

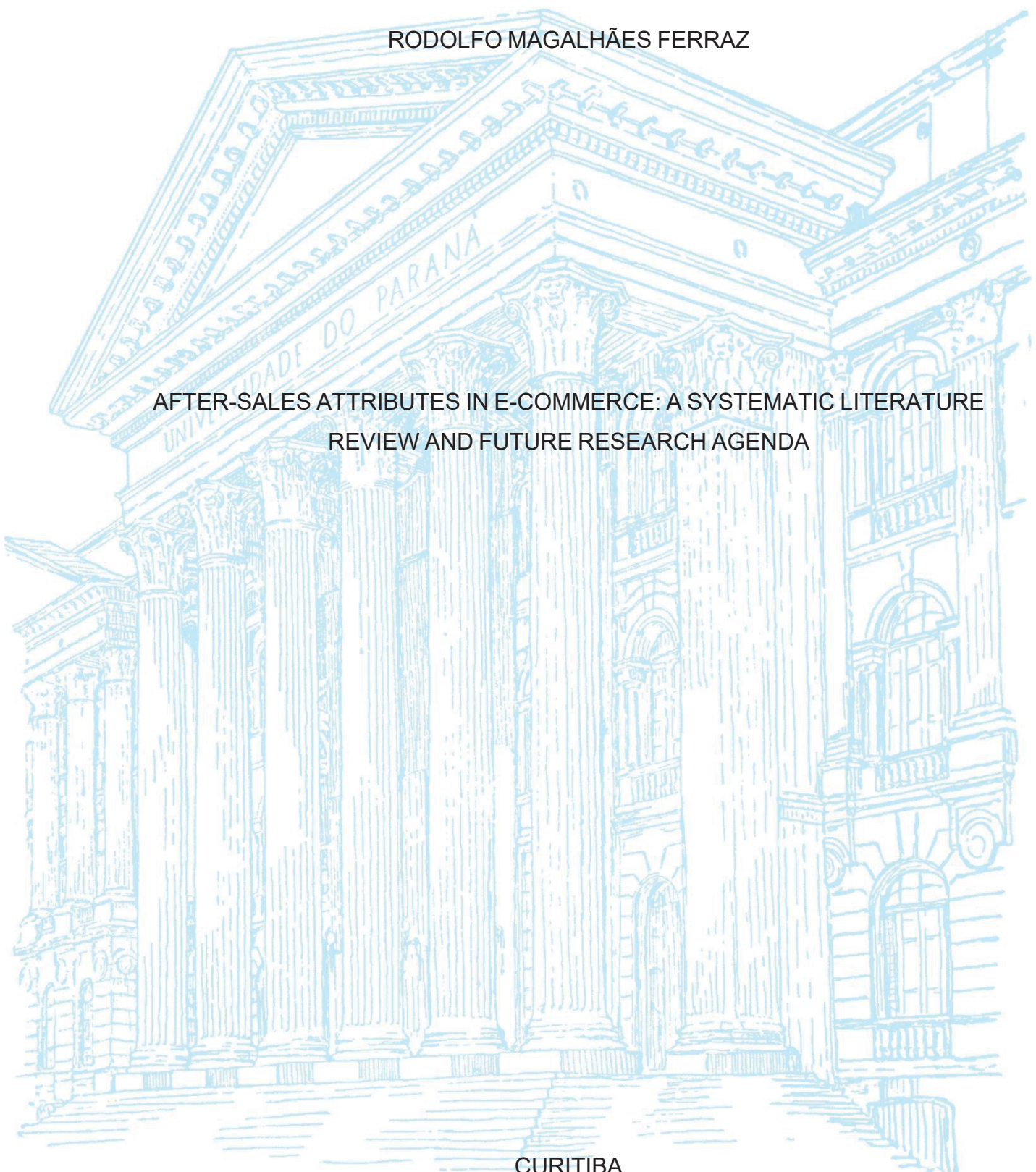
UNIVERSIDADE FEDERAL DO PARANÁ

RODOLFO MAGALHÃES FERRAZ

AFTER-SALES ATTRIBUTES IN E-COMMERCE: A SYSTEMATIC LITERATURE  
REVIEW AND FUTURE RESEARCH AGENDA

CURITIBA

2023



RODOLFO MAGALHÃES FERRAZ

AFTER-SALES ATTRIBUTES IN E-COMMERCE JOURNEY: A SYSTEMATIC  
LITERATURE REVIEW AND FUTURE RESEARCH AGENDA

Dissertação apresentada ao curso de Pós-Graduação em Gestão de Organizações, Liderança e Decisão, Setor de Ciências Sociais Aplicadas, Universidade Federal do Paraná, como requisito parcial à obtenção do título de Mestre em Gestão de Organizações, Liderança e Decisão.

Orientador: Prof. Dr. Claudimar Pereira da Veiga

Coorientador: Profa. Dra. Cássia Rita Pereira da Veiga

CURITIBA

2023

DADOS INTERNACIONAIS DE CATALOGAÇÃO NA PUBLICAÇÃO (CIP)  
UNIVERSIDADE FEDERAL DO PARANÁ  
SISTEMA DE BIBLIOTECAS – BIBLIOTECA DE CIÊNCIAS SOCIAIS APLICADAS

Ferraz, Rodolfo Magalhães

After-sales attributes in e-commerce : a systematic literature review and future research agenda / Rodolfo Magalhães Ferraz. – Curitiba, 2023.

1 recurso on-line : PDF.

Dissertação (Mestrado) – Universidade Federal do Paraná, Setor de Ciências Sociais Aplicadas, Programa de Pós-Graduação em Gestão de Organizações, Liderança e Decisão.

Orientador: Prof. Dr. Claudimar Pereira da Veiga.

Orientadora: Profa. Dra. Cássia Rita Pereira da Veiga.

1. Venda. 2. Compra. 3. Comportamento do consumidor. 4. Comércio eletrônico. I. Veiga, Claudimar Pereira da. II. Veiga, Cássia Rita Pereira da. III. Universidade Federal do Paraná. Programa de Pós-Graduação em Gestão de Organizações, Liderança e Decisão. IV. Título.

Bibliotecária: Maria Lidiane Herculano Graciosa CRB-9/2008



MINISTÉRIO DA EDUCAÇÃO  
SETOR DE CIÊNCIAS SOCIAIS E APLICADAS  
UNIVERSIDADE FEDERAL DO PARANÁ  
PRÓ-REITORIA DE PESQUISA E PÓS-GRADUAÇÃO  
PROGRAMA DE PÓS-GRADUAÇÃO GESTÃO DE  
ORGANIZAÇÕES, LIDERANÇA E DECISÃO - 40001016172P9

## TERMO DE APROVAÇÃO

Os membros da Banca Examinadora designada pelo Colegiado do Programa de Pós-Graduação GESTÃO DE ORGANIZAÇÕES, LIDERANÇA E DECISÃO da Universidade Federal do Paraná foram convocados para realizar a arguição da Dissertação de Mestrado de **RODOLFO MAGALHÃES FERRAZ** intitulada: **After-Sales Attributes in E-Commerce: A Systematic Literature Review and Future Research Agenda**, sob orientação do Prof. Dr. CLAUDIMAR PEREIRA DA VEIGA, que após terem inquirido o aluno e realizada a avaliação do trabalho, são de parecer pela sua APROVAÇÃO no rito de defesa.

A outorga do título de mestre está sujeita à homologação pelo colegiado, ao atendimento de todas as indicações e correções solicitadas pela banca e ao pleno atendimento das demandas regimentais do Programa de Pós-Graduação.

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04/04/2023 14:59:53.0

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04/04/2023 15:46:26.0

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05/04/2023 09:50:44.0

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## **AGRADECIMENTOS**

Primeiramente gostaria de agradecer à minha esposa, Talita, e à minha filha, Esther, por estarem firmes ao meu lado desde o início desta jornada. Foi uma trilha intensa, a qual exigiu muita renúncia, paciência e, sobretudo, compreensão das duas. Elas foram parceiras exemplares durante estes dois anos.

Agradeço também, em especial, à minha mãe, Filó, a meu pai, Wilson, e a meu irmão, Léo, por serem fontes de inspiração e por sempre me incentivarem a buscar mais conhecimento e a batalhar para atingir os meus objetivos. Meus pais sempre colocaram minha educação em primeiro lugar e, certamente, se aqui estou hoje, alcançando este título de mestre, devo muito a eles.

Não poderia deixar de enaltecer, de maneira também muito especial, a participação ativa de meus orientadores nesta trajetória. Estes foram e são grandes professores, que desafiam o aluno e que estão sempre disponíveis, atentos e prontos para juntos buscarmos o melhor caminho nesta árdua tarefa de produção de conhecimento e de contribuição para a pesquisa acadêmica. Professor Dr. Claudimar da Veiga e Professora Dra. Cássia da Veiga, meu muito obrigado por todas as trocas, pelas inúmeras contribuições feitas e por todo o direcionamento dado ao longo deste projeto. Em um futuro breve espero poder dividir desafios e participar de outras pesquisas com vocês.

