect of perceived value in this process, demonstrating how essential this variable is.

The work of Parasuraman, Zeithaml, & Malhotra, (2005) and their E-S-Qual is again part of the analysis, being present in the second group - B2B e-marketplace (Business to Business). Fidelity is another important aspect of the group and has grown in scope since the first analysis of the network (2003-2007) Yen & Lu (2008) revisit the theory of the disconfirmation of expectations to analyze the quality of electronic services and the intention of fidelity in online auctions. Collier & Bienstock (2006) analyze the quality offered in retail sites by creating a model that involves processes, results and recovery (when problems occur).

The Behavioral Intention group has papers related to the impact of quality, satisfaction and confidence of the service on customer loyalty (Setó-Pamies, 2012); the relations among quality, perceived value, satisfaction and consumer behavior (Rajic, Dado, & Taborecka-Petrovicova, 2013) and the influence of quality on purchase intention (Choudhury, 2013).

The Indexes Model cluster reaffirms the 2008-2012 analysis about the increase of quantitative analyzes in the field, as well as the use of the IPA analysis (Importance - Performance in quality measurement) (Angell et al., 2008) and the SEM technique (Structural Equations Measurement) (Sultan & Wong, 2014). The Behavioral Driver group focuses specifically on the SEM technique.

The Overall Servqual group is overlapped to the Behavioral Intention and Ordinary Customer groups. There is concern about the application of Servqual to the banking sector (Kumar, Tat Kee, & Taap Manshor, 2009; Hamzah, Lee, & Moghavvemi, 2017) and the requirement to

satisfy customer needs in this sector, thus encouraging loyalty (Tan, Hamid, & Chew, 2017). The Ordinary Customer group is addressed to questions about quality dimensions (Dabestani, Shahin, Shirouyehzad, & Saljoughian, 2015; Dabestani, Shahin, & Saljoughian, 2017) and to a review about the use of Servqual instrument (Ladhari, 2009).

The two most relevant papers for the network, according to Table 8, focus on the Internet use group: Caruana & Ewing (2010) and Carlson & O’Cass (2011) represent works that can lead to emerging trends (Chen et al., 2012). The first one maintains the concern with elements that can influence for the quality generation and, consequently, lead to success in online services (corporate reputation, quality, perceived value and loyalty); and the second paper renews the theoretical questions from the perspective of electronic services. Should quality be understood through dimensions that influence a global assessment or as a formative configuration that can predict behavior?

Finally, it is highlighted the Brand Equity group, in yellow, as shown in Figure 4, dating to 2017. The paper from Sierra, Iglesias, Markovic, & Singh (2017), responsible for the greater coverage of the group, aims to analyze the perceived quality and ethical posture in corporate brands in the generation of its value. It is said that even little representative, this group indicates the most recent route taken by the field; that is, allows proposing that these can be the new topics to be deepened in future research.

## **Conclusions**

The objective of this paper was to explore the intellectual basis of the field related to service quality, specifically that focused on the work of Parasuraman, Zeithaml and Malhotra (2005), indicating the evolution of the network (main works and emerging trends). The subdivision of the sample into temporal cuts allowed the more specific identification of relevant groups of works, as well as articles that can be considered as reference at each analysis stage.

Data obtained indicate the intense presence of quality-related concerns in the context of electronic services (from 2003 to 2012), losing space to other issues in analyzes from 2013. As the field grew, it evolved to open space for more specific topics such as health services, hotel

management, sports and education. This change occurred along with the massive insertion of quantitative methodologies in the field, especially the Structural Equation Analysis (SEM) technique. In addition, there was an increase about the concern with other variables correlated with quality, especially loyalty and fidelity.

Finally, the field seems to follow this debate line: insertion of other important variables into specific contexts, besides those that are related to services electronically delivered.

### Research Limitations

It is believed that the use of only one (Web of Science) is one of the major limitations of this paper. It is suggested that the same study should be replicated in others databases in search of results that can be confronted to those obtained here, with the objective of generating a complete mapping of the field evolution.

