

Campus São Mateus  
UNIVERSIDADE FEDERAL DO ESPÍRITO SANTO**FACTORS IMPACTING CONSUMERS IN WEBSITE SERVICES: A BIBLIOMETRIC REVIEW IN TIMES OF PANDEMIC***FATORES QUE IMPACTAM OS CONSUMIDORES EM SERVIÇOS DE SITES: UMA REVISÃO BIBLIOMÉTRICA EM TEMPOS DE PANDEMIA**FACTORES QUE IMPACTAN EN LOS CONSUMIDORES DE SERVICIOS WEB: UNA REVISIÓN BIBLIOMÉTRICA EN TIEMPOS DE PANDEMIA***André Philippi Gonzaga de Albuquerque<sup>1</sup>, Claudia Editt Tornero Becerra<sup>2\*</sup>, Fagner José Coutinho de Melo<sup>3</sup>, & Denise Dumke de Medeiros<sup>4</sup>**<sup>1 2 3 4</sup> Universidade Federal de Pernambuco, <sup>3</sup> Universidade de Pernambuco<sup>1</sup> andre.philippi@ufpe.br <sup>2\*</sup> claudia.editt@ufpe.br <sup>3</sup> fagner.melo@upe.br <sup>4</sup> denise.medeiros@ufpe.br**ARTIGO INFO.****Recebido: 29.11.2024****Aprovado: 20.12.2024****Disponibilizado: 03.02.2025****KEYWORDS:** *e-service; website; systematic review; dimensions; TEMAC.***PALAVRAS-CHAVE:** *serviço eletrônico; site; revisão sistemática; dimensões; TEMAC.***PALABRAS CLAVE:** *servicio electrónico; sitio web; revisión sistemática; dimensiones; TEMAC.***\*Autor Correspondente: Becerra, C. E. T.****ABSTRACT**

*The COVID-19 pandemic has significantly boosted online shopping, compelling organizations to enhance website service quality. Since there is no prior knowledge of what satisfies consumers, this research conducts a systematic review to identify critical dimensions and attributes influencing website service quality and consumer satisfaction in a post-pandemic context. Using the Theory of Consolidated Meta-Analytic Approach (TEMAC), the review follows three structured phases: Research Preparation, Data Presentation and Interrelation, and Detailing and Model Integration. This approach integrates bibliometric principles to analyze and synthesize findings from 88 selected articles. The analysis reveals 11 key dimensions impacting website service quality: ease of use, website design/aspect, online survey, security/privacy, personalization, efficiency, system availability, reliability, information quality, responsiveness/assurance/trust, and delivery/fulfillment. The findings provide valuable guidance for organizations aiming to enhance their online service offerings. By focusing on these dimensions, businesses can formulate strategic action plans to improve consumer satisfaction, foster trust, and deliver a superior online shopping experience. This study contributes to literature by offering a comprehensive framework for understanding website service quality, supporting both academic and practical advancements in this field.*

**RESUMO**

A pandemia da COVID-19 impulsionou as compras online, exigindo que organizações aprimorem a qualidade do serviço de seus sites. Diante da falta de conhecimento prévio sobre os fatores que satisfazem os consumidores, esta pesquisa realiza uma revisão sistemática para identificar dimensões e atributos críticos que influenciam a qualidade do serviço do site e a satisfação do consumidor em um contexto pós-pandemia. Utilizando a Teoria da Abordagem Meta-Analítica Consolidada (TEMAC), a revisão

segue três fases estruturadas: preparação da pesquisa, apresentação e inter-relação dos dados, e detalhamento e integração do modelo. Essa metodologia aplica princípios bibliométricos para sintetizar os achados de 88 artigos selecionados. A análise identifica onze dimensões essenciais da qualidade do serviço do site: facilidade de uso, design/aspecto do site, pesquisa online, segurança/privacidade, personalização, eficiência, disponibilidade do sistema, confiabilidade, qualidade das informações, capacidade de resposta/garantia/confiança e entrega/cumprimento. Os resultados oferecem insights valiosos para organizações que buscam melhorar seus serviços online. Ao priorizar essas dimensões, empresas podem formular estratégias para aumentar a satisfação do consumidor, fortalecer a confiança e proporcionar uma experiência superior de compras online. Este estudo contribui para a literatura ao apresentar uma estrutura abrangente sobre qualidade do serviço do site, com implicações acadêmicas e práticas.

**RESUMEN**

*La pandemia de COVID-19 impulsó significativamente las compras en línea, exigiendo que las organizaciones mejoren la calidad del servicio de sus sitios web. Ante la falta de conocimiento previo sobre los factores que satisfacen a los consumidores, esta investigación realiza una revisión sistemática para identificar dimensiones y atributos clave que influyen en la calidad del servicio del sitio web y en la satisfacción del consumidor en un contexto pos-pandémico. Utilizando la Teoría del Enfoque Meta-analítico Consolidado (TEMAC), la revisión se desarrolla en tres fases: Preparación de la investigación, Presentación e interrelación de datos, y Detalle e integración del modelo. Este enfoque aplica principios bibliométricos para sintetizar los hallazgos de 88 artículos seleccionados. El análisis identifica once dimensiones esenciales de la calidad del servicio web: facilidad de uso, diseño/aspecto del sitio, encuesta en línea, seguridad/privacidad, personalización, eficiencia, disponibilidad del sistema, confiabilidad, calidad de la información, capacidad de respuesta/garantía/confianza y entrega/cumplimiento. Los resultados ofrecen orientación valiosa para que las organizaciones mejoren sus servicios en línea. Al centrarse en estas dimensiones, las empresas pueden formular estrategias para aumentar la satisfacción del consumidor, fortalecer la confianza y ofrecer una experiencia de compra superior. Este estudio presenta un marco integral sobre la calidad del servicio web, con implicaciones académicas y prácticas.*

## INTRODUCTION

Increasingly, the market and organizations must strive to offer products and services that meet consumer expectations and needs. As a result of the transformations and changes experienced by the market, consumers have become progressively more demanding. Therefore, organizations must invest in the quality of their products and services to achieve customer satisfaction (Egala et al., 2021; Gunawan, 2021; Liu et al., 2021; Oliveira et al., 2020; Teymourifar et al., 2020).