Importante destacar e agradecer também a todo o corpo docente, discente e técnico da Universidade Federal do Paraná, fundamentalmente aos integrantes do Programa de Pós-Graduação em Gestão de Organizações, Liderança e Decisão.

Por fim, um agradecimento especial ao meu amigo e colega de mestrado Thales Furquim, que foi um grande companheiro desde o início do mestrado profissional, sempre presente e me apoiando nos trabalhos, projetos e nas pesquisas. Muita coisa construímos juntos. Valeu! E também, ao professor Dr. Wesley Vieira da Silva, da Universidade Federal de Alagoas, e à mestre e doutoranda Fabíola Kaczam, da Universidade Federal de Santa Maria, que foram grandes professores em metodologia de pesquisa, com destaque para orientações em Revisão Sistemática de Literatura. Obrigado por compartilharem o conhecimento de vocês e obrigado pelas contribuições diretas e indiretas para minha pesquisa.

## RESUMO

Nos últimos anos, o comércio eletrônico assumiu um papel mais estratégico e relevante no que diz respeito ao bom desempenho do setor varejista global. As facilidades e conveniências oferecidas pelo varejo eletrônico contribuem para atender às demandas de um consumidor mais conectado. No entanto, é necessário considerar a natureza complexa do mercado on-line, que exige que os varejistas eletrônicos se desafiem a criar conexões mais fortes com seus clientes para obter maior satisfação. Nesse contexto, os serviços oferecidos no pós-venda, uma das etapas mais relevantes da jornada de consumo, podem ajudar a reduzir os impactos negativos passíveis de ocorrência na experiência de compra on-line. O pós-venda no e-commerce é um domínio de pesquisa que tem ganhado destaque nos últimos anos, e esse amadurecimento no ambiente acadêmico exige uma compreensão mais profunda dessa produção científica. Portanto, para sintetizar os principais insights e sugerir uma agenda para estudos futuros sobre o tema, foi realizada uma Revisão Sistemática da Literatura (RSL) para este estudo, utilizando uma abordagem híbrida, combinando uma revisão estruturada com uma revisão bibliométrica. Uma das principais contribuições desta pesquisa é a apresentação seminal dos atributos do pós-venda no e-commerce, em uma visão global e ampla, com foco na relação varejista-consumidor, aqui denominado *After-sales Customer Services (AFSCS)*. Diferentemente das poucas revisões existentes sobre o tema, este trabalho é inovador porque investiga o pós-compra do e-commerce, os atributos desta etapa e a relação entre varejista e consumidor nesta etapa da jornada de forma mais direta e exclusiva, e de maneira completa.

Palavras-chave: pós-venda; pós-compra; e-commerce; comportamento do consumidor.

## **ABSTRACT**

In recent years, e-commerce has assumed a more strategic and relevant role with regard to the good performance of the global retail industry. The facilities and conveniences provided by e-tail contribute to meeting the demands of a more connected consumer. However, it is necessary to consider the complex nature of the online market, which requires e-retailers to challenge themselves in order to create stronger connections with their customers to achieve greater customer satisfaction. In this context, the services offered in the after-sales phase, one of the most relevant stages of the consumer journey, can help reduce the negative impacts involved in the decision and experience of an online purchase. The post-sale in e-commerce is a research domain that has become increasingly prominent in recent years, and this maturation in the academic environment requires a deeper understanding of this scientific production. Therefore, to synthesize the main insights and suggest an agenda for future studies of this theme, a Systematic Literature Review (SLR) was conducted for this study using a hybrid approach, combining a structured review with a bibliometric review. One of the main contributions of the research is the seminal presentation of after-sales attributes in e-commerce, in a global and broad view, focusing on the retailer and consumer relationship, referred to herein as After-sales Customer Services (AFSCS). Unlike the other few existing reviews regarding the theme, this work is innovative because it investigates the e-commerce post-purchase, the attributes of this stage, and the relationship between retailer and consumer at this stage of the journey in a more direct, exclusive, and complete way.

Keywords: after-sales; post-purchase; post-sales; e-commerce; consumer behavior

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## LISTA DE ABREVIATURAS OU SIGLAS

AFSCS	- <i>After-sales customer services</i>
BCA	- <i>Bibliographic Coupling Analysis</i>
BOPS	- <i>Buy-Online-Pickup-In-Store</i>
BTC	- <i>Business-to-consumer</i>
DHC	- <i>Descending Hierarchical Classification</i>
ECT	- <i>Expectation-Confirmation Theory</i>
eWOM	- <i>e-Word-of-Mouth</i>
OCR	- <i>Omnichannel Retail</i>
SLA	- <i>Service Level Agreement</i>
SLR	- <i>Systematic Literature Review</i>
SPAR-4-SLR <i>Reviews</i>	- <i>Scientific Procedures and Rationales for Systematic Literature</i>
WOS	- <i>Web of Science</i>

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## 1 INTRODUCTION

The advent of the internet and its dynamic transformation and expansion have contributed to a new marketing environment and new forms of relationships between brands and consumers (VERHOEF et al., 2017; KUMAR; ANJALY, 2017). In this context, e-commerce plays a leading role in the retail industry (PASQUALI, 2022), and has experienced expressive growth in recent years (VERHOEF et al., 2015; JONES; LIVINGSTONE, 2018; GAWOR; HOBERG, 2019). In the first year of the COVID-19 Pandemic, more than 2 billion people made purchases in global online retail, which grew in 2021 (COPPOLA, 2021). Brands benefit from the broad reach potential of the internet (STRAUSS; FROST, 1999), and digital consumers gain from the convenience and ease of e-tailing, which facilitates the adoption of new forms of consumption (SILVA; MARTINS; SOUSA, 2018). The more connected consumers (VERHOEF et al., 2017) and the increased competitiveness of e-commerce (JAVED; WU, 2020) demand from the e-tailers the ability to establish stronger connections with their customers in the pursuit of greater consumer satisfaction (ROWELL; KESSLER; BERKE, 2020; POSSLET; GERSTNER, 2005; LI; WEI; LEKHAWIPAT, 2018; STÖCKER; BAIER; BRAND, 2021).

The lack of human contact, the physical distance, the inability to touch, taste or try the product before making the decision (HONG; PAVLOU, 2014; DAVARI; IYER; ROKONUZZAMAN, 2016), and the more cautious and skeptical attitude of certain consumers to online purchases (LU et al., 2018) make the e-commerce environment more challenging. In this complex context, services offered at the post-sale stage can help reduce the negative impacts surrounding online purchase decisions and consumer satisfaction (CHEN; HU; WEI, 2017). The post-sale, post-purchase, or after-sales is one of the stages of the online consumption journey (CAO; GRUCA, 2004) and encompasses everything that happens after the checkout of the digital purchase, such as the delivery process, order tracking, cancellation, and withdrawal decisions during this journey, reverse processes (exchanges and returns after-receipt or, simply, reverse logistics), technical assistance, and support for the consumer concerning adjustments and corrections regarding the purchase (CAO; GRUCA, 2004; ALZOLA; ROBAINA, 2010).

Some important studies have been conducted in this research domain, devoting effort to delving into the subject of reverse logistics, delivery and even recall, and the effects of these topics in promoting greater consumer satisfaction (JAVED; WU, 2020; WOWAK; BOONE, 2015; ABDULLA; KETZENBERG; ABBEY, 2019; LAMBA et al., 2020). Other studies, however, have focused on a complementary approach to the other stages of the online consumption journey (POSSELT; GERSTNER, 2005; LAMBA et al., 2020; JAVED et al., 2020). In their research on the impact of purchase satisfaction on online retail, Posselt and Gerstner evaluated this behavior at different stages of the consumer journey, considering pre- and post-sales [12]. Alzola and Robaina, in turn, also analyzed the impacts of pre-sales and post-sales services and assistance, assessing the dependence and influence of the stages on each other and highlighting, based on their findings, the fundamental role of good performance in the pre-sales phase to be successful in retail (ALZOLA; ROBAINA, 2010).

Although few studies have focused exclusively on this theme of after-sales, the topic is strategic in the context of e-commerce (ALZOLA; ROBAINA, 2010), and the recent maturation of the theme in the academic environment (PAUL et al., 2021) requires a deeper understanding of this scientific production. Considering this gap, the primary objective of this work is to conduct a systematic literature review on after-sales in the context of e-commerce, using a hybrid approach, combining a structured review with a bibliometric review, which can be characterized as a domain-based review (PAUL et al., 2021). With the development of this general goal, the intention is to synthesize the main insights and suggest an agenda for future research of after-sales in the context of e-commerce. This is done using a trend and thematic analysis, word cloud analysis, typological, bibliometric and descriptive analyses of the corpus and bibliographic coupling analysis. The main contribution of these analyses is the seminal presentation of after-sales attributes in e-commerce, which are presented from a global perspective, considering the retailer-consumer relationship. Here in this study they are referred to as After-sales Customer Services (AFSCS). In addition, it is possible to achieve a more accurate view of how the study of the subject has evolved, as well as its trends and possible gaps that will be addressed in future studies.