### References

- Abreu, A. A. de, & Andrade, D. M. (2017). Tudo começa na Servqual: Análise Bibliométrica sobre o tema Qualidade em Serviços. In *XX SemeAd-Seminários em Administração* (pp. 1–17). São Paulo.
- Akter, S., D'Ambra, J., & Ray, P. (2013). Development and validation of an instrument to measure user perceived service quality of mHealth. *Information and Management*, 50(4), 181–195. <https://doi.org/10.1016/j.im.2013.03.001>
- Al-Hawari, M., Hartley, N., & Ward, T. (2005). Measuring Banks' Automated Service Quality: A Confirmatory Factor Analysis Approach. *Marketing Bulletin*, 16(Santos 2003), 1–19.
- Al Hawari, M., & Ward, T. (2006). The effect of automated service quality on Australian banks' financial performance and the mediating role of customer satisfaction. *Marketing Intelligence and Planning*, 24(2), 127–147. <https://doi.org/10.1108/02634500610653991>
- Alnaser, F. M. I., Abd Ghani, M., & Rahi, S. (2018). Service quality in Islamic banks: The role of PAKSERV model, customer satisfaction and customer loyalty. *Accounting*, 4, 63–72. <https://doi.org/10.5267/j.ac.2017.8.001>
- Angell, R. J., Heffernan, T. W., & Megicks, P. (2008). Service quality in postgraduate education. *Quality Assurance in Education*, 16(3), 236–254. <https://doi.org/10.1108/09684880810886259>
- Asubonteng, P., McCleary, K. J., & Swan, J. E. (1996). SERVQUAL revisited: a critical review of service quality. *The Journal of Services Marketing*, 10(6), 62–81.
- Babakus, E., Bientstock, C. C., & Van Scotter, J. R. (2004). Linking perceived quality and

- customer satisfaction to store traffic and revenue growth. *Decision Sciences*, 35(4), 713–735. <https://doi.org/10.1111/j.1540-5915.2004.02671.x>
- Babakus, E., Yavas, U., Karatepe, O. M., & Avci, T. (2003). The Effect of Management Commitment to Service Quality on Employees' Affective and Performance Outcomes. *Journal of the Academy of Marketing Science*, 31(3), 272–286. <https://doi.org/10.1177/0092070303253525>
- Bagur-Femenías, L., Perramon, J., & Amat, O. (2015). Impact of quality and environmental investment on business competitiveness and profitability in small service business: the case of travel agencies. *Total Quality Management and Business Excellence*, 26(7–8), 840–853. <https://doi.org/10.1080/14783363.2014.895523>
- Bauer, H. H., Falk, T., & Hammerschmidt, M. (2006). eTransQual : A transaction process-based approach for capturing service quality in online shopping. *Journal of Business Research*, 59(July 2006), 866–875. <https://doi.org/10.1016/j.jbusres.2006.01.021>
- Benlian, A., Koufaris, M., & Hess, T. (2011). Service Quality in Software-as-a-Service: Developing the SaaS-Qual Measure and Examining Its Role in Usage Continuance. *Journal of Management Information Systems*, 28(3), 85–126. <https://doi.org/10.2753/MIS0742-1222280303>
- Blut, M. (2016). E-Service Quality : Development of a Hierarchical Model. *Journal of Retailing*, (3), 1–18. <https://doi.org/10.1016/j.jretai.2016.09.002>
- Brady, M. K., & Cronin Jr, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: a hierarchical approach. *Journal of Marketing*, 65(july), 34–49.
- Brady, M. K., Knight, G. A., Cronin, J. J., Tomas, G., Hult, M., & Keillor, B. D. (2005). Removing the contextual lens: A multinational, multi-setting comparison of service evaluation models. *Journal of Retailing*, 81(3), 215–230. <https://doi.org/10.1016/j.jretai.2005.07.005>
- Buttle, F. (1996). SERVQUAL: review, critique, research agenda. *European Journal of Marketing*, 30(1), 8–32. <https://doi.org/10.1108/03090569610105762>
- Carlson, J., & O'Cass, A. (2010). Exploring the relationships between e-service quality, satisfaction, attitudes and behaviours in content-driven e-service web sites. *Journal of Services Marketing*, 24(2), 112–127. <https://doi.org/10.1108/08876041011031091>
- Carlson, J., & O'Cass, A. (2011). Developing a framework for understanding e-service quality, its antecedents, consequences, and mediators. *Managing Service Quality: An International Journal*, 21(3), 264–286. <https://doi.org/10.1108/09604521111127965>
- Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, 36(7/8), 811–828. <https://doi.org/10.1177/1094670508319094>
- Caruana, A., & Ewing, M. T. (2010). How corporate reputation, quality, and value influence online loyalty. *Journal of Business Research*, 63(9–10), 1103–1110. <https://doi.org/10.1016/j.jbusres.2009.04.030>
- Cenfetelli, R. T., Benbasat, I., & Al-Natour, S. (2008). Addressing the what and how of online services: Positioning supporting-services functionality and service quality for business-to-consumer success. *Information Systems Research*, 19(2), 161–181. <https://doi.org/10.1287/isre.1070.0163>
- Chang, H. H., Wang, Y.-H., & Yang, W.-Y. (2009). The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality*

