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Review article

Service quality in higher education: A systematic literature review, 2007–2023

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Abstract

This article complements previous reviews by describing the results of a systematic review of recent research into service quality in higher education, with a methodology developed to minimize the biased effects of selection, publication, and data extraction. The research methodology is based on *Web of Science* and *Scopus*, the novel tool *Tree of Science*, and the analysis of citations based on the *h-index*. The results present a descriptive and thematic analysis that allows us to visualize the complexity of the findings, present the most relevant trends in research into service quality in higher education, and suggest potential areas for future research.

Keywords: service quality; university; stakeholders; systematic review.

Calidad del servicio en la educación superior: una revisión sistemática de la literatura 2007–2023

Resumen

Este artículo complementa las revisiones anteriores al describir los resultados de una revisión sistemática de investigaciones recientes sobre la calidad del servicio en la educación superior con una metodología desarrollada para minimizar los efectos sesgados de la selección, la publicación y la extracción de datos. La metodología de investigación se basa en *Web of Science* y *Scopus*, la novedosa herramienta *Tree of Science* y el análisis de citas basado en el *Índice h*. Los resultados presentan un análisis descriptivo y temático que nos permite observar la complejidad de los hallazgos, presentar las tendencias más relevantes en la investigación de la calidad del servicio en educación superior y proponer posibles áreas de investigación futura.

Palabras clave: calidad del servicio; universidad; grupos de interés; revisión sistemática.

Qualidade do serviço no ensino superior: uma revisão sistemática da literatura 2007–2023

Resumo

Este artigo complementa revisões anteriores ao descrever os resultados de uma revisão sistemática de pesquisas recentes sobre qualidade de serviços no ensino superior com uma metodologia desenvolvida para minimizar os efeitos de viés da seleção, publicação e extração de dados. A metodologia de pesquisa é baseada em Web of Science e Scopus, a nova ferramenta Tree of Science e a análise de citações baseada no h-Index. Os resultados apresentam uma análise descritiva e temática que permite observar a complexidade dos resultados, apresentar as tendências mais relevantes na investigação sobre qualidade de serviço no ensino superior e propor possíveis áreas de investigação futura.

Palavras-chave: qualidade de serviço; universidade; grupos de interesse; revisão sistemática.

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1. Introduction

The 2030 Agenda universally advocates to achieve the 17 Sustainable Development Goals (SDGs), a detailed framework addressing global economic, social, and environmental challenges (United Nations, 2023). Specifically, SDG 4: "Quality Education", emphasizes inclusive, equitable education, vital for poverty reduction and socioeconomic progress (HESI, 2023). In the current context, the world deals with a multitude of crises, including climate change, the persistent aftermath of the COVID-19 pandemic, and other global challenges, all of which pose significant threats to the progress achieved towards the SDGs (Galán-Muros, 2023).

In fact, the COVID-19 pandemic intensified the urgency; it significantly affected educational institutions, thus emphasizing the crucial role of education in poverty alleviation and socio-economic progress (Guzman Murillo et al., 2023). As highlighted by SDSN (2017), universities play a multifaceted role in advancing SDGs, going beyond education and research to support the complete SDGs framework, addressing diverse societal challenges, and serving as catalysts for economic transformation and productivity enhancement. In fact, the integration of SDGs, including SDG 4, into universities not only includes environmental concerns but various perspectives and elements (Toscano-Hernández et al., 2021).

However, higher education (HE) is becoming a globalized and increasingly dynamic market (Pucciarelli & Kaplan, 2016). This sector has experienced a huge diversification in all aspects, including suppliers, student demographics, and institutional orientations (UNESCO, 2015). In addition to modifying management paradigms in HE, this environment causes universities to face new challenges that require knowing factors that would improve management methods and create competitive advantages (Sultan & Wong, 2014).

For some years, service quality (SQ) research and analysis has gained importance as field of study in HE management (Contreras Castañeda et al., 2019). Given the growth of scientific publications related to this issue, there is a high demand for unbiased summaries of investigations as tools to access the most current knowledge in the field (Fuentes-Doria et al., 2020).

Thus, although in the scientific literature on SQ in HE, bibliographic reviews have tried to synthesize and describe the advances in research, most authors have conducted studies from a traditional bibliographic review or compilations where subjective perceptions prevail when the information is synthesized. Meanwhile, the few studies that have applied systematic review principles have focused on research into specific areas of SQ in HE, such as the methods and philosophies of quality management implemented by higher education institutions (HEIs);(Tarí & Dick, 2016) and the quality of teaching in HE (Greatbatch & Holland, 2016). Therefore, given their limited perspectives, they do not fully record the breadth of trends that have emerged in Research into SQ universities.

The objective of this work is to describe the results of a systematic review of recent research into SQ in HE, in addition to complement and extend the previous reviews. This is based on robust scientific databases with exact indexing standards, which allows us to identify the publications with the highest scientific rigor published between 2007 and 2023, applying a methodology minimize the bias effect of selection and synthesis of information. The review results will allow us to know the main characteristics of the research, identify the most relevant thematic trends, and suggest potential future research areas.

This work is structured as follows: first, the background of this work is portrayed by presenting a compendium of the studies that are the basis of this study; next, the methodology used in the review process is described; third, the main results from a descriptive analysis, research networks, and thematic analysis of the relevant publications are detailed, as well some highlights regarding principal current research trends and future lines of research finally, the most relevant conclusions of this work are drawn, Considering that the cumulus of scientific works regarding service quality in higher education, and universities, identifies stakeholders as relevant actors whose points of view about their service experiences represents are essential for such institutions.

2. Theoretical framework

2.1. Conceptual aspects of quality in HE

Quality is a broad concept with various definitions (Papanthymou & Darra, 2017); it has been debated and discussed throughout scientific literature, in fact, there is not yet a single definition or universal quality model (Green, 1994; Tan, 1986). This explains why, even though SQ is one of the main topics of study in marketing, and its importance for organizations is unequivocal (Parasuraman et al., 1985), many of the empirical results related to SQ are inconsistent and contradictory (Cronin & Taylor, 1992).

Analogously, despite it has remained stable for the last 20 years, the definition of quality in HE continues to pose significant challenges (Schindler et al., 2015). It is important to note that in certain cases, quality could be related to the confidence that there are fewer defective products, with excellence or superiority (Papanthymou & Darra, 2017). In the case of universities, as a service provider, the debate about SQ in HE issues related with research, teaching, institutional strategies, and other services has been fostered (Khuram et al., 2023). This highlights notable disparities in the perception of product quality when compared to SQ, which makes the measurement process complex and challenging due

to the intangibility, inseparability, heterogeneity, and perishability inherent in services (Contreras Castañeda et al., 2019).

In HE, quality is defined in a relative way by the priorities and focus of attention of the different stakeholders of universities (Green, 1994); therefore, there is a certain tendency in the scientific literature to develop definitions of quality based on their diverse perspectives (Schindler et al., 2015). However, according to Contreras Castañeda et al. (2019), due to the intangibility of services, SQ is subjectively perceived generally using two models: SERVQUAL compares customer expectations and perceptions to evaluate SQ (Parasuraman et al., 1985), and SERVPERF focuses only on the actual perceptions of the service received by the customer (Cronin & Taylor, 1992). It should be mentioned that SERVPERF is built upon the same five dimensions as SERVQUAL (tangibility, reliability, responsiveness, assurance, and empathy), but it solely concentrates on customer perceptions of the service received without comparing them to customer expectations (Contreras Castañeda, 2021).

Faced with the difficulty of conceptualizing quality in HE, one of the commonly generalized visions is to group the different definitions of quality in five discrete, but interrelated, categories (Harvey & Williams, 2010): (I) exception; (II) perfection; (III) fitness for purpose; (IV) value for money; and (V) being transformative. The findings of Schindler et al. (2015) identify two strategies to define quality in HE: in the first, a broad definition is constructed focused on a central objective or result (for example, the fulfillment of a mission or vision); and in the second, the definition is elaborated with a focus on stakeholders and accountability to society (for example, offering a transformative training experience for students and companies).