Given the new current context, society and corporations have been going through not only economic changes, but also in the behavioral and social spheres due to the COVID-19 pandemic (Wright et al., 2021). Faced with this challenging scenario, many customers who were not used to making their purchases online must use technological resources as a way to make their purchases.

According to data from the Brazilian Association of Electronic Commerce (Associação Brasileira de Comércio Eletrônico [ABComm], 2022), the pandemic has provided a more convenient and comfortable option for many Brazilians, driving them to make their purchases virtually. In terms of numbers, sales grew by 56.8% in the first eight months of 2020, compared to the same period of the previous year. Analyzing these figures according to Brazilian regions, the southeast stands out in sales volume, accounting for 62.2% of all revenue in the sector.

From another perspective, organizations try to adhere to new ways or adapt their policies to invest in the quality of their products and services on their websites. This investment is primarily related to customer satisfaction (Saleh & Yazan, 2019; Christine et al., 2019; Weiber Junior et al., 2019; Teymourifar et al., 2020).

The growth in the demand for services provided on websites can generate low-quality services. By failing to adapt their capacity to the demands, some websites may fail to fulfill services that would lead to customer satisfaction, leaving customers dissatisfied. The relationships between satisfied customers and quality services are similar. In other words, improving service quality positively affects the satisfaction of customer needs. The main problem is how to measure customer satisfaction, which is a subjective variable related to different needs and perceptions (Ahmad et al., 2019; Cakici et al., 2019).

However, in this current conjuncture that society has been facing, there is no prior knowledge for companies about what has in fact met the satisfaction of their consumers. Taking this into account, an important question arises: What are the factors present in the service provided on websites that impact consumers? To improve the quality of services provided by organizations, the objective of this research is to conduct a bibliometric review to identify the dimensions and attributes that impact the quality of services provided by websites through the Theory of Consolidated Meta Analytical Approach (TEMAC) by Mariano and Rocha (2017).

This paper is organized into four sections. The first section presents the research context and objective. The second section presents the Methodology and characterization of this work. Section three describes the quantitative and qualitative results related to the phases of

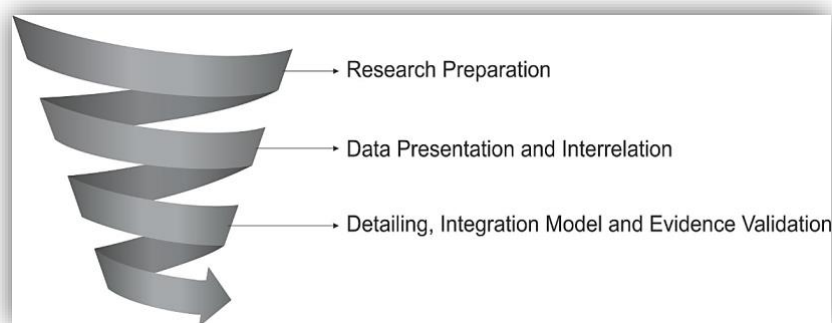
research preparation, presentation, and interrelation of data and, finally, the detailing, integrative model and validation of the evidence, as well as the dimensions and attributes of the quality of services provided on websites that influence consumers. Finally, the final considerations are presented in the fourth section.

## METHODOLOGY

The study comprises several procedures and steps. It adopts a methodology through a bibliometric review to determine the subject matter with the help of the Theory of Consolidated Meta Analytic Approach - TEMAC, by Mariano and Rocha (2017). Additionally, it incorporates the systematic literature review guidelines recommended by Paul and Menzies (2023).

Mariano and Rocha (2017) describe TEMAC as a method divided into three distinct phases: Research Preparation, Data Presentation and Interrelation, and Detailing, Integration of Models, and Evidence Validation (Figure 1). The primary goal of TEMAC is to identify and analyze influential literature within the academic community, providing insights into a specific topic. This method enables the identification of clusters based on universities, countries, and fields of knowledge, offering various possibilities for drawing interrelations and inferences about the subject. One of the key advantages of TEMAC is its foundation in bibliometric principles, which guide its phased analysis and enhance the technique's applicability.

**Figure 1.** Phases of the Theory of Consolidated Meta-Analytic Approach (TEMAC)



Source: Authors (2024).

The first phase consists of building a search string with keywords that are adequately related to the research topic. In addition, the time horizon to be investigated, the relevant databases for the research topic, and the areas of knowledge for data analysis must be defined (Cerqueira et al., 2020; Grubisic et al., 2020; Mariano & Rocha, 2017; Mariano et al., 2019).

In the second phase, the most published and relevant journals are identified and analyzed, the advancement of the theme in each year, the most cited research, the relation between the authors who have published the most and the authors who have been cited the most, the countries that have published the most and the conferences that have made the most contributions, the universities that have published the most and the agencies that fund the most research, the areas that have published the most and the frequency of keywords, for example (Cerqueira et al., 2020; Grubisic et al., 2020; Mariano & Rocha, 2017; Mariano et al., 2019).