- Management & Business Excellence*, 20(4), 423–443.  
<https://doi.org/10.1080/14783360902781923>
- Chang, Y., & Yeh, C. (2002). A survey analysis of service quality for domestic airlines. *European Journal of Operational Research*, 139, 166–177.
- Chen, C. (2003). *Mapping Scientific Frontiers : The Quest for Knowledge Visualization*. London: Springer Berlin Heidelberg.
- Chen, C. (2006). CiteSpace II : Detecting and Visualizing Emerging Trends. *Journal of the American for Information Science and Technology*, 57(3), 359–377.  
<https://doi.org/10.1002/asi>
- Chen, C. F. (2008). Investigating structural relationships between service quality, perceived value, satisfaction, and behavioral intentions for air passengers: Evidence from Taiwan. *Transportation Research Part A: Policy and Practice*, 42(4), 709–717.  
<https://doi.org/10.1016/j.tra.2008.01.007>
- Chen, C., Hu, Z., Liu, S., & Tseng, H. (2012). Emerging trends in regenerative medicine: a scientometric analysis in *CiteSpace*. *Expert Opinion on Biological Therapy*, 12(5), 593–608.  
<https://doi.org/10.1517/14712598.2012.674507>
- Chen, K. S., Chang, T. C., Wang, K. J., & Huang, C. T. (2015). Developing control charts in monitoring service quality based on the number of customer complaints. *Total Quality Management & Business Excellence*, 26(5–6), 675–689.  
<https://doi.org/10.1080/14783363.2013.874198>
- Chen, Y., Tseng, M., & Lin, R. (2011). Evaluating the customer perceptions on in-flight service quality. *African Journal of Business Management*, 5(7), 2854–2864.  
<https://doi.org/10.5897/AJBM10.1284>
- Choudhury, K. (2013). Service quality and customers' purchase intentions: an empirical study of the Indian banking sector. *International Journal of Bank Marketing*, 31(7), 529–543.  
<https://doi.org/10.1108/IJBM-02-2013-0009>
- Collier, J. E., & Bienstock, C. C. (2006). Measuring Service Quality in E-Retailing. *Journal of Service Research*, 8(3), 260–275. <https://doi.org/10.1177/1094670505278867>
- Crick, A. P., & Spencer, A. (2011). Hospitality quality: new directions and new challenges. *International Journal of Contemporary Hospitality Management*, 23(4), 463–478.  
<https://doi.org/10.1108/09596111111129986>
- Dabestani, R., Shahin, A., & Saljoughian, M. (2017). Evaluation and prioritization of service quality dimensions based on gap analysis with analytic network process. *International Journal of Quality & Reliability Management*, 34(4), 530–548. <https://doi.org/10.1108/IJQRM-04-2015-0050>
- Dabestani, R., Shahin, A., Shirouyehzad, H., & Saljoughian, M. (2015). A comparative study of ordinary and fastidious customers' priorities in service quality dimensions. *Total Quality Management and Business Excellence*, 28(3–4), 331–350.  
<https://doi.org/10.1080/14783363.2015.1082420>
- Dabholkar, P. A., Shepherd, C. D., & Thorpe, D. I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139–173. [https://doi.org/10.1016/s0022-4359\(00\)00029-4](https://doi.org/10.1016/s0022-4359(00)00029-4)
- Dagger, T. S., Sweeney, J. C., & Johnson, L. W. (2007). A hierarchical model of health service