Consequently, the evolution of SQ literature is sequential, allowing continuous learning and updates from predecessors' findings and observations (Seth & Deshmukh, 2005). Consistent with the findings of the research conducted by Harvey & Green (1993), it evidences that educational quality could have multiple definitions. In fact, the concept of quality in HE is not static, but rather dynamic and ever-changing and is interpreted with respect to the higher purpose of the specific sector or context (Schindler et al., 2015; Tan, 1986).

2.2. Previous review studies

In the scientific literature, a series of literature review studies that have contributed significantly to understanding SQ in HE are identified. Just like quality itself, the review studies are characterized by a variety and complexity of approaches, fields of study, research methodologies, and results.

In general, the review studies published between 1986 and 2015 made important contributions to research into SQ in HE. These contributions are related to the notion and definition of quality from different perspectives: problems of quality assessment (Tan, 1986), conceptual and philosophical bases for the concept of quality in HE (Harvey & Green, 1993), theoretical perspectives on the quality of education in HE (Henard & Leprince-Ringuet, 2008), framework for teaching excellence (Gunn & Fisk, 2013), and the quality of research in HE (Cabral & Huet, 2014).

In addition, without being mutually exclusive, review studies on the definition of quality accompanied by quality management aspects in HE can be mentioned: benchmark evaluation models for HE in Great Britain (Green, 1994), methods and philosophies of quality management applied by HEIs (Owlia & Aspinwall, 1997), external quality evaluation in HE (Harvey & Newton, 2004), the processes and external factors of quality in HE (Harvey & Williams, 2010), monitoring and measuring teaching quality in HE (Henard, 2010), the notion of quality and its articulation with quality evaluation in HE (Maguire & Gibbs, 2013), practice of quality assurance (Schindler et al., 2015), organizational factors affecting quality in HE (Brockerhoff et al., 2015), external systems and quality assurance factors in HE (Liu et al., 2015), and the systems of evaluation and quality assurance in HE (Wächter et al., 2015).

However, traditional reviews with limitations associated with subjectivity were found at the time of selecting the studies, they lacked systematic character and were difficult to replicate by other authors. Subsequently, from 2015, and unlike the previous review works, Greatbatch & Holland (2016) and Tarí & Dick (2016) were the first to conduct literature reviews on quality in HE based on the principles of a systematic literature review.

On the one hand, Tarí & Dick (2016), basing their work on search expressions that included the names of quality management methods and philosophies applied by companies and HEIs, performed searches in three specific scientific databases. The results of this analysis show the most common dimensions of quality management, the most popular publications and research methodologies used, and offer recommendations. On the other hand, Greatbatch & Holland (2016) used protocols to search and retrieve both the academic literature and the grey literature related to the alternatives to measure the teaching quality in HE, offering a critical evaluation and proposing metrics. It should be mentioned that the term "grey literature" is understood as the published information available on web pages, such as statements of institutions, teaching practices, and learning strategies. Papanthymou & Darra (2017), using specific search engines and databases, identified and reviewed 52 quality management studies applied in HEIs and published in education and business journals between 2007 and 2016, as well as in conference proceedings; exploring certain gaps shown by Tarí & Dick (2016), they highlight the advantages of the Total Quality Management (TQM) model as a strategy for continuous improvement of services in HEIs.

In fact, in addition to contributions in the identification of key issues and research gaps, our overview of the previous review studies associated with quality in HE evidences that most of the authors do not specify the methodology used, with exception of Greatbatch & Holland (2016) and Tarí & Dick (2016). However, the contributions of these authors present some limitations given that their searches only address specific aspects of SQ in HE.

Specifically, Tarí & Dick (2016) addressed the literature review using search expressions that restricted the search to the methods and philosophies of quality management applied by HEIs, considering the most common topics in the field, although other terms could have also expanded the search (for example: "education" or "educational" and "TQM" or "ISO 9001" or "EFQM" or "excellence model" or "six sigma"). Greatbatch & Holland (2016) restricted themselves to exploring the quality of teaching in HE and did not consider other topics associated with SQ in HE (for example, the quality of research in HE, the evaluation and quality assurance systems in HEIs).

In terms of understanding quality in education, recognized accreditation organizations in the United States have been developing quality standards and management processes to determine whether institutions and programs meet these criteria. For instance, the U.S. Department of Education has established that the quality of institutions or programs must consider student achievement, faculty, student support services, compliance with norms and laws, among other relevant factors (Schray, 2006), as well as managing engagement processes with a diversity of relevant stakeholders.

In that sense, managing stakeholders' relationships represents an important subject that contributes to the definition of quality in education. To understand the concept of quality in education based on meaningful interactions among interested parties better, it is important to consider that the interactions among professors and students are based on cooperative dynamics related to learning settings and strategies, as well as independent work, where the students have a great responsibility in the management of their own learning (Ewel, 1993). Thus, people engagement in the learning process could contribute to balancing and empowering the education process, since valuing them is usually compatible with the philosophy and goals of higher education (Sher & Lozier, 1991).

Studies about the interactions among stakeholders in relation to understanding quality in education are studied in research papers, including subjects such as the quality experience to create independent learners by teachers being alerted to promote constant engagement that wed students to learning (Sallis, 2005); the understanding of the role that educational institutions represent as organizations designed to transform educational processes in a way that serves stakeholder interests,

as well as the process of engagement of such interest parties in continuous improvement, quality culture, evaluation, impact on society values and ethics, work culture, among others relevant elements regarding quality (Karuppusami & Gandhinathan, 2006).

Considering such interactive environment, quality in higher education institutions represents no trivial undertaking, since there are numerous implications that contribute to increasing complexity in it. These are related to the variety of customers, their different needs, the management structure, the nature of academic work, and leadership styles (Saunders & Walker, 1991). Managing such complexity requires quality assurance methods, problem-solving techniques and communication, where the quality process is passed on to lecturers at all grades including part-time staff, administrative and technical sections (Sutcliffe & Pollock, 1992). In relation to stakeholders interactions, this process (or in any set of activities in a higher education institution with a focus on internal quality assessment) should also include consulting processes with external actors (employers, alumni, external experts, unbiased specialists, employers' organizations, industry, and even professional bodies); which represents a complex network of interactions among diverse interested parties (Van Vught & Westerheijden, 1993). Management is responsible for finding solutions to problems that affect quality and productivity by anticipating problems in order to implement the philosophy of continuous improvement, and creating an innovative environment (Al-Ibrahim, 2014).

Besides, quality in education represents a multiple concept with varying definitions, including the quality of inputs (students, faculty, support staff and infrastructure), the quality of processes (learning and teaching), and the quality of outputs (enlightened students that move out of the system) (Sahney et al., 2004). They contribute to the well-being of society including, at least, a triple-bottom line vision based on "people results", "society results" and "business results", and represent a structure that will help every institution to comprehend and enhance the organizational performance by meeting special interest with every stakeholder in the society (Tang & Zairi, 1998). It includes values like reliability, responsiveness, competence, access, courtesy, communication, credibility, security, and understanding (Parasuraman et al., 1985).

Consequently, given the heterogeneity of thematic areas in the scientific literature related to SQ in HE, and that the searches carried out by previous review studies do not exhaustively address the academic knowledge about in this field, it is valuable to systematically analyze the main contributions made by the scientific community in this area of study to provide solid basis for future research. Therefore, this work aims to present the results of a systematic review of recent research into SQ in HE to complement and extend previous reviews.

The implemented methodology allowed to minimize the effect of selection bias and information extraction, which has not been considered by previous reviews.

3. Methodology

In this research, a procedure with three stages is developed to achieve stated objective: planning, execution, and presentation of results (see Figure 1). Given the diversity of approaches in previous systematic reviews (Kitchen-ham, 2004), these stages are the result of a reasonable consensus on the desirable methodological characteristics of a systematic review (Tranfield et al., 2003).