Equally important, the third stage presents deeper and more robust analyses to better understand the theme. Through this stage of analysis, it is possible to identify and select those researchers who are essential and relevant in a review research, the main approaches and/or methods being studied, lines of research that address the topic, validation through evidence, and delivery of the integrative model by comparing the results of different sources (Cerqueira et al., 2020; Grubisic et al., 2020; Mariano & Rocha, 2017; Mariano et al., 2019).

At this stage, the results were obtained using the VOSviewer software. VOSviewer is a tool widely used in bibliometric reviews, whose main purpose is to facilitate the analysis, visualization and interpretation of networks of relationships between different elements in scientific publications. In addition, this software is used to create maps based on network data, in which the size of the circle is directly proportional to the weight of the item. In other words, the greater the weight, the larger the circle and its origin.

## RESULTS AND DISCUSSION

This section presents quantitative and qualitative analyses, related to the three TEMAC phases, as well as the dimensions and attributes that were found after the bibliometric review.

### Quantitative Analysis

This topic is divided into three parts according to the methodology adopted by Mariano and Rocha (2017), expressing the most relevant studies and research according to the theme presented in this research.

#### *Phase 1 – Research preparation*

Brainstorming sessions were conducted to identify terms related to and reflective of the research theme, helping to establish and develop the research chain. As these were keywords present in articles involving the theme, the terms chosen were: “e-service” AND “dimension” AND “scale.”

The Web of Science database was used as a search platform for academic research, considered by researchers as a robust collection where works of great relevance and international impact can be found (Liu et al., 2018; Liu et al., 2021). The time horizon to guide the development of this research was inserted into a radius between 1945 and 2021. Within the selected database, 131 research studies were conducted. The selection of articles was based on the filter of considering only published articles in English. The inclusion criteria required that the articles be from the three knowledge areas: Industrial Engineering, Management, and Business. As a result, 88 studies were identified within this scope.

#### *Phase 2 – Data presentation and interrelation*

The journals that publish the most on this theme are Industrial Management & Data Systems, Total Quality Management & Business Excellence, Journal of Internet Commerce, Managing Service Quality, International Journal of Operations & Production Management, Service Industries Journal, European Journal of Marketing, International Journal of Quality & Reliability Management, International Journal of Retail & Distribution Management, Journal of Business Research, Journal of Retailing, Journal of Service Research, and Journal of Services Marketing.

According to the results obtained, Web of Science has 4,222 citations on the research theme. Table 1 shows, in addition to the titles of the journals that publish the most, the record count of the papers, and the percentage corresponding to the total found, as well as the number of citations found from these journals in the chosen database. The sum of the number of citations found from these journals is 3,415, which represents approximately 81% of the total number of citations found in the database. Moreover, it is interesting to note that the Journal of Service Research has 1,969 citations, which corresponds to approximately 47% of the total citations of the theme.

**Table 1.** Journal titles with the most publications: Record Count, Percentage of Total, and Citation Count

Journal Title	Registration Counting	% of 88	Number of citations
Industrial Management & Data Systems	7	7.955%	163
Total Quality Management & Business Excellence	6	6.818%	114
Journal of Internet Commerce	4	4.545%	34
Managing Service Quality	4	4.545%	137
Int. Journal of Operations & Production Management	3	3.409%	54
Service Industries Journal	3	3.409%	77
European Journal of Marketing	2	2.273%	124
Int. Journal of Quality & Reliability Management	2	2.273%	86
Int. Journal of Retail & Distribution Management	2	2.273%	32
Journal of Business Research	2	2.273%	384
Journal of Retailing	2	2.273%	118
Journal of Service Research	2	2.273%	1.969
Journal of Services Marketing	2	2.273%	51

Source: Authors (2024).

Bradford's law can be used to estimate the degree of relevance of each journal in each area of knowledge (Figueiredo et al., 2019). Therefore, the impact factor can be used to estimate the degree of relevance of articles, scientists, and scientific journals, in each area of knowledge (Guedes & Borschiver, 2005). An analysis of the impact factor in the Journal Citation Report, refined by the specified areas of knowledge, reveals that the Journal of Service Research ranks among the top four most relevant journals in its field (Table 2).

**Table 2.** Journal titles ranked by impact factor and relevance by area

Journal Title	Impact Factor	Relevance in the area	Area
Industrial Management & Data Systems	4.224	16º	Industrial Engineering
Total Quality Management & Business Excellence	3.824	115º	Management
Journal of Internet Commerce	-	-	Business
Managing Service Quality	-	-	Management
Int. Journal of Operations & Production Management	6.629	49º	Management
Service Industries Journal	6.539	54º	Management
European Journal of Marketing	4.647	66º	Business
Int. Journal of Quality & Reliability Management	-	-	Management
Int. Journal of Retail & Distribution Management	3.771	83º	Management
Journal of Business Research	7.550	28º	Business
Journal of Retailing	5.245	55º	Business
Journal of Service Research	10.667	4º	Business
Journal of Services Marketing	4.466	72º	Business