- quality: Scale development and investigation of an integrated model. *Journal of Service Research*, 10(2), 123–142. <https://doi.org/10.1177/1094670507309594>
- Dagger, T. S., Sweeney, J. C., & Johnson, L. W. (2007). A Hierarchical Model of Health Service Quality: Scale Development and Investigation of an Integrated Model. *Journal of Service Research*, 10(2), 123–142. <https://doi.org/10.1177/1094670507309594>
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9–30. <https://doi.org/10.1080/07421222.2003.11045748>
- Ding, D. X., Hu, P. J. H., & Sheng, O. R. L. (2011). E-SELFQUAL: A scale for measuring online self-service quality. *Journal of Business Research*, 64(5), 508–515. <https://doi.org/10.1016/j.jbusres.2010.04.007>
- Fassnacht, M., & Koese, I. (2006). Quality of Electronic Services: Conceptualizing and Testing a Hierarchical Model. *Journal of Service Research*, 9(1), 19–37. <https://doi.org/10.1177/1094670506289531>
- Fassnacht, M., & Köse, I. (2007). Consequences of Web-based Service Quality: Uncovering a Multi-faceted Chain of Effects. *Journal of Interactive Marketing*, 21(3), 35–54. <https://doi.org/10.1002/dir>
- Furrer, O., Liu, B. S., & Sudharshan, D. (2000). The Relationships Between Culture and Service Quality Perceptions: Basis for Cross-Cultural Market Segmentation and Resource Allocation. *Journal of Service Research*, 2(4), 355–371.
- Gil-Saura, I., & Ruiz-Molina, M. E. (2011). Logistics service quality and buyer-customer relationships: The moderating role of technology in B2B and B2C contexts. *Service Industries Journal*, 31(7), 1109–1123. <https://doi.org/10.1080/02642060903100380>
- Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system quality, information quality, and service quality. *Journal of Strategic Information Systems*, 19(3), 207–228. <https://doi.org/10.1016/j.jsis.2010.05.001>
- Grácio, M. C. C. (2016). Acoplamento bibliográfico e análise de cocitação : revisão teórico-conceitual. *Encontros Bibli: Revista Eletrônica de Biblioteconomia E Ciência Da Informação*, 21(47), 82–99. <https://doi.org/10.5007/1518-2924.2016v21n47p82>
- Grácio, M. C. C., & Oliveira, E. F. T. (2013). Análise de cocitação de autores : um estudo teórico-metodológico dos indicadores de proximidade , aplicados ao GT7 da ANCIB. *Liinc Em Revista*, 9(1), 196–213.
- Gwinner, K. P., Gremler, D. D., & Bitner, M. J. (1998). Relational benefits in services industries: The customer's perspective. *Journal of the Academy of Marketing Science*, 26(2), 101–114. <https://doi.org/10.1177/0092070398262002>
- Kline, R. B. (2011). *Principles and Practice of Structural Equation Modeling*. The Guilford Press.
- Hair Jr., J. F., Black, W. C., Babin, B. J., & Anderson, E. E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th Edition. Pearson Education,
- Hahn, S. E., Sparks, B., Wilkins, H., & Jin, X. (2017). E-service Quality Management of a Hotel Website: A Scale and Implications for Management. *Journal of Hospitality Marketing and Management*, 26(7), 694–716. <https://doi.org/10.1080/19368623.2017.1309612>
- Hamzah, Z. L., Lee, S. P., & Moghavvemi, S. (2017). Elucidating perceived overall service quality in retail banking. *International Journal of Bank Marketing*, 35(5), 781–804.