3.1. Planning the review

In the first stage, the objectives of the review are defined and the sources of information are identified. The pertinence of this review and its objectives were explained in the introductory section of this article. Considering the objectives of the review, in the present study, articles and reviews published in scientific journals categorized in the areas of management, business, economics and education are considered.

Additionally, to guarantee the broadest coverage in our systematic literature review, we used the most complete scientific databases of the *Web of Science (WoS)* and *Scopus*, with more demanding indexing standards and a powerful capacity for analysis of citations (Fuentes-Doria et al., 2020). It minimizes the bias that originates in searches in specific databases. The search expressions "quality of service" and "university" and their equivalents were used in alternative ways in scientific literature—in searches of titles, abstracts, and keywords of publications. It was decided to limit the review to recent years, covering a period from 2007 to 2023.

3.2. Conducting the review

In the second stage, the studies were identified, relevant publications were selected, the documents were read, and the results were classified.

Potentially relevant studies were identified by defining search criteria and using previously described search terms, as presented in Figure 3. Based on the above, the search equations were established, resulting in 18,790 related references; 3,433 in *WoS* and 15,357 in *Scopus.* Additionally, 5,074 references of scientific articles were identified from the automatic suggestion option in *Mendeley*, considering that there is a positive correlation between the number of articles stored in *Mendeley* and the number of future citations (Kudlow et al., 2017).

Applying the aforementioned selection techniques led to identifying 23,864 references in publications. It should be noted that the combination of these techniques represents a significant contribution of our investigation, because the previous literature reviews in this field have not considered them. This is positive because it is advisable to combine formal and informal search sources to mitigate the possible harmful effects of publication bias (Sánchez-Meca, 2010).
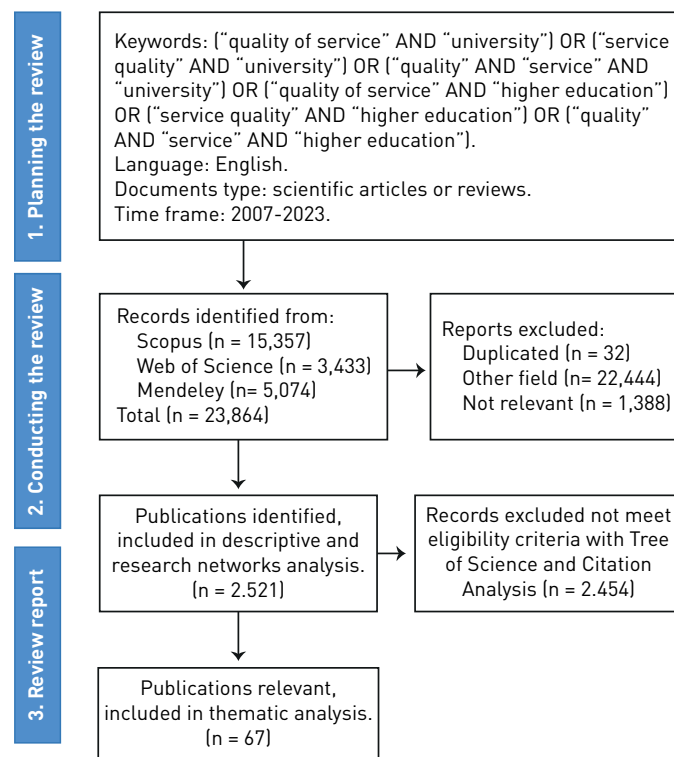

Figure 1. Diagram of the systematic review of research into SQ in universities.
Source: own elaboration.

Once the 23,864 documents in the bibliography were identified, the publications were analyzed by applying the following inclusion or exclusion criteria: (1) exclude duplicate documents; (2) include conceptual and empirical studies (by sorting the abstracts in the database with that criteria); (3) include studies related with management in the HE sector (by sorting the abstracts in the database with that criteria); and (4) exclude studies that address SQ in organizations other than HEIs (by sorting the titles in the database with that criteria). It must be pointed out that, although there is no accepted consensus, the studies included in systematic reviews are usually between 10% and 40% of the number of studies of the potential group (Briner & Walshe, 2014; Tarí & Dick, 2016).

In our research, after applying the inclusion and exclusion criteria, the results were 2,521 relevant publications representing 10.5% of the publications identified as potentially relevant. These publications were characterized considering: (1) the theme addressed (main contribution, originality); (2) research methodologies; (3) scope of application (studied institutions, countries where it was applied, stakeholder perspective); and (4) type of information processing (include collection technique, sample size, and analysis technique).

To select potentially relevant publications, a combination of two techniques was used and the results

were stored in the *Mendeley* bibliographic software, which facilitates the management of large volumes of bibliographic references (Kudlow et al., 2017). The first technique called *Tree of Science* detects relevant references based in Graph Theory and network analysis recently used in various research studies (Botero et al., 2023; Contreras Castañeda, 2021; Grisales et al., 2023). The second technique involves an analysis of citations based on the methodology used by (Crossan & Apaydin, 2010), which allows identifying studies with a number of citations equal to or greater than the h-index as calculated by Scopus. The result of applying these selection techniques led to identifying 67 relevant publications.

3.3. Review report

In this third stage, the results of the review of 2,521 relevant publications was reported in three parts: (1) a descriptive analysis, which provides a detailed assessment using the set of categories defined in the reading and classification of publications; (2) a research networks analysis, based on the work of Van Eck & Waltman (2016), network maps of the keywords and authors of the relevant publications on SQ in universities were constructed; and (3) a thematic analysis, which presents a broad description of the relevant research. Finally, using the information collected and the analysis of the results of the review, trends in related research and potential areas of research are presented.

4. Results

As anticipated, the initial search strategy made it possible to identify a total of 23,864 references of publications on SQ in universities in the 2007–2023 period. When analyzing these references annually, we obtained an average of 1403 references per year, as can be seen in Figure 2.

4.1. Research methodologies

The analysis of the 2,521 selected relevant publications—based on the classification of research methodologies proposed by González, Gasco & Llopis (2006)—shows that most of the studies use a theoretical methodology. They are 670 in total, where 478 are conceptual studies, 180 are related to applied conceptual studies, and 12 are illustrative studies. A comparative and disaggregated analysis evidences the predominance in these studies considering business as the main stakeholder (416), as shown in Table 1, after reviewing the abstracts in each paper. Additionally, more studies are identified in the public sector (400) than in the private sector (114), and there are more conceptual studies (478) compared to other theoretical studies.

Table 1. Characteristics of relevant research related to SQ in universities. 2007–2023.

Characteristics	Categories (Keywords)		Number of publications	Percentage share (%)
Type of studies	Theoretical studies	Conceptual studies	478	13.92%
		Illustrative studies	12	0.35%
		Applied conceptual studies	180	5.24%
	Empirical studies	Case studies	301	8.77%
		Field studies	315	9.18%
Scope of application	Associated Stakeholder *	Students	47	1.37%
		Alumni	13	0.38%
		Faculty	2	0.06%
		Staff	12	0.35%
		Business	416	12.12%
		Government agents	307	8.94%
		Others	84	2.45%
	Type of institution	Public sector	400	11.65%
		Private sector	114	3.32%
		Mixed	5	0.15%
		Not specified	245	7.14%
Information processing	Data collection technique*	Questionnaire / Survey	446	12.99%
		Interviews	80	2.33%
		Focus groups	17	0.50%
		Other	45	1.31%
	Information analysis technique*	Factorial analysis	21	0.09%
		Structural equations	146	4.25%
		Multiple regression	185	5.39%
		Others	123	3.58%
Total relevant publications				