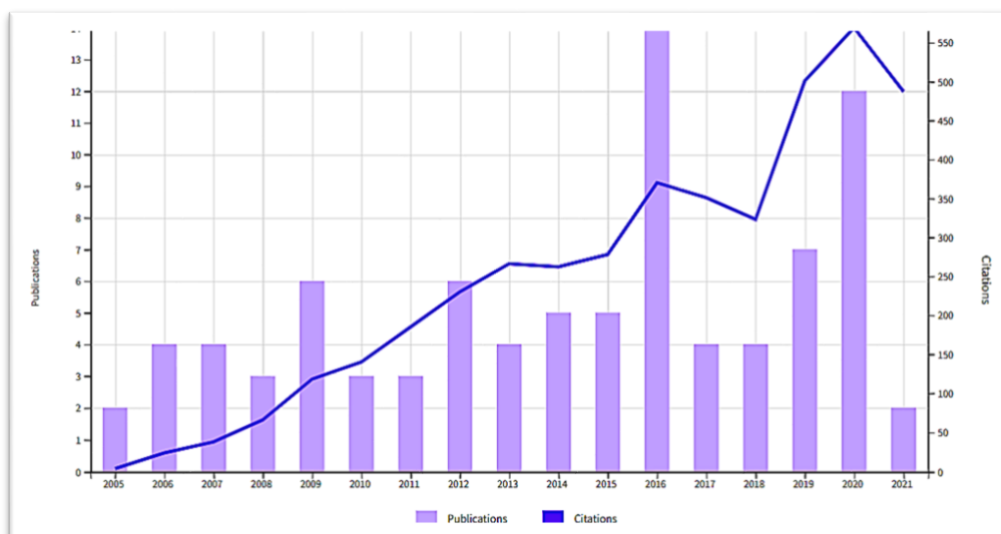
Source: Authors (2024).

Considering the number of citations and publications related to the time horizon pre-established by the research, it can be analyzed, according to Figure 2, that until 2005, there was no research on this theme and that, as of that year, studies began to be developed.

Furthermore, it is interesting to note that 2016 had the highest number of publications. This can be explained because, according to the United Nations Conference on Trade and Development (UNCTAD, 2021) report, there was a significant increase in internet use worldwide due to the spread of 3G and 4G networks and the low cost of internet services in 2016. Considering this, according to the report, several studies began to explore the relationship between the internet and trade and digitization, the measurable impacts of the internet on the economic and institutional context, and how the internet could improve firms' export performance. With that, they found a positive correlation between internet usage and the expansion of trade flows, e-commerce, and e-service, for example.

In addition, the graph illustrates that 2020 was the year in which the highest number of citations was obtained in the research time horizon. It is worth noting that this result can be explained by the pandemic crisis, when services on websites began to have significant relevance worldwide. A significant increase in online shopping was expected after the adoption of the preventive measure of social isolation. Given this, even consumers who were not used to shopping online had to learn to use technology to make purchases (Saleh & Yazan, 2019; Teymourifar et al., 2020; Wright et al., 2021).

**Figure 2.** Evolution of citations and publications over time



Source: Authors (2024).

Table 3 lists the most cited studies from the Web of Science. The most cited research was by Parasuraman et al. (2005), with 1,525 citations, followed by Collier and Bienstock (2006), with 444 citations. Parasuraman et al. (2005) measured the quality of service provided by websites where customers shop online. The work of Collier and Bienstock (2006) aims to extend the work on the quality of electronic services to cover not only the interactivity of websites or the quality of the process, but also the quality of results and retrieval. Finally, the third most cited study, with 372 citations, is the research of Bauer et al. (2006), which applies a model for electronic services (eTransQual) that captures all phases of the service delivery process.



**Table 3.** Most cited research on the subject

Title	Authors	Publication Year	Citations
E-S-QUAL - A multiple-item scale for assessing electronic service quality	Parasuraman, A, Zeithaml, V. A., & Malhotra, A.	2005	1525
Measuring service quality in e-retailing	Collier, J. E., & Bienstock, C. C.	2006	444
eTransQual: A transaction process-based approach for capturing service quality in online shopping	Bauer, H. H., Falk, T., & Hammerschmidt, M.	2006	372

Source: Authors (2024).

The authors who publish the most are: Marimon, F. (10 records - 11.364%), Kim, JH and Yaya, LHP (both with 4 records - 4.545%). Among the countries that published the most are the United States (15 records - 17.045%), India (13 records - 14.773%), and Spain (12 records - 13.636%). Brazil is ranked 11th with two records (2.273%). All conferences in the results brought only one record as an academic contribution.

The universities that publish the most are the Universitat Internacional de Catalunya Uic (10 records - 11.364%) and Universitat de Girona (5 records - 5.682%), both located in Spain, and the University of South Carolina Columbia and University of South Carolina System (both with 4 records - 4.545%), located in the United States. The agency that funds the most research is the National Natural Science Foundation of China NSFC (3 records - 3.409%). Finally, the areas that contributed the most were Business and Management (79 records - 89.773%) and Engineering (9 records - 10.227%).

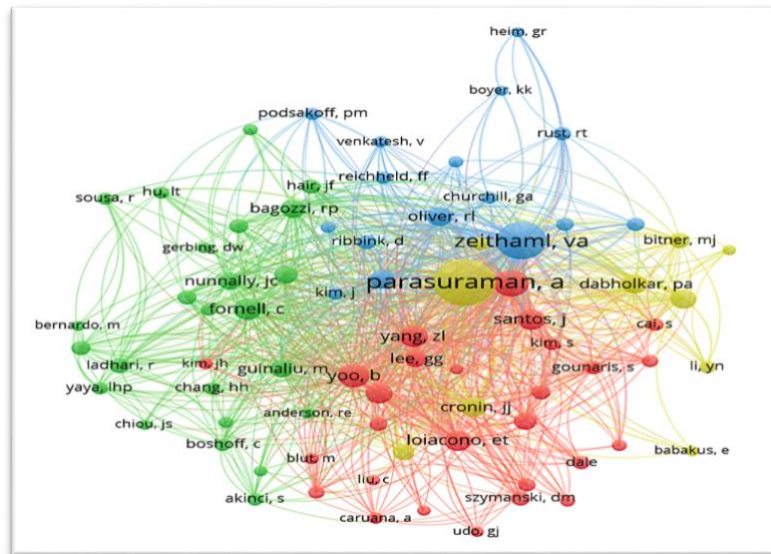
The keywords revealed characteristics of the research for better clustering and classification. Figure 3 shows a wordcloud representing the keyword frequency relation elaborated by the TagCrowd tool, extracted from the keywords of documents in the Web of Science database. Thus, it is possible to note that the highlighted terms are consumer, customer, e-service, loyalty, model, multiple-item, online, perceptions, quality, satisfaction, scale and service.