- <https://doi.org/10.1108/IJBM-12-2015-0204>
- Hasan, M. H., Jaafar, J., & Hassan, M. F. (2014). Monitoring web services' quality of service: a literature review. *Artificial Intelligence Review*, 42(4), 835–850.  
<https://doi.org/10.1007/s10462-012-9358-7>
- Heim, G. R., & Field, J. M. (2007). Process drivers of e-service quality: Analysis of data from an online rating site. *Journal of Operations Management*, 25(5), 962–984.  
<https://doi.org/10.1016/j.jom.2006.10.002>
- Ho, A. (2015). Exploring Customers' Zone of Tolerance for B2B Professional Service Quality. *Journal of Services Marketing*, 29(5), 380–392.
- Homburg, C., & Stock, R. M. (2004). The Link Between Salespeople's Job Satisfaction and Customer Satisfaction in a Business-to-Business Context: A Dyadic Analysis. *Journal of the Academy of Marketing Science*, 32(2), 144–158. <https://doi.org/10.1177/0092070303261415>
- Hossain, M. A., Dwivedi, Y. K., & Naseem, S. B. (2015). Developing and validating a hierarchical model of service quality of retail banks. *Total Quality Management & Business Excellence*, 26(5–6), 534–549. <https://doi.org/10.1080/14783363.2013.856545>
- Hu, H. S., Kandampully, J., & Devi, T. (2009). Relationships and impacts of service quality, perceived value, customer satisfaction, and image: an empirical study. *The Service Industries Journal*, 29(February), 111–125. <https://doi.org/10.1080/02642060802292932>
- Hung, Y. H., Huang, M. L., & Chen, K. S. (2003). Service quality evaluation by service quality performance matrix. *Journal of Total Quality Management*, 14(1), 79–89.  
<https://doi.org/10.1080/1478336032000044843>
- J. Joseph Cronin, J., & Steven A. Taylor. (1992). Measuring Service Quality: A Reexamination and Extension on JSTOR. *The Journal of Marketing*, 56(3), 55–68.  
<https://doi.org/10.2307/1252296>
- Janita, M., & Miranda, F. (2013). Exploring Service Quality Dimensions in B2b e-Marketplaces. *Journal of Electronic Commerce Research*, 14(4), 363–386. <https://doi.org/10.1007/s11747-010-0219-0>
- Jayawardhena, C. (2010). The impact of service encounter quality in service evaluation: evidence from a business-to-business context. *Journal of Business & Industrial Marketing*, 25(5), 338–348. <https://doi.org/10.1108/08858621011058106>
- Kettinger, W. J., & Lee, C. C. (1997). Pragmatic Perspectives on the measurement of information systems service quality. *MIS Quarterly*, 21(2), 223–240.
- Kettinger, W. J., & Lee, C. C. (2005). Zones of tolerance: Alternative scales for measuring information systems service quality. *MIS Quarterly: Management Information Systems*, 29(4), 607–623. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-33645141935&partnerID=40&md5=bbf56f788361c6858071c2ffb4547d61>
- Khalaf, M. A., Khourshed, N., & Khourshed, M. A. K. N. (2017). Performance-based service quality model in postgraduate education. *International Journal of Quality & Reliability Management*, 34(5), 626–648. <https://doi.org/10.1108/IJQRM-04-2015-0059>
- Kumar, M., Tat Kee, F., & Taap Manshor, A. (2009). Determining the relative importance of critical factors in delivering service quality of banks: An application of dominance analysis in SERVQUAL model. *Managing Service Quality: An International Journal*, 19(2), 211–228.  
<https://doi.org/10.1108/09604520910943198>
- Kuo, T., Lu, I. Y., Huang, C. H., & Wu, G. C. (2005). Measuring users' perceived portal service