* The sum of the categories can be different from the total of publications because many studies do not present information that allows their characterization, while others may be included in several categories.
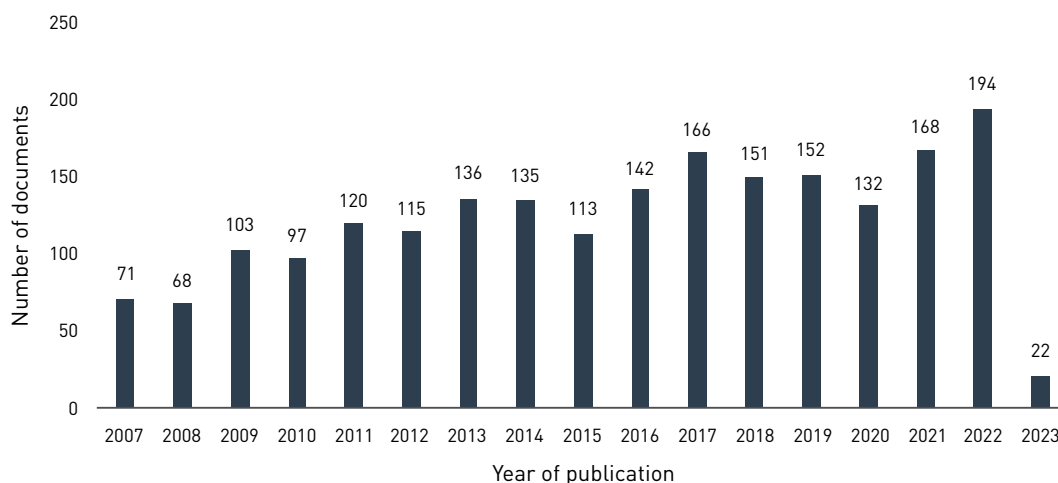Source: own elaboration (2023).

Figure 2. Timeline of the evolution of research into SQ in universities. 2007–2023.
Source: own elaboration from *WoS* and *Scopus* (2023).

Regarding the scope of application for *stakeholders* associated with the research, the businesses perspective predominates in 416 of the publications, while other studies consider different stakeholders such as government agencies (307), students (47), alumni (13), staff (12), faculty (2) and others (84). In relation to the scope of application by *type of institution*, 400 publications were studies applied in public HEIs. Fewer studies were conducted in private institutions (114), while the rest of publications (245) do not specify the context of the HEI.

It was observed that the main technique for data collection was the survey, which was used in 446 studies, followed by interviews (80), and focus groups (17). Regarding the analysis information techniques used in the relevant research, multiple regressions, estimation of structural equation models, and factorial analysis stand out as the predominant techniques, since they are used in 185, 146, and 21 studies, respectively.

4.2. Research networks

Figure 3 shows the countries with the highest concentration of relevant scientific production: United States (5,425) and United Kingdom (2,054). The following, in order, are Canada (980), China (782), Spain (567), Germany (499), Netherlands (471), South Africa (336), and Sweden (319). It is noticeable how United States has a significantly higher contribution compared to other countries.

The results show that the relevant publications on SQ in universities between 2007 and 2023 are distributed in a total of 160 journals, where the most influential account for 12,108 cites, as shown in Table 2.

Only two of the journals considered as most influential due to the number of citations have one affiliation, while the remaining eight have two or more affiliations. This is relevant considering the importance of strategic collaborations among institutions.

The bibliometric analysis of the reviewed publications allows us to visualize the complexity and variety of the findings in SQ research at the university. In fact, *VOSviewer* software was chosen to create network maps based on bibliographic data, known as *bibliometric maps*, which are easy-to-interpret and useful to identify groups of related elements among scientific publications (Perianes-Rodriguez et al., 2016).

Figure 4 evidences that the keywords with the greatest relationship strength and strongest co-occurrence links, excluding the keywords related to "Higher Education" and "Service Quality", were "academic libraries", "accreditation", "action research", "active learning", "advanced pharmacy practice experience", "analytic hierarchy process", "artificial intelligence", "assessment", "attitude", "big data", "blended learning", and "blockchain". It is worth mentioning that these keywords are grouped into 10 clusters of interconnected terms. The terms that register the closest relationship and highest co-occurrence are "education", "research", and "management".

Moreover, in Figure 4, without considering "Higher Education" and "Service Quality" to avoid redundancies, temporary differences are observed in the occurrence of key terms in relevant publications. In the first half of the period—between 2007 and 2014—the clusters with most concentration of publications share the terms "supply chain management", "knowledge management", "information systems"; meanwhile, in the second subgroup—between 2015 and 2023—, the clusters with the higher concentration of publications are linked by the terms "sustainability", "artificial intelligence", "sustainable development", "corporate social responsibility", "circular economy", and "industry 4.0".

Furthermore, even though a total of 2,517 authors were identified with at least one publication, the authors that mostly group co-authoring are grouped into 14 clusters. Even if these clusters are not related to each

other and do not register any significant concentration, the selected clusters with a co-occurrence superior to the others are identified, grouping fourteen authors and at least two relevant publications.

These clusters are conformed by authors considering at least two documents as follows: Fry & Donohue (25 citations); Gerard (4 citations); Hartley (55 citations); Inoue & Yamada (23 citations); Kruger (1 citation); Liu, Edwards, Courtney (14 citations); McKinley, Briggs, Bartuska (46 citations); Ng (31 citations); Ngibe & Lekhanya (2 citations); De Castro, Becker, Martinez, Olsina (2 citations); Ramdass (2 citations); Rodríguez-Mantilla, Fernández-Cruz, Fernández-Díaz (10 citations); and Roy & Sivakumar (75 citations). Thus, while Gerard is more recent, Roy & Sivakumar are more influential based on registered citations.
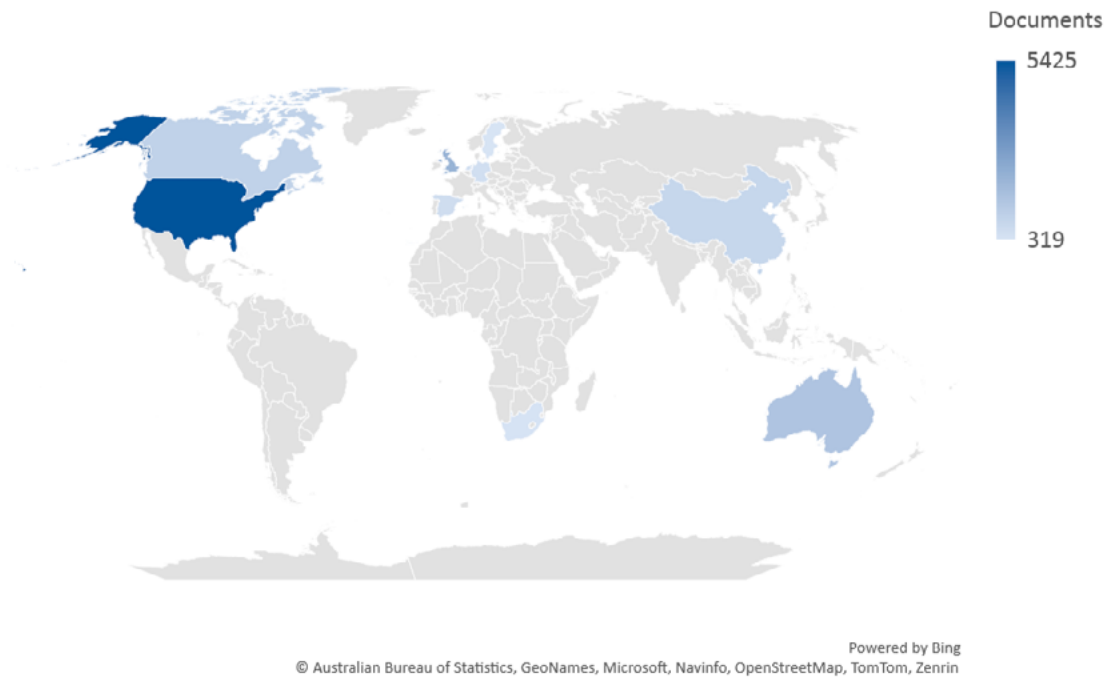

Figure 3. Map of the intensity of relevant research. 2007–2023.
Source: own elaboration (2023).