**Figure 3.** Wordcloud of the keywords extracted from the articles

Source: Authors (2024).

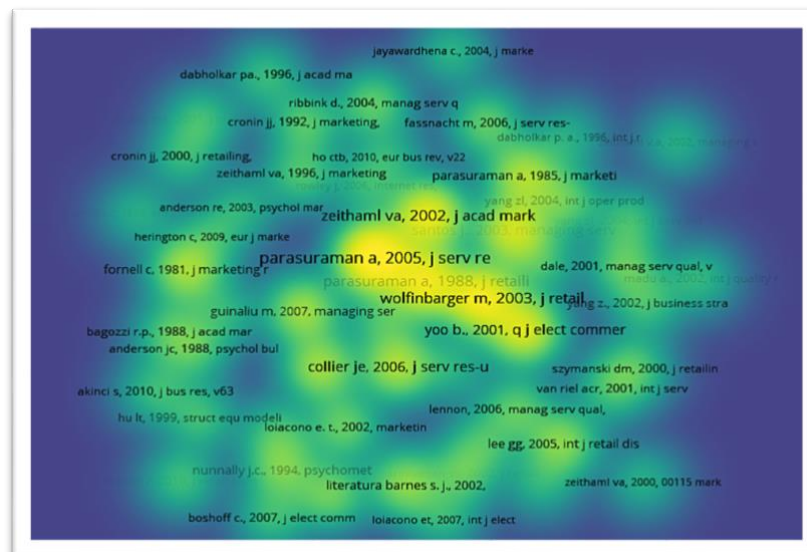
### **Phase 3 – Detailing, integrating model and evidence validation**

Once the initial characteristics of the theme have been established, more in-depth analysis can be conducted to gain a better understanding of the research focus, as well as select those authors that are relevant in the research, the main methods, approaches and lines of research, validation via evidence and delivery of the integrative model by comparing the results from different sources (Mariano & Rocha, 2017). In addition, according to Mariano and Rocha (2017), new bibliometric indices are needed that can be analyzed (co-citation, coupling) to identify relationships between authors, for example. Co-citation analysis checks articles that are regularly cited together and may suggest a similarity between these studies (Figure 4).

**Figure 4.** Article co-citation network map

Source: Authors (2024).

This network map, where each group or cluster is shown, brings a certain approach and similarity between the studies, as the lines form the relationship of a work with others. For a better illustration, one can work with the heat maps or density visualization (Figure 5).

**Figure 5.** Article co-citation density map

Source: Authors (2024).

It is interesting to note the significant proximity between three groups of articles. The first group includes the works of Parasuraman et al. (2005), Parasuraman, Zeithaml, and Berry (1988), Wolfinbarger and Gilly (2003), Zeithaml, Parasuraman, and Malhotra (2002), and Yoo and Donthu (2001). The second group consists of Parasuraman, Zeithaml, and Berry (1985), Yang, Jun, and Peterson (2004), and Santos (2003). Finally, the third group includes Collier and Bienstock (2006) and Bauer, Falk, and Hammerschmidt (2006). These relationships indicate that these authors are generally cited as having similar approaches and/or methods.

Figure 6 illustrates coupling, which is nothing more than a measure of the association between two cited publications. They can be seen as documents that have common citations. It should





analyzed. In other words, these dimensions are a compendium of factors that are present in all studies that have an impact on consumer habits.

Parasuraman et al. (2005) present five dimensions among those shown in Table 4: efficiency, fulfillment, system availability, privacy, and responsiveness. This indicates that this article, as much as it is the most significant and pertinent so far, needs to be integrated with other studies for a better investigation of the quality of services provided on websites. This conclusion supports the justification and relevance of the present review