- quality: An empirical study. *Total Quality Management and Business Excellence*, 16(3), 309–320. <https://doi.org/10.1080/14783360500053824>
- Kuo, Y. F., Wu, C. M., & Deng, W. J. (2009). The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Computers in Human Behavior*, 25(4), 887–896. <https://doi.org/10.1016/j.chb.2009.03.003>
- Ladhari, R. (2008). Alternative measures of service quality : a review. *Managing Service Quality*, 18(1), 65–86. <https://doi.org/10.1108/09604520810842849>
- Ladhari, R. (2009). A review of twenty years of SERVQUAL research. *International Journal of Quality and Service Sciences*, 1(2), 172–198. <https://doi.org/10.1108/17566690910971445>
- Lai, F., Griffin, M., & Babin, B. J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom. *Journal of Business Research*, 62(10), 980–986. <https://doi.org/10.1016/j.jbusres.2008.10.015>
- Lai, W. T., & Chen, C. F. (2011). Behavioral intentions of public transit passengers-The roles of service quality, perceived value, satisfaction and involvement. *Transport Policy*, 18(2), 318–325. <https://doi.org/10.1016/j.tranpol.2010.09.003>
- Laroche, M., Ueltschy, L. C., Abe, S., And, M. C., & Yannopoulos, P. P. (2004). Service Quality Perceptions and Customer Satisfaction: Evaluating The Role of Culture. *International Journal of Marketing*, 12(3), 58–85.
- Lin, H. H. (2012). The effect of multi-channel service quality on mobile customer loyalty in an online-and-mobile retail context. *Service Industries Journal*, 32(11), 1865–1882. <https://doi.org/10.1080/02642069.2011.559541>
- Liu, C.-T., Guo, Y. M., & Hsieh, T.-Y. (2010). Measuring user perceived service quality of online auction sites. *The Service Industries Journal*, 30(7), 1177–1197. <https://doi.org/10.1080/02642060802617575>
- Malhotra, N. K., Ulgado, F. M., Wu, L., Agarwal, J., & Shainesh, G. (2005). Dimensions of service quality in developed and developing economies: multi-country cross-cultural comparisons. *International Marketing Review*, 22(3), 256–278. <https://doi.org/10.1108/02651330510602204>
- Mardani, A., Jusoh, A., Zavadskas, E. K., Khalifah, Z., & Nor, K. M. (2015). Application of multiple-criteria decision-making techniques and approaches to evaluating of service quality: a systematic review of the literature. *Journal of Business Economics and Management*, 16(5), 1034–1068. <https://doi.org/10.3846/16111699.2015.1095233>
- Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-Service Technologies :Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*, 64(July), 50–64.
- Miguel-Dávila, J. Á., Cabeza-García, L., Valdunciel, L., & Flórez, M. (2010). Operations in banking: The service quality and effects on satisfaction and loyalty. *Service Industries Journal*, 30(13), 2163–2182. <https://doi.org/10.1080/02642060903289936>
- Morales, M., & Ladhari, R. (2011). Comparative cross-cultural service quality: An assessment of research methodology. *Journal of Service Management*, 22(2), 241–265. <https://doi.org/10.1108/09564231111124244>
- Mukherjee, A., Nath, P., & Pal, M. (2003). Resource, service quality and performance triad: A framework for measuring efficiency of banking services. *Journal of the Operational Research Society*, 54(7), 723–735. <https://doi.org/10.1057/palgrave.jors.2601573>

- Naidoo, R., & Leonard, A. (2007). Perceived usefulness, service quality and loyalty incentives: Effects on electronic service continuance. *South African Journal of Business Management*, 38(3), 39–48. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&AuthType=ip&db=bth&AN=27025492&site=eds-live&authtype=ip,uid>
- Oliver, R. L. (2010). *Satisfaction: A Behavioral Perspective on the Consumer*. Routledge; 2 edition
- Orehovački, T., Granić, A., & Kermek, D. (2013). Evaluating the perceived and estimated quality in use of Web 2.0 applications. *Journal of Systems and Software*, 86(12), 3039–3059. <https://doi.org/10.1016/j.jss.2013.05.071>
- Oriol, M., Marco, J., & Franch, X. (2014). Quality models for web services : A systematic mapping. *Information and Software Technology*, 56(10), 1167–1182. <https://doi.org/10.1016/j.infsof.2014.03.012>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing*, 49(4), 41–50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL : A multiple- Item Scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005a). A Multiple-Item Scale for Assessing Electronic Service Quality. *Journal of Service Research*, 7(X), 1–21. <https://doi.org/10.1177/1094670504271156>
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005b). E-S-QUAL a multiple-item scale for assessing electronic service quality. *Journal of Service Research*, 7(3), 213–233. <https://doi.org/10.1177/1094670504271156>
- Pereira, V. R., Carvalho, M. M. De, & Rotondaro, R. G. (2013). Um estudo bibliométrico sobre a evolução da pesquisa da qualidade em serviço. *Produção*, 23(2), 312–328. <https://doi.org/10.1590/S0103-65132012005000053>
- Petnji Yaya, L. H., Marimon, F., & Fa, M. C. (2012). Assessing e-service quality: The current state of E-S-QUAL. *Total Quality Management and Business Excellence*, 23(11–12), 1363–1378. <https://doi.org/10.1080/14783363.2012.728850>
- Petter, S., Straub, D., & Rai, A. (2007). Specifying Formative Constructs Information Systems Research. *MIS Quarterly*, 31(4), 623–656.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Prado, J. W., Alcântara, V. C., Vieira, F. M., Vieira, K. C., Machado, L. K. C., & Tonelli, D. F. (2016). Multivariate analysis of credit risk and bankruptcy research data : a bibliometric study involving different. *Scientometrics*, 106(3), 1007–1029. <https://doi.org/10.1007/s11192-015-1829-6>
- Quach, T. N., Jebarajakirthy, C., & Thaichon, P. (2016). The effects of service quality on internet service provider customers? behaviour: A mixed methods study. *Asia Pacific Journal of Marketing and Logistics*, 28(3). <https://doi.org/10.1108/APJML-03-2015-0039>
- Quach, T., Thaichon, P., & Jebarajakirthy, C. (2016). Internet service providers' service quality and its effect on customer loyalty of different usage patterns. *Journal of Retailing and*