Table 2. Distribution of relevant publications and citations by journal. 2007–2023.

Journal and affiliation		Publications		Citations	
		Number	**%**	**Number**	**%**
Long Range Planning	Coles College of Business, Kennesaw State University, United States; Otto-von-Guericke-University Magdeburg, Germany; Department of Management and Entrepreneurship, Kennesaw State University, United States; Institute for Human Resource Management Organizations (HRMO), Hamburg University of Technology (TUHH), Germany; University of Newcastle, Australia.	24	18%	3,130	26%
Journal of Business and Psychology	University of Sheffield.	1	1%	1,590	13%
Journal of Marketing	Boston College; University of Groningen.	6	4%	1,544	13%
Journal of Management	University of Alabama System; University of Alabama Tuscaloosa; Universite de Montpellier; State University System of Florida; Florida International University; Tel Aviv University.	31	22%	1,420	12%
Tourism Management	Haskayne School of Business, University of Calgary.	5	4%	1213	10%
Strategic Management Journal	Villanova School of Business, Villanova University, Villanova, PA, United States; Villanova School of Business, Villanova University, United States.	18	13%	1,201	10%
Journal Of Business Research	Boston College.	42	30%	1,009	8%
Academy Of Management Journal	Universite de Montreal; HEC Montreal; Western Sydney University; University of Cyprus; University of Warwick; University of Minnesota System; University of Minnesota Twin Cities.	11	8%	1,001	8%
Total		138	100%	12,108	100%

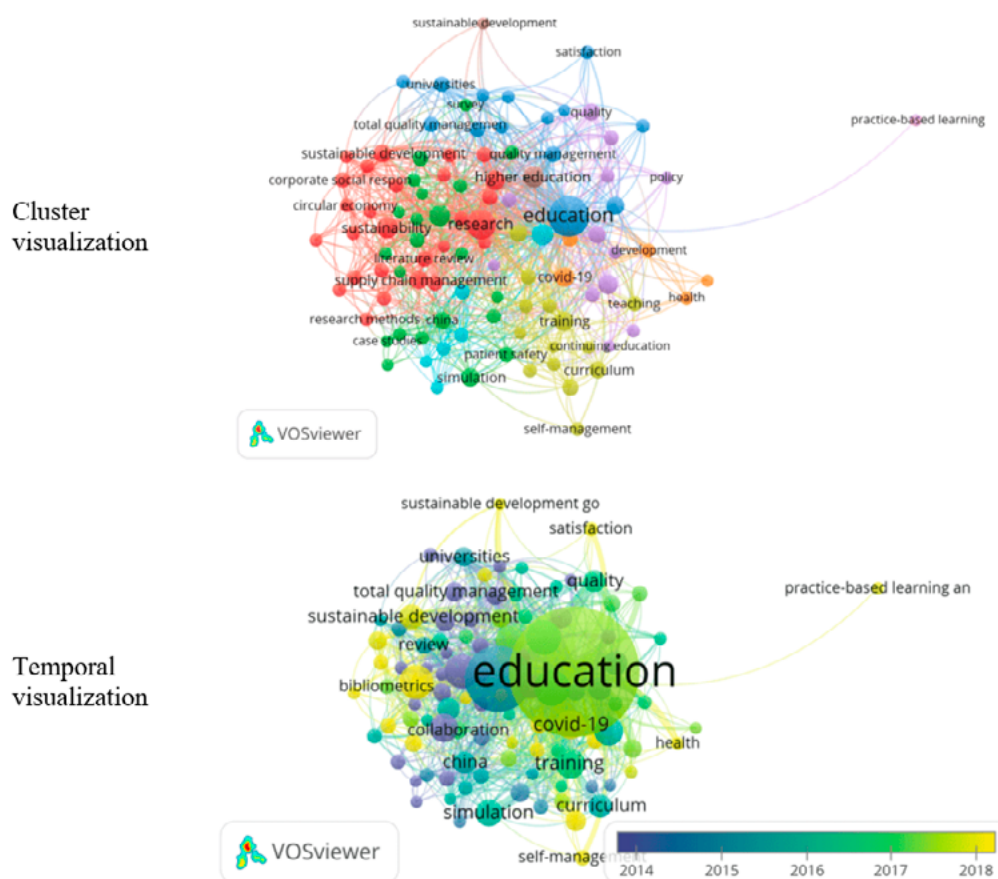Source: own elaboration from WoS and Scopus (2023).

Figure 4. Keywords' network of relevant research into SQ in universities. 2007–2023.
Source: own elaboration using VOSviewer (2023).

4.3. Thematic approaches

The research on SQ in HE is of unquestionable importance due to its strategic role in the competitiveness of universities (Sultan & Wong, 2013; Tan, 1986), even though it is a complex and multifaceted concept (Schindler et al., 2015; Subrahmanyam & Bellamkonda, 2016; Tan, 1986).

In this sense, based on the reading and classification of the relevant publications, along with the analysis of the network maps of these publications, the main thematic focuses of Research into SQ in universities between 2007 and 2023 were identified (Figure 5). Subsequently, a detailed description of the four thematic approaches identified was made; it provides an overview of the relevant research.

It should be mentioned that the groupings of publications by thematic approaches are not mutually exclusive, even if they are presented considering the number of relevant publications associated with each one. In fact, there is a strong interrelation among the issues addressed in the publications, as evidenced in the previous section of this document. This only provides an overview of the relevant research, supported in a detailed description of the thematic approaches identified.

4.3.1. Management and improvement of SQ

The theoretical and empirical works grouped in this thematic focus are related to the application of methods and philosophies of quality management, which contribute to the development or revision of management improvement strategies in HE. Among the alternative approaches concerned with management and improvement of SQ, we can point to word-of-mouth (WOM) marketing, the implementation of the Total Quality Management (TQM) methodology, management approaches of SQ from student's perspective, and other studies related to a SQ management in HE.

On the one hand, research related to WOM marketing examines behavioral intention in universities services (Chang et al., 2013), investigates how the relation of institutional factors affect consumers satisfaction and behavioral intention towards university food services (Kim et al., 2009), and explores the relationship with SQ factors, satisfaction (Angell et al., 2008), and loyalty of universities students (Mansori et al., 2014). On the other hand, other studies investigate the consequences of implementing the TQM model on SQ (Sadeh & Garkaz, 2015), as well as conceptual alternatives of TQM model to interpret universities student satisfaction and the philosophy of students treated like customers (Mark, 2013).
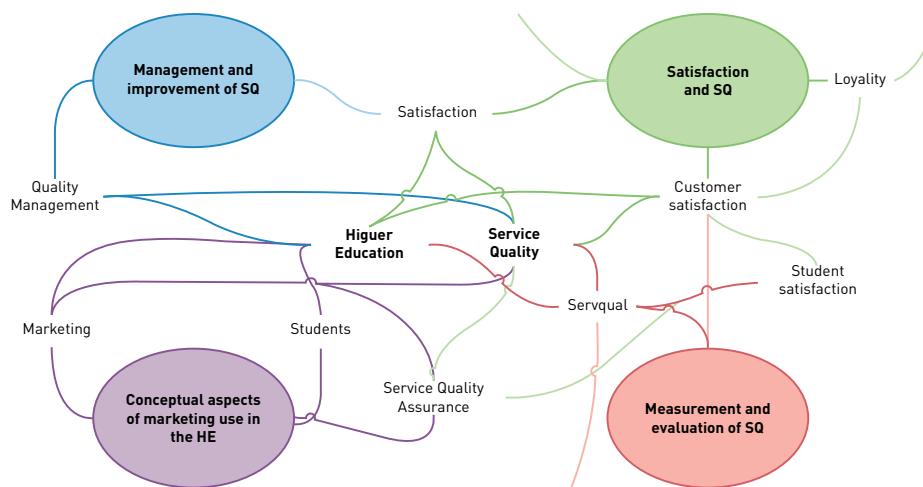
Figure 5. Main thematic approaches, keywords, and authors in relevant research into SQ in universities. 2007–2023.
Source: own elaboration.