It is important to highlight the unprecedented nature of this study. From the searches conducted, no review was found that investigates the e-commerce post-purchase, its attributes, and the relationship between retailer and consumer at this

stage of the journey in a more direct and complete manner, reinforcing the relevance of the research. De Borba et al. (2021), despite addressing in their review the same stage of the customer journey explored in this article, turned to the aspect of returns and its barriers in the context of omnichannel. Other reviews have also addressed certain aspects of the post-purchase (WOWAK; BOONE, 2015; ABDULLA; KETZENBERG; ABBEY, 2019; AHSAN; RAHMAN, 2022; RISBERG, 2022; TITIYAL; BHATTACHARYA; THAKKAR, 2022), but in a more specific way and directed at processes or specific elements of this journey, not addressing the same objectives as this study.

The article is structured into the following sections: The next section discusses the method and procedures applied. The third section presents the analyses obtained through the structured review process, followed by a discussion of the results. The fifth section contains the final considerations and the agenda for future studies, which enriches the academic literature (PAUL et al., 2021).

## **2 METHODOLOGICAL PROCEDURES**

Through a Systematic Literature Review, the research is afforded a more comprehensive view of scientific studies that directly address the after-sales stage in e-commerce. The SPAR-4-SLR protocol (PAUL et al., 2021) is applied, and the review is conducted in three sequential steps: (i) assembling; (ii) arranging; and (iii) assessing. Within this path, a hybrid approach is followed, combining a structured review with a bibliometric review, both manifestations of what may be called a domain-based review (PAUL et al., 2021) and addressing the main research objectives.

### **2.1. FIRST STEP: ASSEMBLING**

The work included the selection of articles that involved empirical research within the domain of after-sales in the context of e-commerce. Although few studies have focused exclusively on this theme, several important studies have been conducted in this research domain, albeit in a complementary approach to the other stages of the online consumption journey (POSSELT; GERSTNER, 2005; LAMBA et al., 2020; JAVED et al., 2020). The topic is strategic in the e-commerce context, and

the recent maturation of the theme in the academic environment (PAUL et al., 2021) justifies the need for a review that synthesizes the main insights and provides directions for future research.

To achieve the proposed objectives, the review involved the selection of articles available in the Scopus and Web of Science databases, which allow for a wide coverage of the scientific literature (AGHAEI CHADEGANI et al., 2013; CHERSAN et al., 2020). After a review among authors, conversations with experts, and a search for references in papers addressing the topic, keywords were obtained and composed of two groups separated by the Boolean operator “AND.” The first group was composed of variations of the word “after-sales,” and the second group was made up of variations of the word “e-commerce,” present in the title, the abstract, or the keywords of the publications. In addition, it is important to point out that there was no temporal delimitation, nor a delimitation of specific fields of scientific knowledge, which allowed us to understand the evolution of the theme over the years and conduct a more complete investigation (FINNEGAN et al., 2016). On the other hand, this paper used publications in the English language as an inclusion criterion. Table 1 details the string and findings of this first search.

Database	String	Result
Scopus	TITLE-ABS-KEY ((“after sale*” OR “after-sale*” OR “aftersale*” OR “post purchase” OR “post-purchase” OR “post sale*” OR “post-sale*”) AND (“digital commerce” OR “ecommerce” OR “e-commerce” OR “electronic commerce” OR “digital sale*” OR “digital retail*” OR “e-retail*” OR “online retail*” OR “online shopping” OR “e-tail*” OR “electronic retail*” OR “e-shopping” OR “eshopping” OR “electronic shopping” OR “internet retail channel” OR “e-procurement” OR “web retail*” OR “electronic marketplace”)) AND (LIMIT-TO (LANGUAGE, “English”))	177
Web of Science	TS = ((“after sale*” OR “after-sale*” OR “aftersale*” OR “post purchase” OR “post-purchase” OR “post sale*” OR “post-sale*”) AND (“digital commerce” OR “ecommerce” OR “e-commerce” OR “electronic commerce” OR “digital sale*” OR “digital retail*” OR “e-retail*” OR “online retail*” OR “online shopping” OR “e-tail*” OR “electronic retail*” OR “e-shopping” OR “eshopping” OR “electronic shopping” OR “internet retail channel” OR “e-procurement” OR “web retail*” OR “electronic marketplace”))	115

TABLE 1 – Research String and Results

SOURCE: Author (2023)

During the planning and execution of this step, an important task was to verify the existence of any literature review with similar objectives to those of the present work. To do so, from the search with the main string, we filtered all articles that were

categorized as review articles, regardless of other classifications. Nine review articles were found within the theme in the Scopus database and five in the Web of Science database, totaling 11 literature reviews after eliminating duplicate articles. Overall, it can be stated that none of the 11 literature reviews found in the initial selection addressed the specific relationship between the post-sales journey and e-commerce. While some of these papers did not meet the criteria for classification as a literature review (ZHAO et al., 2020; ZHANG et al., 2021), others explored consumer behavior and its relationship with e-commerce without delving into the post-purchase stage (HWANG; JEONG, 2016) or addressed different perspectives from the one proposed by the present paper, such as information systems (HWANG; JEONG, 2016) or the supply chain in e-commerce (AGATZ; FLEISCHMANN; VAN NUNEN, 2008). Other literature reviews that were found addressed only certain elements of post-purchase (WOWAK; BOONE, 2015; ABDULLA; KETZENBERG; ABBEY, 2019; DE BORBA, 2021; AHSAN; RAHMAN, 2022), not focusing on the same objectives as the present study. All these review papers were excluded from the present research.

## 2.2. SECOND STEP: ARRANGING

In the second stage of conducting the literature review, the present work adopted inclusion criteria for choosing the documents that would compose the final text corpus, as detailed in Figure 1. Duplicate articles (100 duplicate articles), those without a Digital Object Identifier (DOI) (22 articles), and in press articles (10 surveys) were removed. Articles without a DOI and in press were excluded from the text corpus to ensure a rigorous international academic standard and because of the difficulty involved in finding the full version for research purposes. Moreover, the DOI was also considered as a criterion for qualification, as it ensures authenticity, greater international visibility and relevance. The DOI also enables easier tracking on the internet, and makes it easier to access the full article, with information on the issue, volume and page number.

The resulting 160 articles were submitted to content analysis in order to verify four other inclusion criteria: (1) if the research was empirical; (ii) if the article adhered to the objectives of the present paper, i.e., if there was a correlation between the two groups of keywords used in Section 2.1 “First Step: Assembling”; (iii) if the evaluation



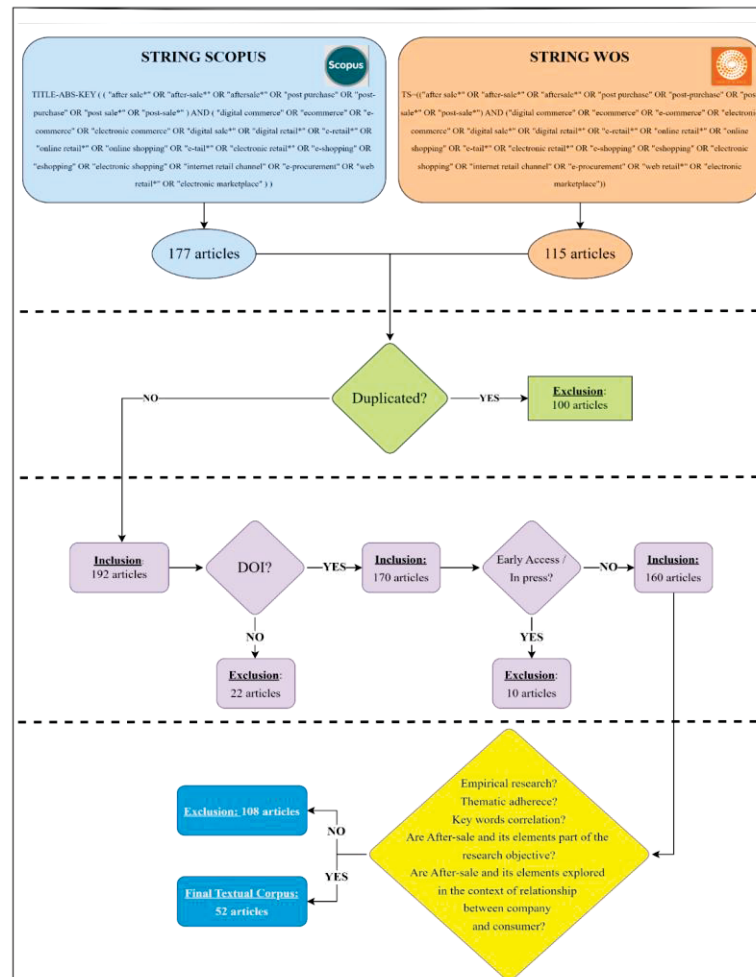
of the after-sales step was part of the research objective of the previously selected paper; and (iv) if the research was conducted from the Business-to-Consumer (BTC) perspective. These inclusion criteria were evaluated by two independent reviewers. Disagreements were resolved by consultation with a third reviewer. A total of 108 articles were excluded, and the subsequent steps of this work followed with 52 articles, listed in Appendix A.