- Consumer Services*, 29, 104–106. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0969698915301454>
- Raajpoot, N. (2004). Reconceptualizing Service Encounter Quality in a Non-Western Context. *Journal of Service Research*, 7(2), 181–201. <https://doi.org/10.1177/1094670504268450>
- Rabinovich, E. (2007). Linking e-service quality and markups: The role of imperfect information in the supply chain. *Journal of Operations Management*, 25(1), 14–41. <https://doi.org/10.1016/j.jom.2005.11.013>
- Rajic, T., Dado, J., & Taborecka-Petrovicova, J. (2013). Linking retail service quality, satisfaction and perceived value to customer behavioral intentions: Evidence from Serbia. *Ekonomie a Management*, 16(2), 99–112. Retrieved from <https://otik.uk.zcu.cz/handle/11025/17500>
- Ramseook-Munhurrun, P., Naidoo, P., & Lukea-Bhiwajee, S. D. (2009). Employee perceptions of service quality in a call centre. *Managing Service Quality*, 19(5), 541–557. <https://doi.org/10.1108/09604520910984364>
- Roy, S. K., & Lassar, W. M. (2015). Measuring service quality : a systematic review of literature. *International Journal of Services Economics and Management*, 7(1), 24–52. <https://doi.org/10.1504/IJSEM.2015.076322>
- Sadeh, E., & Garkaz, M. (2015). Explaining the mediating role of service quality between quality management enablers and students' satisfaction in higher education institutes: the perception of managers. *Total Quality Management and Business Excellence*, 26(11–12), 1335–1356. <https://doi.org/10.1080/14783363.2014.931065>
- Saravanan, R., & Rao, K. S. P. (2007). Measurement of service quality from the customer's perspective - An empirical study. *Total Quality Management and Business Excellence*, 18(4), 435–449. <https://doi.org/10.1080/14783360701231872>
- Seth, N., Deshmukh, S. G., & Vrat, P. (2005). Service quality models : a review. *International Journal of Quality & Reliability Management*, 22(9), 913–949. <https://doi.org/10.1108/02656710510625211>
- Setó-Pamies, D. (2012). Customer loyalty to service providers : examining the role of service quality , customer satisfaction and trust. *Total Quality Management & Business Excellence*, 23(11), 1257–1271. <https://doi.org/10.1017/CBO9781107415324.004>
- Shonk, D. J., & Chelladurai, P. (2008). Service Quality, Satisfaction, and Intent to Return in Event Sport Tourism. *Journal of Sport Management*, 22(5), 587–602. <https://doi.org/10.1123/jsm.22.5.587>
- Sierra, V., Iglesias, O., Markovic, S., & Singh, J. J. (2017). Does Ethical Image Build Equity in Corporate Services Brands? The Influence of Customer Perceived Ethicality on Affect, Perceived Quality, and Equity. *Journal of Business Ethics*, 144(3), 661–676. <https://doi.org/10.1007/s10551-015-2855-2>
- Silva, R. A., & Silva, M. A. B. N. (2017). A influência das dimensões de qualidade dos serviços na satisfação do cliente: um estudo em uma cafeteria na cidade de Caruaru-PE. *Veredas-Revista Eletrônica de Ciências*, 10(1), 5–20.
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer Trust , Value , and Loyalty in Relational Exchanges. *Journal of Marketing*, 66(1), 15–37.
- Sousa, R., & Voss, C. (2012). The impacts of e-service quality on customer behaviour in multi-channel e-services. *Total Quality Management and Business Excellence*, 23(7–8), 789–806.