**Table 4.** Dimensions that influence the quality of services provided by websites

Dimension	Attribute	Description	References
Ease of use	1	Ease of buying virtually	(Bressolles et al., 2014; Egala et al., 2021; Finn, 2011; Ghosh, 2018; Hernando & Gunawan, 2021; Kaur et al., 2020; Ketema & Selassie, 2020; Lopes et al., 2019; Tandon et al., 2017; Vos et al., 2014; Zavareh et al., 2012; Zemblytė, 2015)
	2	Ease of being distracted by shopping options	
Website design/ Aspect	3	The websites' services are exciting	(Bauer et al., 2006; Bressolles et al., 2014; Blut, 2016; Dhingra et al., 2020; Fan et al., 2013; Finn, 2011; Ho & Lee, 2007; Khan et al., 2019; Zavareh et al., 2012)
	4	The websites' services are pleasurable	
Online survey	5	Easiness to see negative feedback on social media	(Ayo et al., 2016; Jaiyeoba et al., 2018; Kurt & Atrek, 2012; Lopes et al., 2019; Rafiq et al., 2012; Tsao et al., 2016; Widodo et al., 2019; Zehir & Narcıkara, 2016)
	6	Ease of viewing shopping reviews on the website	
	7	Searching for information about online stores on websites	
Security/Privacy	8	Viewing Publications on social media about Products or services	(Ayo et al., 2016; Bressolles et al., 2014; Blut, 2016; Egala et al., 2021; Ho & Lee, 2007; Khan et al., 2019; Kaur et al., 2020; Ketema & Selassie, 2020; Kurt & Atrek, 2012; Lopes et al., 2019; Malik et al., 2016; Parasuraman et al., 2005; Rafiq et al., 2012; Shahid et al., 2018; Tandon et al., 2017; Zhang et al., 2015)
	9	Expert opinions in the buying decision	
	10	The influence of other people impacts purchasing decisions	
	11	Social media sharing, positive posts about online shopping products	
	12	Opinion sharing on social media	
Personalization	13	Buying from websites is a good option when you have little time	(Fan et al., 2013; Lopes et al., 2019; Shahid et al., 2018; Sundaram et al., 2017; Tandon et al., 2017; Vos et al., 2014; Wijayanti et al., 2018)
Efficiency	14	tradeoff between localization and product purchase	(Belanche et al., 2021; Egala et al., 2021; Hartwig & Billert, 2018; Jaiyeoba et al., 2018; Javed et al., 2018; Kaur et al., 2020; Ketema & Selassie, 2020; Lopes et al., 2019; Parasuraman et al., 2005; Raza et al., 2020; Tsao et al., 2016; Yaya et al., 2017; Zehir & Narcıkara, 2016)
	15	Product availability on websites	
System availability	16	Flexibility due to opening hours	(Ghosh, 2018; Khan et al., 2019; Lopes et al., 2019; Parasuraman et al., 2005; Widodo et al., 2019; Yaya et al., 2017; Hernando & Gunawan, 2021)
Reliability	17	Products with excellent quality	(Bauer et al., 2006; Dhingra et al., 2020; Finn, 2011; Hussien & El Aziz, 2013; Javed et al., 2018; Kaur et al., 2020; Ketema & Selassie, 2020; Palese & Usai, 2018; Raza et al., 2020; Sohn & Tadisina, 2008; Wen et al., 2014; Zemblytė, 2015)
Information	18	Advantage between price and quality	(Ghosh, 2018; Khan et al., 2019; Lopes et al., 2019; Wijayanti et al., 2018)
Responsiveness/ Assurance/ Trust	19	Confidence in shopping on websites	(Finn, 2011; Hussien & El Aziz, 2013; Javed et al., 2018; Kaur et al., 2020; Palese & Usai, 2018; Parasuraman et al., 2005; Shahid et al., 2018; Wen et al., 2014; Widodo et al., 2019)
	20	Trust in shopping on websites processes	

Delivery/ Fulfillment	21	Maximum delivery time	(Blut, 2016; Ghosh, 2018; Handayani et al., 2018; Parasuraman et al., 2005; Sohn & Tadisina, 2008; Widodo et al., 2019; Wijayanti et al., 2018; Yaya et al., 2017; Zemblytė, 2015)
	22	The products are delivered in perfect condition	
	23	The delivery of the products respects the pre-established by the organization	
	24	Guarantee that the product delivered is what was purchased	
	25	Contact delivery person	

Source: Authors (2024).

As the service is about experience, impression or perception, service quality is directly related to a satisfied customer. Therefore, by identifying the attributes and characteristics presented in Table 4, it is possible to investigate and analyze how these factors influence customer consumption, providing managers of organizations with a way to plan improvements in their services.

The “ease of use” dimension is linked to ease of purchase and the distraction or detour of attention that products can cause to consumers when buying online. The ease of use is a measure of the accessibility of a product, system, or service (Hernando & Gunawan, 2021). This refers to the ease with which users can use a service without unnecessary obstacles or barriers (Egala et al., 2021; Hernando & Gunawan, 2021; Kaur et al., 2020).

Through confirmatory factor analysis (CFA), this dimension was validated in the studies of Sohn and Tadisina (2008), Finn (2011), Zemblytė (2015), and Tandon et al. (2017). Taking into consideration exploratory factor analysis (EFA), Kaur et al. (2020) validated this dimension. Regression analysis in the studies of Zavareh et al. (2012), Vos et al. (2014), Bressolles et al. (2014), Egala et al. (2021), and Hernando and Gunawan (2021) showed that this dimension has a significant and positive effect on service quality evaluation and consumer satisfaction. By contrast, using multivariate techniques, Ghosh (2018), Lopes et al. (2019), and Ketema and Selassie (2020) showed that this dimension was a significant predictor of perceived value.

The dimension “website design/aspect” is related to how exciting and enjoyable online shopping services are. Website design refers to the visual appearance of the interface on a website, which involves implementing graphic elements, layouts, colors, and typography, for example, to provide an aesthetic and functional experience to users (Dhingra et al., 2020; Ho & Lee, 2007; Khan et al., 2019). This dimension has been validated by Bauer et al. (2006), Finn (2011), Fan et al. (2013), and Khan et al. (2019) through EFA and CFA, showing a significant positive impact on perceived value and customer satisfaction.

In the studies by Ho and Lee (2007), Zavareh et al. (2012), Bressolles et al. (2014), and Dhingra et al. (2020), this dimension was shown to have strong predictive ability for customer satisfaction and loyalty. Finally, Blut (2016) validated this dimension as a source of adjustment for certain methods previously used in the literature to evaluate online shopping services.

The “online survey” dimension is related to the ease of finding positive and negative feedback, viewing shopping reviews on websites, and searching for information about stores on websites and/or social media (Lopes et al., 2019; Widodo et al., 2019). This dimension refers

to the process of collecting information and resources available on the internet (Jaiyeoba et al., 2018; Widodo et al., 2019). It is nothing more than a simple way by which users and customers in general can access content through search engines within various databases or digital platforms (Jaiyeoba et al., 2018; Tsao et al., 2016; Widodo et al., 2019).