### 2.3. THIRD STEP: ASSESSING

In the third step of conducting the literature review, the final text corpus was analyzed by means of a hybrid approach involving structured review and bibliometric study. To do so, the reviewers re-evaluated all the articles selected in the “Second Step: Arranging”. They identified the main themes discussed in each article to create a unified list and a convergence coding matrix to summarize similarities and differences directly related to the research topic in the different articles. All the articles were ranked based on comparisons between the coding of the two reviewers, and a consensus was reached after three rounds of discussion. The qualitative clustering of the 52 articles considered only issues directly related to the research topic, although the scope of the articles analyzed could be much broader. Four clusters related to after-sales services in the e-commerce BTC relationship were formed: (i) fulfillment; (ii) return and refund; (iii) customer support; and (iv) ratings and comments.

The structured review produced a synthesis of the content (PAUL et al., 2021) for each cluster, while the bibliometric study identified the trends in the development of the academic literature on the subject, its evolution over the years, and other information of a descriptive, considering data on publications, journals, authors, and geographical reference (PAUL et al., 2021). A bibliographic coupling analysis was also performed to enrich the literature review. The present work was supported by software such as Bibliometrix, Excel, Iramuteq, Vosviewer, and Voyant Tools (FABRIZIO et al., 2022; BASTIAN; HEYMANN; JACOMY, 2009; DE SOUSA et al., 2018).

Figure 1: Diagram summarizing the methodology of the systematic review.



SOURCE: Author (2023)

### 3 RESULTS

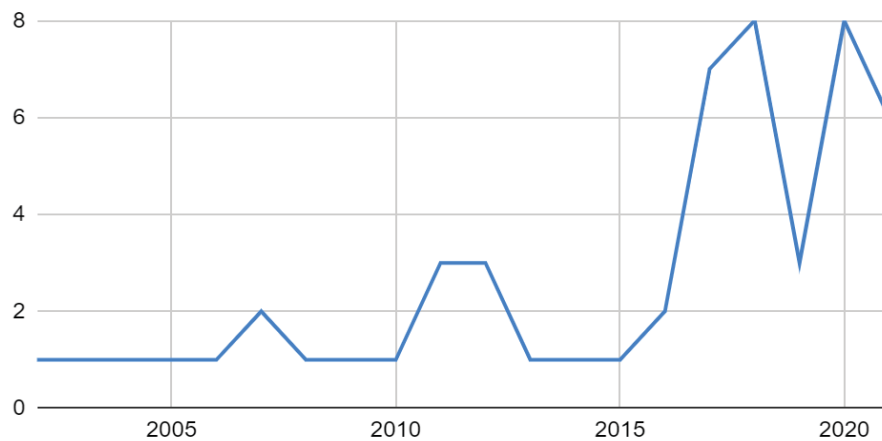
#### 3.1. STRUCTURED REVIEW

##### 3.1.1 Trends and Thematic Analysis: After-sales customer services

Considering the retailer and consumer relationship, the post-sale is the stage of the purchase journey that encompasses everything that happens after the purchase process (ZEITHAML; BERRY; PARASURAMAN, 1996; PARASURAMAN; ZEITHAML; MALHOTRA, 2005; PARK; CHO; RAO, 2012; PARK; CHO; RAO, 2015). When relating this same stage of the e-commerce journey, researchers define it similarly, being

distinct when referencing new elements that arise in the context of the online relationship. In this context, the post-sale begins after the final click in the shopping cart, or checkout, the moment when the order is monitored, delivery is guaranteed within the agreed period, and the retailer provides all the support and services to answer the questions and make corrective actions demanded by the consumer (CAO; GRUCA, 2004; ALZOLA; ROBAINA, 2010; JIANG; ROSENBLOOM, 2005). Scientific studies involving this stage have been little explored in exclusive academic research (POSSELT; GERSTNER, 2005; JAVED et al., 2020) but have drawn interest from researchers in recent years (JAVED; WU, 2020; WOWAK; BOONE, 2015; ABDULLA; KETZENBERG, 2019; LAMBA et al., 2020). Although there is an exception (BURROUGHS; SABHERWAL, 2002), the academic perspective shows the strategic importance of this stage in the consumer journey and the indispensability of good after-sales management for online retail success (CAO; GRUCA, 2004; ALZOLA; ROBAINA, 2010).

Figure 2: Annual publications.



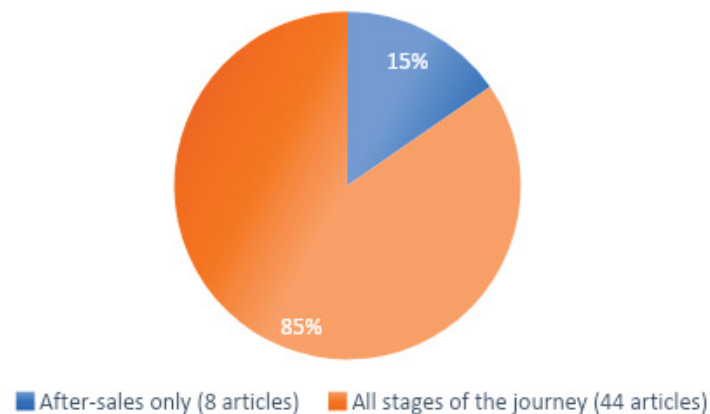
SOURCE: Author (2023)

According to the parameters of this Systematic Literature Review, it can be observed, in Figure 2, that the number of studies on the subject has seen substantial growth since 2017. Until this date, there were few publications that explored the central theme of the correlation between e-commerce and after-sales in either a direct or indirect way. Considering the same text corpus of this research, from 2002 (the first year captured in this review) to 2010, with the exception of 2007, only one article was published annually. The interval from 2011–2021 (the last year considered in this

study) comprises around 80% of all the articles in this study, while the period of 2017–2021 comprises 62% of the entire volume of the text corpus. This shows that the theme, although relevant to the daily lives of organizations, continues to move towards its academic maturation, demonstrating an upward trend for the coming years.

While some research in the textual corpus of this paper evaluates all stages of the online consumer purchase journey (PALACIOS; JUN, 2020; MPINGANJIRA, 2016; KIM, 2012; QAZI et al., 2017), other papers focus on empirical analysis exclusively at the post-sale stage (KUMAR; ANJALY, 2017; JAVED et al., 2020; CAO; AJJAN; HONG, 2018; KUO; WU, 2012; CHEN; MA, 2020; LIN et al., 2020; JACOBSEN, 2018; TSENG, 2017).

Figure 3: Scope of research



SOURCE: Author (2023)

Figure 3 presents the percentage of the occurrence of each of these perspectives. On the other hand, in general, this review points out that the constituent elements of the service pool offered at this stage of the online shopping journey, here called After-sales Customer Services (AFSCS), are present in all the articles selected for the systematic review. These articles use after-sales attributes to assess the role of AFSCS in online consumer behavior, suggesting strategies to retailers on how to attract, retain, and satisfy customers (DING; HU; SHENG, 2011), generate satisfaction and loyalty (CHANG; WANG, 2011) as well as increase perceived usefulness and ease of use (CHANG; WANG, 2011) to maximize transaction volume and reduce costs (DING; HU; SHENG, 2011). Order tracking, a request fulfillment process through logistics services, communication at all stages of the journey, customer service, a process of exchanges, returns and refunds, post-sales evaluations, and comments are

some of the post-sale attributes that make up the AFSCS, which were aggregated qualitatively into four clusters, described in detail below. It is important to point out that many of these attributes listed here can be clustered into smaller groups, considering the moment of the journey in which they occur or considering their thematic similarity. It is also worth highlighting that the protagonism of some of these items can be replaced by the larger concept of the cluster to which they are grouped, which becomes more relevant than discussing the micro attribute.

### 3.1.1.1 Fulfillment

This work considered that all services offered in e-commerce involving click-to-door, i.e., from the moment of purchase until the moment the consumer receives the product, are characterized here as fulfillment. In other words, fulfillment represents the seller's ability to meet the online consumer's demands in a reliable, efficient, and accurate manner (MPINGANJIRA, 2016). This includes the total logistical management of the delivery process, the tracking of what is being delivered, the ability to meet the customer's expectations during the waiting phase, and the fulfillment of the SLA (Service Level Agreement) agreed upon with the consumer (DAVIS-SRAMEK; MENTZER; STANK, 2008; PHAM; AHMMAD (2017). Fulfillment is a factor that cannot be ignored. As stated by certain authors, "fulfillment is an important means to improve one's confidence in online transactions" (CHEN; CHANG, 2003, p. 567).