Additionally, studies that address SQ management from the universities student's perspective are identified, with an emphasis on student as co-producer in university curriculum development in a marketized HE context (Carey, 2013); service failures and the recovery of services in universities student (Chahal & Devi, 2013; Chang et al., 2013); factors influencing students' evaluation of their university professor (Morales Rodriguez et al., 2014); relationship between research performance and teaching quality perceived by students (Cadez et al., 2015); key factors that influence alumni loyalty including SQ (Iskhakova et al., 2016); and the economic, social, and cultural factors that influence quality management (Aydeniz & Gürcay, 2013; Drule et al., 2014).

Likewise, other studies addressed supply chain management (Sharabi, 2013), customer relations in a context of multi-channel services (Liao et al., 2011), the impact of the perceived quality of the teacher and the courses on students' course selection (C. Brown & Kosovich, 2015), factors related to physical facilities that create value for the development of basic skills at the universities (Kärnä & Julin, 2015), and the understanding of factors that motivate student loyalty and students' role as sources of support for university management (Iskhakova et al., 2016).

In this group of studies, there are significant contributions from Tarí & Dick (2016), who published a bibliographic review of the main methods and philosophies applied in the management of HEIs quality; and Sandmaung & Khang (2013), who systematized the quality expectations of multiple stakeholders of HEIs and proposed a set of appropriate management indicators to ensure quality. Additionally, we can highlight the research concerned with electronic services in HEIs (include *e-learning*, *m-learning*, and digital library), identifying works on key factors influencing the SQ in self-service technologies (Lin & Hsieh, 2011), critical success factors (Ramayah & Lee, 2012; Wu & Lin, 2012), factors influencing acceptance (Abu-Al-Aish & Love, 2013), hybrid approaches in the SQ management (Garibay et al., 2010; Wu & Lin, 2012), and typologies of web design strategies (Vilnai-Yavetz & Tifferet, 2013).

4.3.2. Measurement and evaluation of SQ

In this approach, despite the difficulty in defining and measuring SQ (Subrahmanyam & Bellamkonda, 2016), we grouped empirical studies focused on the use of instruments to measure and evaluate SQ in HE, thus recognizing its importance and showing that it has been the subject of huge academic debate.

In fact, in the research studies related with SQ in HE published between 2007 and 2023, the use of the *SERVQUAL* scale predominates (Parasuraman et al., 1985, 1988, 1991, 1994, 2005) by analyzing the gap between customer expectations and perceptions. The *SERVQUAL* scale is used as a reference model by many researchers, albeit with different purposes and adapted to a wide variety of contexts in HE. These include, for example, the exploration of SQ and its relationship with knowledge sharing (Tan et al., 2010), performance of services (Lupo, 2013), measuring library service (Morales et al., 2012), student loyalty (Mansori et al., 2014), student expectations (Galeeva, 2016), and emotional attachment (A. Abdullah et al., 2015).

Even though most of the relevant publications measure SQ using SERVQUAL, in the scientific research into SQ in HE published between 2007 and 2023, alternatives or complementary measuring tools classified into two studies groups are identified: (I) studies that use tools developed before 2007; and (II) studies that propose tools developed after 2007.

Among the tools developed before 2007 (see Figure 6), there are recognized ones such as Critical Incident Technique (Flanagan, 1954), Importance-Performance Analysis (Martilla & James, 1977), *SERVPERF* (Cronin & Taylor, 1992), *DINESERV* (Stevens et al., 1995), *Quality Function Deployment or QFD* (developed between the end

of the 1960s and the beginning of the 1970s in Japan; (Chan & Wu, 2002), *PAKSERV* (Raajpoot, 2004), *LibQUAL + TM scale* (Wei et al., 2005), and HEdPERF (F. Abdullah, 2005). According to Brochado (2009), *SERVPERF* and *HEdPERF* demonstrate the best measurement capacities by comparing the performance of the five main SQ measuring instruments in an HE context, including the SERVQUAL scale. It should be mentioned that the five instruments had a good performance.

Measurement tools for SQ in HE developed among 2007 and 2023 are identified (see Figure 7). They have been applied from a variety of contexts and perspectives: Measuring the SQ of an online course and its relationship with motivations, perceptions and learning skills in military students in a US university context (Artino, 2008); measuring SQ as well as relationship with trust and behavioral intention of universities students in South Africa (De Jager & Gbadamosi, 2010); evaluation model of students tolerance with the SQ in HEI´s in Turkey (Nadiri et al., 2011); SQ expectations in HEI´s from students, professors, administrative personnel, and employers perspectives in Thailand (Sandmaung & Khang, 2013); integrative model of the antecedents and consequences of the HE sector SQ in Australia (Sultan & Wong, 2013, 2014); evaluation model of SQ of the installations and complementary services of the university campus in Finland (Kärnä & Julin, 2015); SQ measurement of the a complementary education service in public HEIs in Colombia (Pérez & Muñoz, 2015); measurement model of loyalty intention of past universities students in Germany and Russia (Iskhakova et al., 2016); and developing a scale to measure the pertinent dimensions associated with e-service perceived quality among students in a Brazilian university (Menezes et al., 2016).

4.3.3. Satisfaction and SQ

In this third approach, relevant research studies that address satisfaction and SQ in HE regarding needs and expectations of HEI stakeholders are grouped from different perspectives. Here, we highlight the works concerned with the relevant relationship between the SQ and satisfaction of universities stakeholders with their loyalty or other behavioral intentions. Some of these authors approach this relationship from interesting perspectives such as WOM marketing (Alves & Raposo, 2007; Mansori et al., 2014; Roy et al., 2014), the intention to recommend (Durvasula et al., 2011), e-services (Martinez-Arguelles & Batalla-Busquet, 2016; Roy et al., 2014) in HEI with a collectivist cultural context (Kashif et al., 2014), diverse service perceptions and behavioral intentions (Clemes et al., 2008; Dado et al., 2013; De Jager & Gbadamosi, 2010; Douglas et al., 2015; Elsharnouby, 2016), and the effect of the perceived image of the university (Ali et al., 2015; Alves & Raposo, 2007; R. Brown & Mazzarol, 2009).
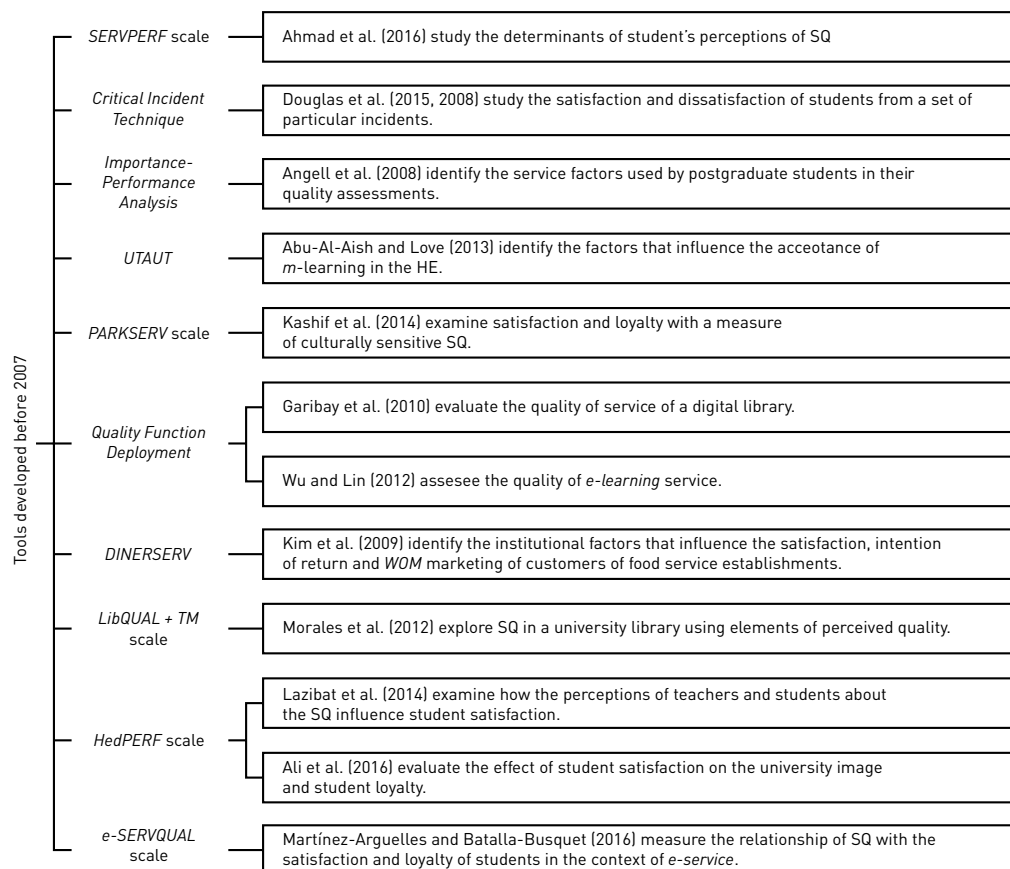