- <https://doi.org/10.1080/14783363.2012.661139>
- Stanworth, J. O., Hsu, R. S., & Chang, H. T. (2015). Interpersonal service quality of the Chinese: determinants and behavioral drivers. *Service Business*, 9(3), 515–540.  
<https://doi.org/10.1007/s11628-014-0238-x>
- Sultan, P., & Wong, H. Y. (2014). An integrated-process model of service quality, institutional brand and behavioural intentions: The case of a University. *Managing Service Quality: An International Journal*, 24(5), 487–521. <https://doi.org/10.1108/MSQ-01-2014-0007>
- Tan, L. H., Hamid, S. R., & Chew, B. C. (2017). Exploring manager's perspective of service quality strategies in Malaysian Banking Industry. *Journal of Strategic Marketing*, 25(1), 31–48. <https://doi.org/10.1080/0965254X.2015.1076878>
- Tsai, W.-H., Hsu, W., & Chou, W.-C. (2011). A gap analysis model for improving airport service quality. *Total Quality Management & Business Excellence*, 22(10), 1025–1040.  
<https://doi.org/10.1080/14783363.2011.611326>
- Van Dyke, T. P., Kappelman, L. A., & Prybutok, V. R. (1997). Measuring Information Systems Service Quality: Concerns on the Use of the SERVQUAL Questionnaire. *MIS Quarterly*, 21(2), 195–208.
- Vasconcelos de Faria, L. F., Policiani Freitas, A. L., & Molina-Palma, M. A. (2015). Service quality under the perspective of SERVQUAL and SERVPERF methods: a bibliometric study. *Revista Gestão Da Produção Operações E Sistemas*, 10(3), 53–68.  
<https://doi.org/10.15675/gepros.v10i3.1294>
- Voss, M. D., Calantone, R. J., & Keller, S. B. (2005). Internal service quality. *International Journal of Physical Distribution & Logistics Management*, 35(3), 161–176.  
<https://doi.org/10.1108/09600030510594558>
- Wolfenbarger, M., & Gilly, M. C. (2003). eTailQ : dimensionalizing , measuring and predicting etail quality. *Journal of Retailing*, 79, 183–198. [https://doi.org/10.1016/S0022-4359\(03\)00034-4](https://doi.org/10.1016/S0022-4359(03)00034-4)
- Yang, Z., & Fang, X. (2004). Online service quality dimensions and their relationships with satisfaction: A content analysis of customer reviews of securities brokerage services. *International Journal of Service Industry Management*, 15(3), 302–326.  
<https://doi.org/10.1108/09564230410540953>
- Yee, R. W. Y., Yeung, A. C. L., & Edwin Cheng, T. C. (2010). An empirical study of employee loyalty, service quality and firm performance in the service industry. *International Journal of Production Economics*, 124(1), 109–120. <https://doi.org/10.1016/j.ijpe.2009.10.015>
- Yen, C. H., & Lu, H. P. (2008). Effects of e-service quality on loyalty intention: An empirical study in online auction. *Managing Service Quality*, 18(2), 127–146.  
<https://doi.org/10.1108/09604520810859193>
- Yildiz, S. M. (2011). An importance-performance analysis of fitness centre service quality: Empirical results from fitness centres in Turkey. *African Journal of Business Management*, 5(16), 7031–7041. <https://doi.org/10.5897/AJBM11.674>
- Yoon, M. H., Beatty, S. E., & Suh, J. (2001). The effect of work climate on critical employee and customer outcomes: An employee-level analysis. *International Journal of Service Industry Management*, 12(5), 500–521.
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). Behavioral Consequences of Service. *Journal of Marketing*, 60(2), 31–46.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service Quality Delivery Through Web Sites : A Critical Review of Extant Knowledge. *Journal of the Academy of Marketing Science*, 30(4), 362–375. <https://doi.org/10.1177/009207002236911>