These AFSCS elements are found, jointly or alternately, in 45% of the analyzed studies (KUMAR; ANJALY; 2017; POSSELT; GERSTNER, 2005; CAO; GRUCA, 2004; ALZOLA; ROBAINA, 2010; PALACIOS; JUN, 2020; MPINGANJIRA, 2016; CAO; AJJAN; HONG, 2018; CHANG; WANG, 2011; PUROHIT; DEOKUJE, 2021; OTIM; GROVER, 2006; NAWI; MAMUN, 2017; DOSPINESCU; DOSPINESCU; BOSTAN, 2021; YUN; GOOD, 2007; GRUPTA; SACHAN; KUMAR, 2020; JIANG; YANG; JUN, 2013; KHALIFA; SHEN, 2009; BI; KIM, 2020; KAUR, 2018; KOTNI, 2017; PHAM et al., 2018; YONGQING et al., 2011; XU; ZENG; HE, 2017; ENDO; YANG; PARK, 2012; FREITAS; SANTOS, 2019), reinforcing this theme's importance for post-sale e-commerce strategies. Most of the evaluated works identified the main determinants of e-satisfaction in the processes related to fulfillment and their potential to promote online consumer satisfaction. Reliability and security were considered

fundamental constructs by consumers and needed to be better explored and ensured at this stage (CAO; GRUCA, 2004). Additionally, among the assumptions agreed upon at the time of purchase, receiving the product that was actually purchased is crucial to the reinforcement of the consumer's post-purchase satisfaction (PALACIOS; JUN, 2020). Other factors that can ensure better control of processes and confirmation of expectations that lead to the e-consumer's satisfaction involve tracking the order (PALACIOS; JUN, 2020; CAO; AJJAN; HONG, 2018; DOSPINESCU; DOSPINESCU; BOSTAN, 2021), periodic notifications through various channels, delivery management by the consumer (the power to change data and request status) (DOSPINESCU; DOSPINESCU; BOSTAN, 2021; FREITAS; SANTOS, 2019), and the possibility of checking the package received together with the delivery person (DOSPINESCU; DOSPINESCU; BOSTAN, 2021). It is also important to emphasize that, when analyzing the current context of omnichannel, studies stress that the convenience of delivery achieved through the choice of channel by the consumer can also be very relevant in the drive for satisfaction in the post-purchase stage (PALACIOS; JUN, 2020).

Studies evaluating online consumer behavior, such as those related to consumer expectancy (JIANG; YANG; JUN, 2013), purchase intention (GRUPTA; SACHAN; KUMAR, 2020; XU; ZENG; HE, 2017), and loyalty represented by repurchase intention (KUMAR; ANJALY, 2017; ALZOLA; ROBAINA, 2010; MPINGANJIRA, 2016; CHANG; WANG, 2011; PUROHIT; DEOKUJE, 2021; OTIM; GROVER, 2006; YUN; GOOD, 2007; BI; KIM, 2020; PHAM et al., 2018), have also been conducted from the fulfillment perspective. It is important to point out that repurchase intention is ultimately the overall goal of many articles evaluated in this systematic review. The relevance and research interest in the topic can be explained by the context in which the role of repeat purchases is becoming more evident in ensuring greater retail sustainability since it increases the lifetime value of the final consumer. Empirical studies prove the direct relationship between the offer of fulfillment services and the promotion of repeat purchases: guaranteed delivery time, delivery quality as expected, and tracking the order are some examples (KUMAR; ANJALY, 2017; CHANG; WANG, 2011; OTIM; GROVER, 2006; YUN; GOOD, 2007). In this movement, services offered by technological tools from SaaS (Software as a Service) companies can help retail managers to minimize the negative experience

resulting from interurrences that are usual in the delivery logistics process (PHAM et al., 2018). Finally, it can be pointed out that in addition to promoting loyalty through repurchase intention, good fulfillment services have the potential to stimulate loyalty through the consumer's positive post-purchase recommendation of the seller (ALZOLA; ROBAINA, 2010).

### 3.1.1.2 Return and Refund

In contrast to fulfillment, which is comprised of the services included in the click-to-door stage, the cluster named return and refund refers to the after-sales services provided after the consumer receives the product. It is important to highlight that some services may be exclusively refunds for specific reasons, such as Price Match Guarantee (PMG) campaigns (LUO; LEE, 2018) or refund plus return that may be present in earlier stages of the post-purchase (LIN et al., 2020; LUO; LEE, 2018). According to Wood (2001), at some point in the consumer's buying journey, the consumer will make a decision about whether or not to keep the product he or she has purchased. Products may be returned for several reasons, and the volume of returned products depends on the type of retail market and the channel in which the commercial transactions occur. In the e-commerce business environment, product returns are even more critical, as the customer does not touch, feel or try the products beforehand (HONG; PAVLOU, 2014; DAVARI; IYER; ROKONUZZAMAN; 2016; SHULMAN; COUGHLAN; SAVASKAN, 2011). Thus, understanding the process that encompasses the complexity of e-commerce and consumer behavior has proven to be indispensable for retail success and sparked considerable interest in academic research (KUMAR; ANJALY, 2017; POSSELT; GERSTNER, 2005; STÖCKER; BAIER; BRAND, 2021; ALZOLA; ROBAINA, 2010; JAVED e al., 2020; PALACIOS; JUN, 2020; CAO; AJJAN; HONG, 2018; CHEN; MA, 2020; LIN et al., 2020; GRUPTA; SACHAN; KUMAR, 2020; JIANG; YANG; JUN, 2013; KHALIFA; SHEN, 2009; BI; KIM, 2020; KAUR, 2018; KOTNI, 2017; XU; ZENG; HE, 2017; FREITAS; SANTOS, 2019; LUO; LEE, 2018; MOHAPATRA; SAHU, 2018; YANG; XIONG, 2019).

In the return and refund cluster, studies were also identified that emphasized efficient management of reverse services, which presupposes reducing them rather than fostering them. These studies have confirmed that by fostering greater online

consumer satisfaction at some stage of the purchase journey, product returns (STÖCKER; BAIER; BRAND, 2021) could be avoided, or monetary incentives could be used as potential substitutes for return intention (STÖCKER; BAIER; BRAND, 2021). For example, promoting consumer satisfaction and an alternative to increasing return rates could be achieved by the use of a virtual fitting room (VFR) (YANG; XIONG, 2019). However, while incentive mechanisms to prevent product returns can be effective in many circumstances, research has shown that they alone do not represent a sustainable competitive advantage since they can be easily copied (STÖCKER; BAIER; BRAND, 2021). In addition to increasing online consumer satisfaction, product return, exchange, and maintenance services have the potential to contribute to the generation of greater trust, loyalty (JAVED et al., 2020), and fidelity (POSSELT; GERSTNER, 2005). Trust has been shown to be an effective mediator in the relationship between consumer satisfaction and loyalty (JAVED et al., 2020).

Appropriate return policies can also be instrumental in ensuring consumer satisfaction after a purchase (KOTNI, 2017; FREITAS; SANTOS, 2019). Moreover, such policies can encourage the initial purchase decision process (MOHAPATRA; SAHU, 2018), setting expectations about the return process as an incentive to convert an online visit into a purchase. On the other hand, it is important to emphasize that the influential role of policies depends on the retail sector in question, as well as the geographical, political, social, and cultural contexts (CAO; AJJAN; HONG, 2018).

Finally, although investments in return and refunds are debated and have controversial results, it is worth considering that efficiency and quality criteria should be observed and practiced to retain customers and lead them to make further visits to the online channel. In this respect, rapid execution, good communication during the entire purchase process, credibility, trust, and an excellent cost-benefit ratio for the consumer can be decisive in the drive for buyer loyalty (ALZOLA; ROBAINA, 2010).

### 3.1.1.3 Customer Support

The cluster named customer support addresses the evaluation of consumer support services, such as customer service, after-sales support, and communication in general, as well as the level of quality of these services involving the retailer's responsiveness (BURROUGHS; SABHERWAL, 2002; FREITAS; SANTOS, 2019).