Figure 6. Measurement tools used in the relevant research into SQ in HE, developed after 2007.
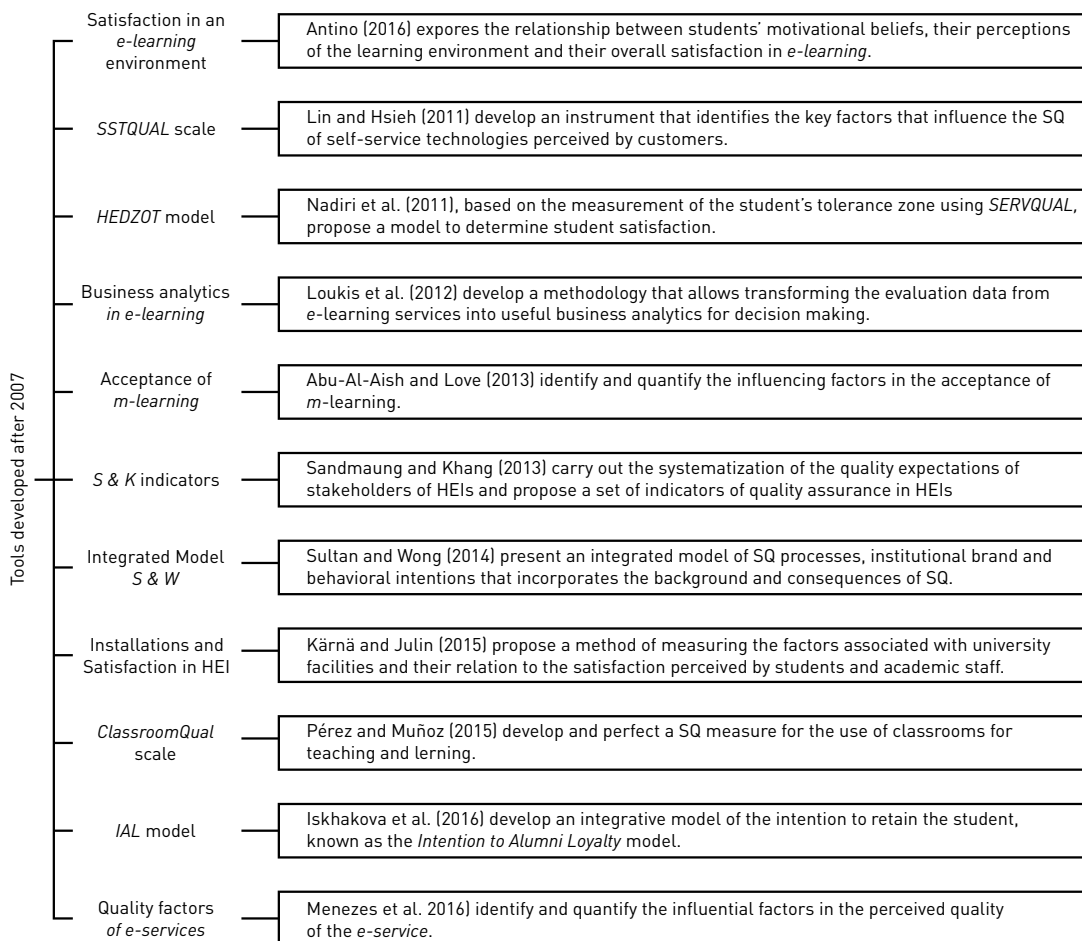Source: own elaboration.

Figure 7. Measurement tools used in the relevant research into SQ in HE, developed after 2007.
Source: own elaboration.

Additionally, works with alternative perspectives are identified such as the conceptual model of the relationship between satisfaction and experience of university students (Douglas et al., 2008); relationships between motivational beliefs, perceptions and satisfaction of university students with learning environments (Artino, 2008); the institutional factors that influence the satisfaction, intention of return, and WOM marketing of the customers of food service establishments (Kim et al., 2009); impact of desired and adequate expectations on student satisfaction (Nadiri et al., 2011); the influence of SQ perceptions on student satisfaction (Lazibat et al., 2014); perceptions of quality and experience (Ahmad, 2015), the experience of food services and its effect on student satisfaction (Ali & Ryu, 2015); relationship of the university's social responsibility with the SQ satisfaction in students (Vásquez et al., 2015); identification of service attributes that affect student satisfaction (Eberle et al., 2016).

There are also works exploring the perceptions of university students related to antecedents and consequences of satisfaction (Clemes et al., 2008; Sultan & Wong, 2013, 2014), the understanding of student satisfaction based on their university service experiences (Ali & Ryu, 2015; Clemes et al., 2008; De Jager & Gbadamosi, 2010; Vásquez et al., 2015), and the relationship between the participation and co-production behavior of the student with their satisfaction (Elsharnouby, 2016; Mostafa, 2015).

4.3.4. Conceptual aspects of marketing use in HE

The last approach is made up of research studies, especially theoretical ones, concerned with providing explanations or reasons to use marketing concepts to address SQ in HE. This group is dominated by works that make conceptual contributions to the study of the relationship of the university with its stakeholders, especially its students, based on the conceptual interpretation of the notion of the student as a consumer (Bunce et al., 2016; Lomas, 2007), value of the university experience for students (Woodall et al., 2014), as well as criticisms of this approach (Mark, 2013), together with an understanding of the service experience from the role of students in co-creation (Carey, 2013; Iskhakova et al., 2016; Mark, 2013; Mostafa, 2015; Ng & Forbes, 2009).

It also highlights the significant contribution of studies concerned with addressing the conceptual framework

of service marketing in HE in general (Ng & Forbes, 2009), the conceptualization of the service experience of students from the perspective of the graduate (Koenig-Lewis et al., 2016), the establishment of collaborative relationships of mutual benefit between the university and industry from the perspective of industrial marketing (Boehm & Hogan, 2013), student loyalty modelling from relationship marketing perspective (Heo & Lee, 2016), and the impact of increasing the importance of marketing in HE (Newman & Jahdi, 2009).

4.3.5. Main information publications

In general, based on the analysis presented in this paper, frequently referenced publications characterized by their significant coverage of conceptual, methodological, or practical aspects of research into SQ in HE are suggested below (see Table 3).

Although in this work a set of relevant publications of scientific literature into SQ in HE were selected and analyzed, this may not be sufficient to understand the enormous amount of scientific production published and the true scope of research in this field. Nevertheless, it is useful to list these informative publications as references for potentially interested parties; The main results obtained in this study are presented below.