In the studies by Rafiq et al. (2012), Zehir and Narçıkara (2016), Ayo et al. (2016), Jaiyeoba et al. (2018), Lopes et al. (2019), and Widodo et al. (2019), the results indicated that this dimension was validated based on the relationships between e-service quality, customer loyalty, and perceived value. Tsao et al. (2016), on the other hand, validated this dimension with a significant positive effect on the perceived value of the consumer/seller relationship; the perceived value of the consumer/seller relationship has a significant positive effect on online loyalty, while the online shopping experience does not exert a moderating effect on the relationship between website quality and the perceived value of the consumer/seller relationship.

The “security/privacy” dimension is linked to product publications, expert opinions and other people’s influence on the purchase decision. This dimension is a fundamental part of offering security to consumers when shopping online, ensuring that certain products and sites are safe to buy. In the studies of Ho and Lee (2007), Zavareh et al. (2012), Bressolles et al. (2014), and Ayo et al. (2016), this dimension was shown to have strong predictive ability in relation to customer satisfaction and loyalty intention (Parasuraman et al., 2005; Rafiq et al., 2012; Zhang et al., 2015).

Blut (2016) validated this dimension as a source of adjustments to the evaluation criteria. Additionally, through EFA and CFA, Malik et al. (2016), Tandon et al. (2017), Shahid et al. (2018), Khan et al. (2019), and Lopes et al. (2019) validated this dimension. Ketema and Selassie (2020), Kaur et al. (2020), and Egala et al. (2021) showed that this dimension was a significant predictor of perceived value.

The “personalization” dimension is linked to the time each consumer has to make their purchases. It refers to the ability to tailor a service according to a person’s individual preferences, offering a unique experience for each user (Lopes et al., 2019; Shahid et al., 2018; Wijayanti et al., 2018).

The studies by Fan et al. (2013), Vos et al. (2014), Wijayanti, et al. (2018), and Lopes et al. (2019) validated this dimension by pointing out a positive effect on consumer satisfaction. However, Tandon et al. (2017) found that, in addition to satisfaction, this dimension positively affects repurchase intention. Shahid et al. (2018) tested the dimension with structural equations, revealing a positive and significant relationship between service quality, loyalty, and behavioral intentions directly and indirectly via customer satisfaction.

The dimension “efficiency” is linked to the general availability of products on websites. This refers to the ability of a website to make available the products they offer (Parasuraman et al., 2005). This dimension was validated across several studies, including those by Zehir and Narçıkara (2016), Jaiyeoba et al. (2018), Hartwig and Billert (2018), Lopes et al. (2019), Ketema

and Selassie (2020), Kaur et al. (2020), Raza et al. (2020), and Egala et al. (2021), primarily through the relationships between e-service quality, loyalty intentions and perceived value. Additionally, Belanche et al. (2021) validated this dimension using CFA.

The study by Tsao et al. (2016), on the other hand, validated this dimension with a significant positive effect on the perceived value of the consumer/seller relationship, which in turn positively affects loyalty. However, this effect was absent in the online shopping experience. Taking into consideration reliability analysis, regression and Pearson's chi-square, this dimension was validated in Javed et al.'s (2018) research, while Yaya et al. (2017) validated it using the Delphi method, a technique that brings together a group of experts to discuss and reach a consensus on a given subject.

The dimension "system availability" is linked to the flexibility of an always-on service, allowing consumers to make online purchases at their convenience. It refers to the ability of a service to be accessible (Parasuraman et al., 2005) to users when needed, ensuring functional and continuous operations. After conducting EFA and CFA, Khan et al. (2019) showed a significant positive impact on perceived value and customer satisfaction. In addition to that, this dimension was confirmed by Yaya et al. (2017) using the Delphi method. Ghosh (2018) and Lopes et al. (2019) endorsed this dimension as a significant predictor of perceived value using multivariate techniques.

Furthermore, Widodo et al. (2019) point out its confirmation through the relationships between e-service quality, customer loyalty and perceived value. Finally, Hernando and Gunawan (2021) showed that this dimension has a significant and positive effect on service quality evaluation and consumer satisfaction.

The dimension "reliability" is linked to the quality of the products offered by the sites. It refers to meeting the pre-established specifications of a product or service consistently and meeting the expectations, needs, and requirements of consumers (Sohn & Tadisina, 2008; Palese & Usai, 2018; Ketema & Selassie, 2020). CFA (Sohn & Tadisina, 2008; Zemblytė, 2015) and EFA (Kaur et al., 2020) revealed a significant positive impact on perceived value and customer satisfaction, further confirmed by studies such as those by Bauer et al. (2006) and Finn (2011).

According to Dhingra et al. (2020), this dimension was shown to significantly predict customer satisfaction (Hussien & El Aziz, 2013), loyalty, and perceived value (Ketema & Selassie, 2020; Raza et al., 2020). In contrast, Javed et al. (2018) confirmed this dimension considering the statistical analyses of reliability, regression, and Pearson's chi-square. To confirm that this dimension positively influences customer satisfaction and that, in turn, this satisfaction impacts consumer loyalty, Wen et al. (2014) used the structural equation modeling (SEM) technique.

Finally, Palese and Usai (2018) used linear regression to compare the dimensions of service quality between positive and negative consumer opinions, and extracted quantitative qualitative data among users, achieving the objective of their research related to the validation of this dimension.



The “information” dimension is linked to the advantage between product quality and price. It refers to a strategy that aims to offer consumers products or services that present an appropriate combination of the price paid and the quality received to achieve customer satisfaction, perceived value, competitiveness, and loyalty (Wijayanti et al., 2018; Ghosh, 2018; Khan et al., 2019; Lopes et al., 2019). This dimension was confirmed in Wijayanti et al. (2018) and Lopes et al. (2019), showing a positive impact on its relationship and consumer satisfaction. This dimension was validated through CFA and EFA by Khan et al. (2019) and further supported by Ghosh (2018) using multivariate techniques.