This cluster encompasses diverse themes and is included in 55% of the articles analyzed in the systematic literature review (KUMAR; ANJALY, 2017; VERHOEF; KANNAN; INMAN, 2015; POSSELT; GERSTNER, 2005; LIN; WEI; LEKHAWIPAT, 2018; CAO; GRUCA, 2004; ALZOLA; ROBAINA, 2010; PARK; CHO; RAO, 2015; BURROUGHS; SABHERWAL, 2002; PALACIOS; JUN, 2020; KIM, 2012; KUO; WU, 2012; CHANG; WANG, 2011; OTIM; GROVER, 2006; NAWI; AL MAMUN, 2017; DOSPINESCU; DOSPINESCU; BOSTAN, 2021; YUN; GOOD, 2007; KHALIFA; SHEN, 2009; BI; KIM, 2020; KAUR, 2018; KOTNI, 2017; ENDO; YANG, 2012; FREITAS; SANTOS, 2019; MOHAPATRA; SAHU, 2018; IQBAL; BHATTI; KHAN, 2018; TAYLOR; DONOVAN; ISHIDA, 2014; TATA; PRASHAR; PARSAD, 2020; LIN; LEKHAWIPAT, 2016; KHALIFA; LIU, 2007; SHAHBAZ; LI; LI, 2020; AL-ADWAN, 2019; CHOUDHURY; KARAHANNA, 2008).

Consumer trust is a well-explored construct in this cluster. Some works demonstrate the role played by sales platforms in their ability to fulfill their psychological contract with the consumer and the power of this contract to generate trust. Fulfilling the psychological contract reflects the consumer's belief that the other party will fulfill its reciprocal obligation in a transactional relationship. It is a concept explored for different types of e-commerce, such as social commerce (SHAHBAZ; LI; LI, 2020; AL-ADWAN, 2019). We must also consider the role of communication between the platform/seller and the whole post-purchase experience as essential for building trust, which stems from the consumer's perception and the quality of customer support. In this respect, the convenience of customer support services in post-purchase contributes directly to customer satisfaction and loyalty, which is represented, in most cases, by the intention to repurchase (LIN; WEI; LEKHAWIPAT, 2018; PARK; CHO; RAO, 2015; KUO; WU, 2012; CHANG; WANG, 2011; BI; KIM, 2020; KOTNI, 2017; KHALIFA; LIU, 2007).

Another important concept addressed in this cluster is that of adjusted expectations (LIN; LEKHAWIPAT, 2016). Whenever a consumer has a consumption experience, they learn from this experience, and this can change their expectations (YI; LA, 2004). Post-consumption expectations are so-called adjusted expectations and may or may not guide this customer to consume again (HA; JANDA; MUTHALY, 2010). The better a consumer's experience, the better the expectations adjustment, corroborating engagement with and returning to the channel. Therefore, concern over

constant monitoring of the entire customer service and support experience is reinforced. There are several efforts and experiments that have sought the best way to establish frictionless communication and support between consumer and retailer, either through the efficiency of human effort or even solutions presented by artificial intelligence tools (ZHAO et al., 2022; HUANG; RUST, 2018).

#### 3.1.1.4 Ratings and Comments

The last cluster is rating and comments, representing the papers that presented sellers' ratings and online consumer comments that endorse the positive role of AFSCS and the good purchase and post-purchase experience for other consumers. It is important to clarify that consumer comments and evaluations in the papers of this cluster are explored as research objects and not as a secondary data collection method. Therefore, the origin of a comment and its ability to directly influence consumer behavior were evaluated (QAZI et al., 2017; JACOBSEN, 2018; TSENG, 2017; CHEN; LU; TU, 2017; WU; FAN; ZHAO, 2018; LIU; GAN; ZHANG, 2021; MU; ZHANG, 2021; CHEN, 2011). It should be pointed out that understanding this cause-and-effect relationship is a source of continuous feedback for the improvement of operational and service delivery since the feedback can guide corrective actions and the consequent improvement of future shopping experiences for consumers.

Online consumer comments and ratings are referred to as online word-of-mouth or e-Word-of-Mouth (eWOM), which represent any and all positive or negative statements made by users, customers, or consumers about a product or company, which are made available online for access by a large number of people (HENNIG-THURAU et al., 2004). The article written by Chen Lu and Tu (2017) explores the seminal nature of these elements on the marketplace platform eBay and characterizes comments into three types of feedback: positive, neutral, and negative. The study shows that there are several factors that can influence the nature of consumer evaluations, such as the length of time the seller has existed, the maturity of the consumer as an e-commerce user, and the provenance and quality of the products evaluated.

Customer satisfaction has also been evaluated in some studies that analyzed the impact of comments and ratings left by users (QAZI et al., 2017; TSENG, 2017;

MU; ZHANG, 2021). All types of opinions can affect the level of customer satisfaction, and the greater the number of comments and opinions on a specific point, or the more positive or more negative the comments, the greater the potential impact on the level of satisfaction. In this way, the studies value the constant exercise of evaluating feedback and how quickly retailers adapt, whether in corrective terms or with continuity of action. It is important to emphasize the encouragement of positive comments since they can help reduce post-purchase cognitive dissonance, increasing consumer satisfaction. Ratings and comments can also have an impact on consumer trust (CHEN, 2011), consumer engagement (WU; FAN; ZHAO, 2018), and a consequent purchase intention (LIU; GAN; ZHANG, 2021), even generating loyalty expressed by the repurchase intention (JACOBSEN, 2018) from the positive interference of the eWOM in the post-purchase. On the other hand, there are also circumstances in which comments and ratings can be detrimental. When there is an explicit effort by retailers to sponsor positive comments that encourage consumption, and the consumer's experience is negative in the post-purchase, this is more likely to result in loss and regret on the part of the seller (JACOBSEN, 2018).

### 3.1.2. World Cloud

The world cloud analysis, which presents the grouping of words that occur more frequently in a given interval or corpus, allows quick and superficial identification of the main content of this group (FABRIZIO et al., 2022; CAMARGO; JUSTO, 2013). By means of Iramuteq software, the researchers obtained 5 different clouds, which represent the four different clusters described in the previous section, and one with an overview of the 52 abstracts of all the articles in the textual corpus of this review. Figure 4 graphically demonstrates the most prevalent words in these analyzed clusters.

The first, which encompasses all the documents in the corpus, presents the words "customer", "online", "consumer", "post-purchase", "influence", "service", and "satisfaction" as the words with the highest rates of occurrence. Directly related to the thematic convergence of the studies produced by the correlation established between the keywords, it is clear that the content of the works delves into the online experience of the customer and the consumer, not only in the post-purchase phases but also in other stages of the consumer journey, since the word "purchase" also gains

prominence. This corroborates the already presented analysis that studies focused on post-sales still lack exclusive research despite showing a growing trend in recent years. Another interesting point is the presence, with higher occurrence, of the word “service” compared with the word “product”, which demonstrates the power that the services offered have in the context of online shopping, and especially post-purchase, to obtain greater consumer “satisfaction”. A reading of the second cloud shows that the articles classified in the fulfillment cluster, in addition to highlighting the main words of the previous cloud, present a greater proportional occurrence of the word “service”. This denotes the whole package of distinct services already described within this post-sales phase. Another word that is evident is “convenience”, a quality widely pursued step by step within the fulfillment services. The third cloud, in turn, contains the main words highlighted in the previous clusters, with the difference being the higher occurrence of the words “return” and “product”, which refer directly to the content of the works present in this cluster. The prevalent words in the fourth graph, which refers to the customer support cluster, are “customer” and “online”, as well as “satisfaction” and “influence”, in addition to “service” and “post-purchase”. This reinforces the after-sales attributes explored in this group. Finally, the last cloud is the one with the greatest variation of words. Directly linked to the theme developed in these papers, words such as “comment”, “review”, “word-of-mouth”, “outcome”, and “brand” highlight the role that ratings and comments play as endorsements of the positive role of AFSCS.

### 3.1.3. Typological Analysis

Complementing the word cloud analysis, a typological analysis enables the identification and interpretation of the most prominent words in a given theme. Following the Descending Hierarchical Classification (DHC) method, the typology was extracted with the help of Iramuteq software (FABRIZIO et al., 2022; REINERT, 1990). From the evaluation and systematized reading of the 52 abstracts available in the corpus, the automated process obtained 231 textual segments, of which 183 (79.22%) were classified.

According to Camargo and Justo (2013), retention must be at least 70% to achieve statistical significance in the analysis. Regarding the categorization of words, the software presented a result of four clusters, within which the authors selected only



journey, in which words that refer to constructs in the field of consumer behavior studies, such as “satisfaction,” “expectation,” “intention” and “loyalty,” prevail. With further regard to this theme, it is interesting to note, above all, the emphasis on the term “repurchase-intention,” which is one of the terms of greatest research interest in empirical studies of after-sales highlighted in this systematic literature review (KUMAR; ANJALY, 2017; MPINGANJIRA, 2016; PUROHIT; DEOKUJE, 2021; PHAM et al., 2018; KHALIFA; LIU, 2007). The last cluster, classified as after-sales attributes, presents as most relevant the terms referring to the AFSCS elements. Attributes of fulfillment, customer support, return, and after-sales services, in general, are highlighted and very significant.