5. Discussion

5.1. Main research trends

Student's perspective is the focus of research into service quality in universities, with little research on the views of other stakeholders; this result has also been evidenced in review works performed by Sandmaung & Khang (2013) and Tarí & Dick (2016). Is should be noted that the countries with highest count of relevant scientific research related to service quality in higher education, from the affiliations of authors, are United States, United Kingdom, Australia, Canada, and China.

Additional to that, when observing the scientific dispersion regarding this topic at the time of publication, the most influential papers accounted for 12,108 citations, most of which are from institutions located in United States, and some of them are in Canada and Australia. The most influential ones are Journal of Business Research (Boston College, United States), Journal of Management (different institutions from United States, France, and Israel), and Strategic Management Journal (Villanova School of Business, United States). The authors with a superior co-occurrence are Fry & Donohue; Gerard, N.; Hartley, D.; Ho Yin Wong & Parves Sultan; John Davies and Jacqueline Douglas; T. Ramayah; and Kashif Hussain & Faizan Ali.

Table 3. Main contributions of the relevant research into SQ in universities.

Thematic approaches	Main contributions	Associated Stakeholders
Management and improvement of SQ	Impact of quality inconsistency in the e-service quality and customer relationships (Liao et al., 2011).	Graduates
	Intention of WOM consumer behavior in the educational service (Chang et al., 2013)	Students
	Approach in managing the supply chain as a tool to improve SQ in HEI (Sharabi, 2013)	Not applicable
	Determinants of the intentions to accept m-learning (Abu-Al-Aish & Love, 2013)	Students
Measurement and evaluation of SQ	Dimensions of the SQ perceived by students (Clemes et al., 2008).	Students
	Influence of DINESERV institutional factors on customer satisfaction, intention to return and WOM (Kim et al., 2009).	Students and administrative staff
	Comparative evaluation of instruments to measure the SQ (Brochado, 2009).	Students
	Methodology to transform the evaluation data of e-services users into useful business analytics (Loukis et al., 2012).	Students
	Integrated model of SQ processes, institutional brand, and behavioral intentions (Sultan & Wong, 2014).	Students
	Student satisfaction based on the Critical Incident Technique (Douglas et al., 2015).	Students
Satisfaction and SQ	Integrative model of student satisfaction in diverse contexts (Alves & Raposo, 2007).	Students
	Model of student satisfaction and loyalty (R. Brown & Mazzarol, 2009).	Students
	Incidence of personal values in the evaluation of the service (Durvasula et al., 2011).	Students
	Student satisfaction based on the SERVQUAL scale (Mansori et al., 2014).	Students
	Effect of the teacher's reputation on the decisions of the students (C. Brown & Kosovich, 2015).	Students and academic staff
Conceptual aspects of marketing use in HE	Conceptual framework of the marketing of services of the HE (Ng & Forbes, 2009).	Students
	Marketing rhetoric and the experienced reality for HEI´s stakeholders (Newman & Jahdi, 2009).	Students and academic staff
	Establishment of collaborations for the commercialization of knowledge (Boehm & Hogan, 2013).	Academic staff and business
	Effect of students' preparation for co-creation on their social commitment and the perceived value of the education service (Mostafa, 2015).	Students
	Analysis of the notion of the student as a client (Bunce et al., 2016).	Students and academic staff

Source: own elaboration.

Regarding methodological aspects, most of the studies use an empirical methodology. The main data collection technique is the survey, while multiple regressions, factorial analysis, and the estimation of structural equation models are the predominant information analysis techniques.

From the analysis of research networks, four thematic approaches that provide an overview of the relevant research were identified. These clusters address topics such as conceptual interpretation of the student as a client, methods and philosophies applied by universities in the management and improvement of quality, quality expectations of multiple university stakeholders, WOM marketing, relationship between service quality and loyalty of university stakeholders, understanding e-services, predominant use of the SERVQUAL scale for measuring service quality, development of alternative tools to evaluate service quality. It is important to note that the grouping of the publications by thematic approaches is not mutually exclusive; there is a strong interrelation of issues addressed in the publications.

5.2. Implications for higher education sector

This study tries to broaden the understanding of service quality in universities for academics, researchers, and leaders of the higher education sectors. From a practical perspective, this work makes valuable contributions to establish a framework of service quality in HE, training professionals, as well as managing the higher education sectors.

First, academics and researchers can access the latest and most relevant scientific advances, position their work in the field of study, and identify possible new topics or gaps in research to formulate new research questions. Likewise, teachers can use this work to show methodological aspects, including the use of software and scientific data bases associated with a systematic literature review.

Additionally, this work could be useful for those academics interested in studying service quality in higher education, who have no knowledge on the theoretical perspectives reviewed in this work. In fact, service quality in higher education is intricate, evolving, and varies based on stakeholder perspectives. Recognizing its complexity, evaluating, and improving it involves considering diverse factors. Thus, the results of this research facilitate an understanding of quality concept in the higher education sectors, discover the relevant aspects of service quality in universities, and explore the used measurement tools.

Moreover, managers and leaders in the higher education sector can be encouraged to improve the management of service quality in universities by exploring the different management practices in higher education, the factors that influence the successful management of service quality, instruments available to measure service quality, together with explanations or reasons associated with the use of marketing concepts to address service quality in higher education. In the case of leaders designing public policies in the higher education sector, this information is crucial, since the results provide information that allows them to consider the structure and development of relevant research to select appropriate empirical contexts and consider the related implications that contribute to the improvement of management in higher education.

5.3. Potential future research

The results of this work allow us not only to identify the areas of research addressed to date in this field of study, but also to highlight existing gaps. Thus, among the potential areas of future research, improving the understanding of stakeholder's expectations other than students stands out. Research into service quality in higher education must continue and must not only consider the students, but also other university stakeholders such as teachers, graduates, the public sector, and companies. For example, about the attraction and retention of income, universities must improve their understanding of the satisfaction and loyalty of their graduates, of the business with which they cooperate, together with the impact and consequences of service quality management practices in universities.

Given the relevance of the co-creation of value in professional practice and academic discussions (Grönroos, 2012), it is essential to make greater efforts to address the service quality of higher education from the contributions of the co-creation concept. There is also evidence of the growing interest of business to cooperate with universities in its quest to improve competitiveness supported in human capital formation, research, and innovation (UNESCO, 2015). Thus, the relationship university-business is suggested from the perspective of the value co-creation.

It is also necessary to implement hybrid approaches in research methods and to address applied research in universities in different geographical, social, economic, or cultural contexts. This would enable comparative analysis of research results, as well as identifying obstacles or drivers of service quality in higher education in different contexts. A possible future research could involve the development of innovative measurement scales to evaluate the service quality construct in higher education, distinct from SERVQUAL, and would specifically focus on universities services, considering all the stakeholders involved.

5.4. Research limitations

This work complements and extends the previous reviews with a methodology developed to minimize the bias in the selection and analysis of data. However, the results should be interpreted cautiously, given that they

are associated with the review of publications based on specific selection criteria. This, despite striving to be comprehensive and inclusive, does not fully represent the enormous variety of contributions made to scientific research in this field.

In addition, scientific articles were selected from specific searches in databases that, despite being recognized for their global reach and scientific rigor, have limited resources. For future research, the scope should consider the number of databases and types of publications, including the contributions of books, institutional reports, doctoral thesis, and other relevant scientific material.

6. Conclusions

In the analysis of the scientific publications related to service quality in higher education, published between 2007 and 2023, an increased interest in this field of study is observed, which is evident in the continuous growth of scientific production published during that period.

It is also noticeable that subjects related to business sustainability gained importance in the management of universities, including the expectations of university stakeholders as a tool management for service quality. Certainly, from the scientific research related with service quality in higher education, universities' stakeholders are treated as customers who have points of view about their service experiences.

Conflict of interest

The authors declare no conflict of interest.

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