The dimension “responsiveness/assurance/trust” is linked not only to credibility and trust in the purchases themselves but also to the purchasing processes on websites. It refers to the readiness and agility with which an organization responds to needs to quickly and efficiently meet customer expectations, thereby generating trust and confidence (Parasuraman et al., 2005; Widodo et al., 2019; Kaur et al., 2020). Hussien and El Aziz (2013) showed that the mentioned dimension had a significant effect on customer satisfaction (Parasuraman et al., 2005) and loyalty. Some statistical techniques were considered for the confirmation of this dimension, namely, CFA (Finn, 2011), EFA (Kaur et al., 2020), SEM (Wen et al., 2014; Shahid et al., 2018), linear regression (Palese & Usai, 2018), reliability analysis, and Pearson’s chi-square (Javed et al., 2018). Finally, this dimension was confirmed through the relationships among e-service quality, client loyalty intentions, and perceived value in the studies presented by Widodo et al. (2019).

The dimension “delivery/fulfillment” is linked to the contacts and maximum deadline of deliveries, the guarantee of receiving what was purchased, and the perfect conditions of deliveries pre-established by the organization. This refers to the transportation of products and services that are made available to customers to informed locations (Parasuraman et al., 2005; Wijayanti et al., 2018; Ghosh, 2018; Widodo et al., 2019). Studies by Sohn and Tadisina (2008) and Zembyltė (2015) validated this dimension through confirmatory factor analysis. In contrast, Ghosh (2018) used multivariate techniques to show that this dimension is a significant predictor of perceived value. Wijayanti et al. (2018), Parasuraman et al. (2005) and Handayani et al. (2018) confirmed this dimension by showing a positive effect on consumer satisfaction. Yaya et al. (2017) validated this dimension using the Delphi method. However, Widodo et al. (2019) obtained this confirmation from the relationships between e-service quality, customer loyalty, and perceived value.

Finally, Blut (2016) introduces this dimension as a source of adjustments and contributions to certain methodologies used earlier in the literature to evaluate online shopping services. Service providers on websites can benefit from these results, because by integrating the identification of these dimensions presented earlier in Table 4, the attributes of the services, and the characteristics that define them, it is possible to assist in developing a better understanding of their customers’ needs. This set of factors may be able to understand and analyze the impact on consumers’ behavioral intentions to buy and/or repurchase, for example, and, from another perspective, help organizations make decisions related to the

implementation of strategies such as resource allocation planning, service improvements, speed of service, expansion of product variety, efficiency in the availability of systems, achieving customer satisfaction and, subsequently, customer loyalty.

The provision of services is something that needs to be innovative in its essence so that additional value is created for the customer in addition to meeting their needs. Care for customer satisfaction extends beyond customer service characteristics, communication, and approach techniques. Satisfaction should stem from a legitimate and appropriate sense of personal achievement.

## CONCLUSION

This study aimed to explore the factors that affect or shape consumer perceptions regarding the services offered by websites. To accomplish it, a bibliometric review was conducted based on the methodology developed by Mariano and Rocha (2017), the Theory of the Consolidated Meta Analytical Approach (TEMAC).

From this perspective, the most relevant authors contributing significantly to the theme under study are identified. Among them, it is interesting to highlight Parasuraman et al. (2005), who developed the E-S-QUAL, a method that has been used in the most important academic research to measure the quality provided by consumers in online services.

Furthermore, it is important to point out that although Parasuraman et al. (2005) is the article with the greatest impact in the area, it has only five dimensions out of the eleven that were found in this review. Thus, it is necessary to join other studies in the search for a better analysis and evaluation of the quality of services provided on websites. These findings confirm the relevance of this study.

After investigating the bibliometric analysis, it was possible to identify the most prolific and impactful journals, key citation characteristics, as well as the countries, universities, agencies, and conferences with the highest contributions. Furthermore, key researchers and their influential studies were identified as essential in the review process.

Finally, armed with all possible and important results, the objective of this study was achieved. Eleven dimensions were identified through these studies, forming the basis for subsequent research. Since this article is not a randomized clinical trial, possible bias analyses resulting from article selection were not used (Sharma et al., 2020).

The limitations of this study stem from the relatively small number of search strings in the Web of Science database. Therefore, this research suggests, as future work, an increase in the number of search keywords, as well as research in other databases, such as Scopus, for example, increasing the number of relevant publications indexed, reducing a possible bias in the results. In addition, the context of online shopping is significantly dynamic, with constant technological advances and changes in consumer behavior. As a result, a limitation would be the possible outdatedness of the data if the most recent trends are not considered. For this research to become more robust, it is suggested that a questionnaire be drawn up and applied in the future to validate the results; that inclusion and exclusion criteria be clearly defined when selecting relevant articles; and that the article be updated to reflect new trends.

In terms of managerial implications, this study has important implications for the formation of investments in the services provided to better serve customers. This qualification enables employees and/or systems to better meet customers' needs. With the discovery of the

dimensions that impact consumers, organizations will have a more complete perception of their services, and from this, they can develop action plans for improvements to generate a better-quality structure, comprising services with higher quality, safety, credibility, and responsiveness to customers.

With this research, organizations can improve customer experience through ease of use of the platform, security, logistics, rapid response to deliveries and personalization, and by developing intuitive interfaces to improve the act of purchasing. In addition, more effective marketing strategies, such as market segmentation and customer retention, can be devised by considering consumer trends and preferences. Finally, exploring innovation through the adoption of artificial intelligence can help identify market gaps that can be leveraged for competitive advantage.

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