<b>Class 1: E-commerce Business</b>			<b>Class 2: Business and Technology</b>			<b>Class 3: Post-Purchase Behavior</b>			<b>Class 4: After-sales Attributes</b>		
Classification: 17.49%			Classification: 18.58%			Classification: 32.79%			Classification: 31.15%		
Word	Chi <sup>2</sup>	p-value	Word	Chi <sup>2</sup>	p-value	Word	Chi <sup>2</sup>	p-value	Word	Chi <sup>2</sup>	p-value
community	24.26	0.00000	electronic	21.69	0.00000	satisfaction	20.97	0.00000	return	20.24	0.00001
seller	23.85	0.00000	internet	17.19	0.00003	mode	20.19	0.00001	literature	18.49	0.00002
platform	23.48	0.00000	display	13.37	0.00026	stage	14.42	0.00015	attribute	17.08	0.00004
brand	15.87	0.00007	price	13.05	0.00030	repurchase intention	14.42	0.00015	store	16.31	0.00005
information	14.85	0.00012	purchase	12.46	0.00042	pre-purchase	12.37	0.00044	order	11.36	0.00075
outcome	14.39	0.00015	perception	11.51	0.00069	disconfirmation	10.54	0.00117	country	11.36	0.00075
feedback	14.39	0.00015	product	10.00	0.00157	emotion	10.54	0.00117	China	11.36	0.00075
reputation	14.39	0.00015	remanufactured	8.61	0.00335	empirically	10.54	0.00117	track	11.36	0.00075
capability	14.39	0.00015	buy	8.61	0.00335	expectation	10.29	0.00134	ship	11.36	0.00075
eBay	14.39	0.00015	commerce	8.52	0.00351	recovery	8.38	0.00379	e-tail	9.04	0.00264
review	11,14	0.00084	usefulness	7.16	0.00747	confirmation	8.38	0.00379	maintenance	9.04	0.00264
offer	10,40	0.00126	strategy	7.16	0.00747	relationship	6.72	0.00951	instrument	9.04	0.00264
potential	10.40	0.00126	comments	5.83	0.01575	loyalty	6.69	0.00970	fashion	9.04	0.00264
commerce	9.64	0.00190	technology	5.83	0.01575	expectancy	6.25	0.01240	Taiwan	7.88	0.00501
medium	9.38	0.00220	social	5.59	0.01808	post-purchase intention	6.25	0.01240	company	7.88	0.00501
behavior	8.38	0.00379	discount	4.66	0.03083	consumer satisfaction	6.25	0.01240	manager	7.88	0.00501
e-commerce	6.16	0.01305	adoption	4.66	0.03083	post-purchase	5.64	0.01753	support	7.55	0.00599
regretful	5.11	0.02375	vendor	4.66	0.03083	framework	5.20	0.02259	exchange	7.50	0.00616
journey	5.11	0.02375	construct	4.66	0.03083	habit	5.20	0.02259	post-sales services	6.74	0.00942
offering	5.11	0.02375	sustainable	4.66	0.03083	convenience	5.05	0.02457	scientific	6.74	0.00942
firm	4.55	0.03301	operation	4.66	0.03083	process	4.38	0.03636	e-retailer	5.72	0.01677
retailer	4.13	0.04216	apparel	4.66	0.03083				gap	5.72	0.01677

TABLE 2 – Typology analysis of the textual corpus.

SOURCE: Author (2023)

## 3.2. BIBLIOMETRIC REVIEW

### 3.2.1. Descriptive Analysis of the corpus

The text corpus, obtained by searching the Scopus and Web of Science databases, contains publications from 43 different journals and 124 authors and co-authors. Among the scientific publications, only the Journal of Retailing and Consumer Services published three of the corpus documents, and only seven published two documents. The others published only one of the papers in the total corpus. Table 3 presents those that stand out with more than one publication.

Journal	Ranking	Frequency
Journal of Retailing and Consumer Services	1	3
Behaviour and Information Technology	2	2
European Journal of Information Systems	3	2
International Journal of Business Innovation and Research	4	2
International Journal of Electronic Marketing and Retailing	5	2
International Journal of Retail and Distribution Management	6	2
Journal of Interactive Marketing	7	2
Sustainability	8	2

TABLE 3 – Major publishing journals.

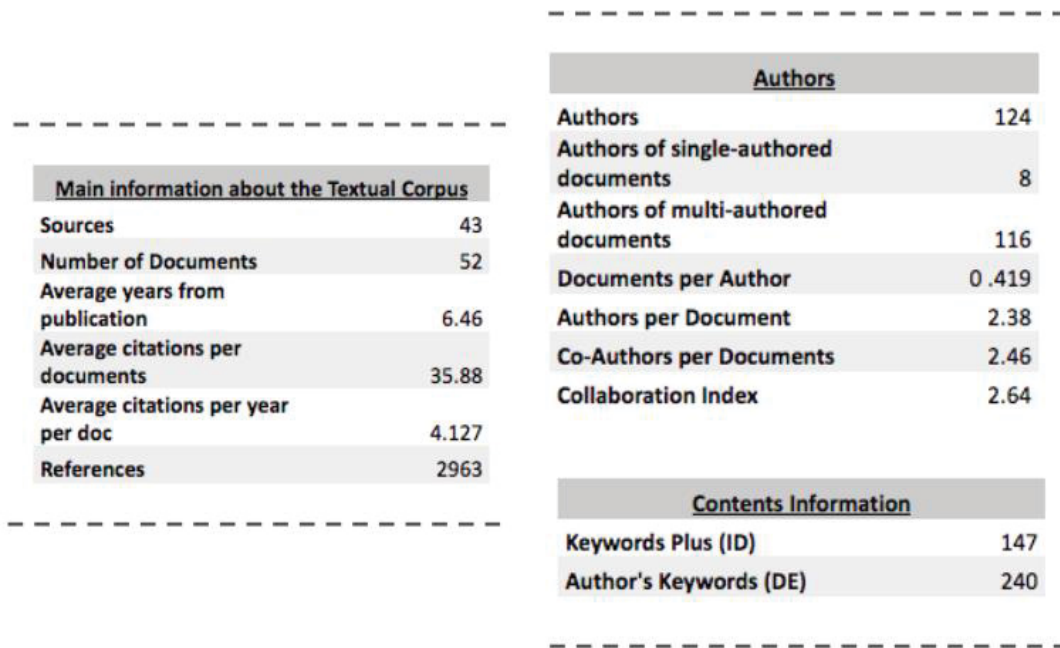
SOURCE: Author (2023)

Only eight papers are of single authorship, while the other 44 were produced through the cooperation of two or more researchers, which generates a collaboration index of 2.64, as presented in Figure 5. The cluster presents an average of 2.38 authors per paper and 2.46 co-authors per paper. It is important to point out, as postulated by Lotka's Law (BUDD, 1988; LOTKA, 1926), that only four of the authors participated in more than one research: Jun, M.; Khalifa, M.; Lekhawipat, W.; Lin, C.H. are co-authors of two papers. Complementing these bibliometric indices, Figure 5 also shows that there were, on average, 35.88 citations per paper and an average of 4.12 citations per year. Finally, it can be pointed out that the searches carry 240 keywords.

Regarding the nationality of the researchers, the countries that have contributed most to the development of the theme are China, the United States, and India (Figure 6). Although still incipient, some authors from countries like China, the United States, Malaysia and Lithuania have conducted their research in collaboration with scholars from different regions, which may demonstrate the beginning of the theme's maturation

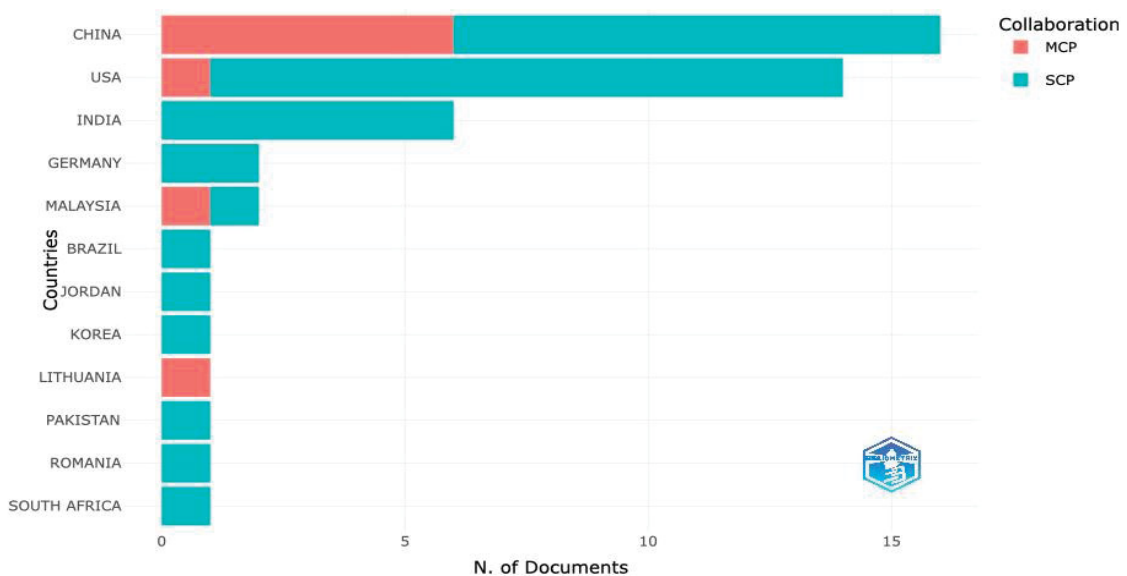
process, especially in these countries. On the other hand, a great deal of scientific production continues to be developed without exchanges between different countries, denoting a delay in the progress of the topic in broader terms.

Figure 5: Bibliometric indicators.



SOURCE: Author (2023)

Figure 6: Corresponding author's country.

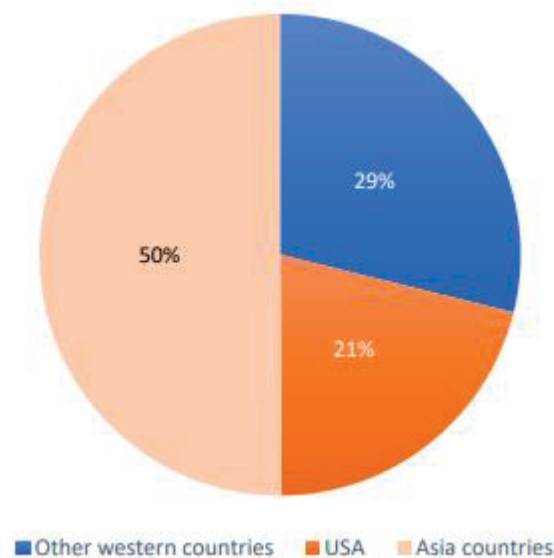


SOURCE: Author (2023)



It is important to consider that even though publications have intensified over the last 5 years, there is still a lack of collaboration between countries. It is also worth pointing out that, in addition to the predominance of studies developed in the United States, Asian countries are also involved, not only in terms of the origin of the researchers but also in the geographical region where studies have been conducted, as shown in Figure 7. Fifty percent of the studies were carried out in the context of Asian countries (with emphasis on China, India, and Taiwan), which coincides with the booming growth of the online channel in the region in recent years (KALIA; KAUR; SINGH, 2018; ZHANG, 2019; LIN, 2019; REJIKUMAR; ASOKAN-AJITHA, 2020; PARK; LEE, 2021; PRIAMBODO et al., 2022).

Figure 7: Regions where the studies were conducted.



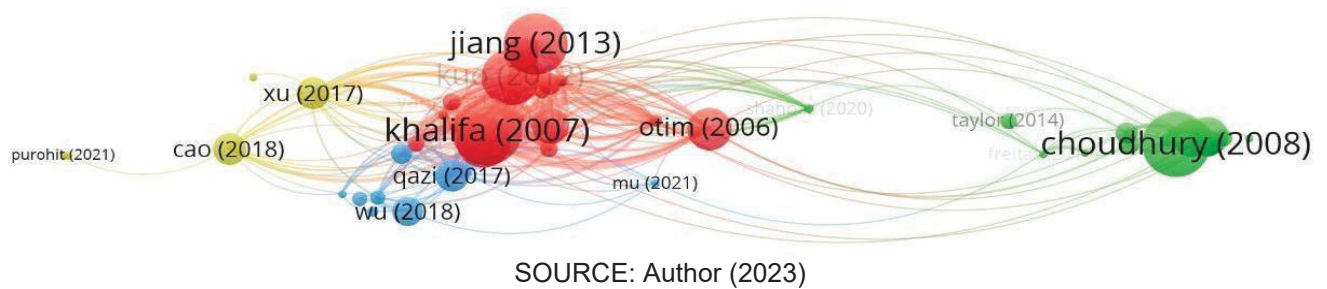
SOURCE: Author (2023)

### 3.2.2. Bibliographic Coupling Analysis

Bibliographic coupling analysis (BCA) is rich for bibliometric studies because it allows the mapping of research fronts under development in a given area, which tends to be an indicator for the future. Unlike co-citation analysis, which highlights past approaches by pointing out authors who are co-cited in the articles under analysis in a given Literature Review (JARNEVING, 2007), BCA presents the strength of the

connection between two articles, also through a process of searching for similarities, but highlighting the overlap in their bibliographies. The greater the number of references in common, the greater the proximity between the analyzed works, indicating the existence of a similarity relationship that may be theoretical, thematic, methodological, or of some other shared feature (KESSLER, 1963; BOYACK; KLAVANS, 2010; SOÓS, 2014). In this research, the bibliographic coupling was aided by Vosviewer software, by means of the “Association Strength” method. From a total of 52 articles, 49 were captured and composed the final result of the network of documents with the most connections, represented in Figure 8. The reading returned four clusters, showing the greatest proximity between the articles represented by their respective authors.

Figure 8: Bibliographic coupling networks.



Cluster 1, represented by the color red in the graph, demonstrates that the authors with the most references in common are Khalifa and Liu (2007), in addition to Jiang; Yang and Jun (2013), Kuo and Wu (2012) and Otim and Grover (2006). All of them address the investigation of repurchase intention behavior, which can also be mediated by the level of services offered by retailers in after-sales. Khalifa and Liu (2007), in the paper entitled “Online consumer retention: contingent effects of online shopping habit and online shopping experience,” seek to empirically demonstrate the role that the post-purchase experience plays in impacting consumer satisfaction, which in turn contributes to repurchase intention. When addressing the influence of post-purchase attributes on consumer behavior, Jiang; Yang and Jun (2013) and Otim and Grover (2006) highlight, above all, the fulfillment package services. It is important to point out that, as shown by the more central positioning, the works present in this cluster dialogue resemble in a more balanced and stronger way with all the other three clusters.

The color green represents Cluster 2, in which Choudhury and Karahanna (2008) stand out, with the highest number of references shared with the other articles. The work entitled “The relative advantage of electronic channels: A multidimensional view” presents important elements that guide the consumer’s decision when choosing a purchase channel, pointing out the crucial role of post-purchase services in this context and turning to more varied attributes of Customer Support. Taylor; Donovan and Ishida (2014), while setting out to investigate consumer loyalty, present important determinants of post-purchase as enhancers of repurchase intention in this channel. Like Choudhury and Karahanna (2008), they also look into services that can be characterized as Customer Support, which is prevalent in papers classified in this group. Another important similarity between these two cited pieces is the use of the trust variable, within the consumer behavior theme, as a moderator of the study.

Qazi et al. (2017) and Wu; Fan and Zhao (2018) stand out with the highest number of shared references in Cluster 3. This is a cluster of papers where the study of the impact of comments and ratings left by consumers on the actions of other customers is highlighted. These papers focus on understanding the leveraging or detracting potential of eWOM (e-Word-of-mouth) on the positive attitude of other consumers, which proves to be a promising topic in the field of e-commerce after-sales research. Finally, it is worth noting that the articles in this group are more recent in terms of publication date compared with the average of the other clusters, reinforcing the more recent nature of the topic.

Finally, Cluster 4 has the lowest number of classified research. Only five papers were segmented in this universe, presenting papers published in the last 5 years. In general, the articles explore the construct of consumer satisfaction in the post-purchase context. They highlight the preponderant role of the positive influence of delivery logistics and fulfillment services, in addition, to return and refund services, in generating greater consumer satisfaction, purchase intention, and consumer loyalty. Notable here, with the highest number of shared references, are the articles by authors Xu; Zeng and He (2017) and Cao; Ajjan and Hong (2018).

#### **4 DISCUSSION**

In the complex context of e-commerce, after-sales services (CAO; GRUCA, 2004) can help to reduce the negative impacts surrounding online purchase decisions and consumer satisfaction (LU et al., 2018; CHEN; HU; WEI, 2017). Scientific studies investigating this stage of the consumer journey, despite research interest in more recent years (JAVED; WU, 2020; WOWAK; BOONE, 2015; ABDULLA; KETZENBERG; ABBEY, 2019; LAMBA et al., 2020), with significant growth in publications as of 2017, are still lacking in terms of unique research (POSSELT; GERSTNER, 2005; JAVED et al., 2020). Of all the papers in the corpus, with 2002 as the year of the first publication analyzed, the review showed that only 15% of the papers investigated only the post-sale phase of online commerce. The descriptive analysis of the corpus indicated that 124 authors and co-authors are responsible for the development of the 52 papers present in this study, published in 43 different journals. There is a low concentration of research developed by a single author and published in a single journal. Furthermore, it was shown that authors from China, the United States, and India make the most contributions to the scientific development of the theme. It was also shown that the most frequently researched contexts are Asian markets in general, representing half of all studies, and the United States market, representing about 20% of the articles in this review. Collaboration between different countries in conducting studies, although identified among nations such as China, the United States, Malaysia, and Lithuania, remains incipient.

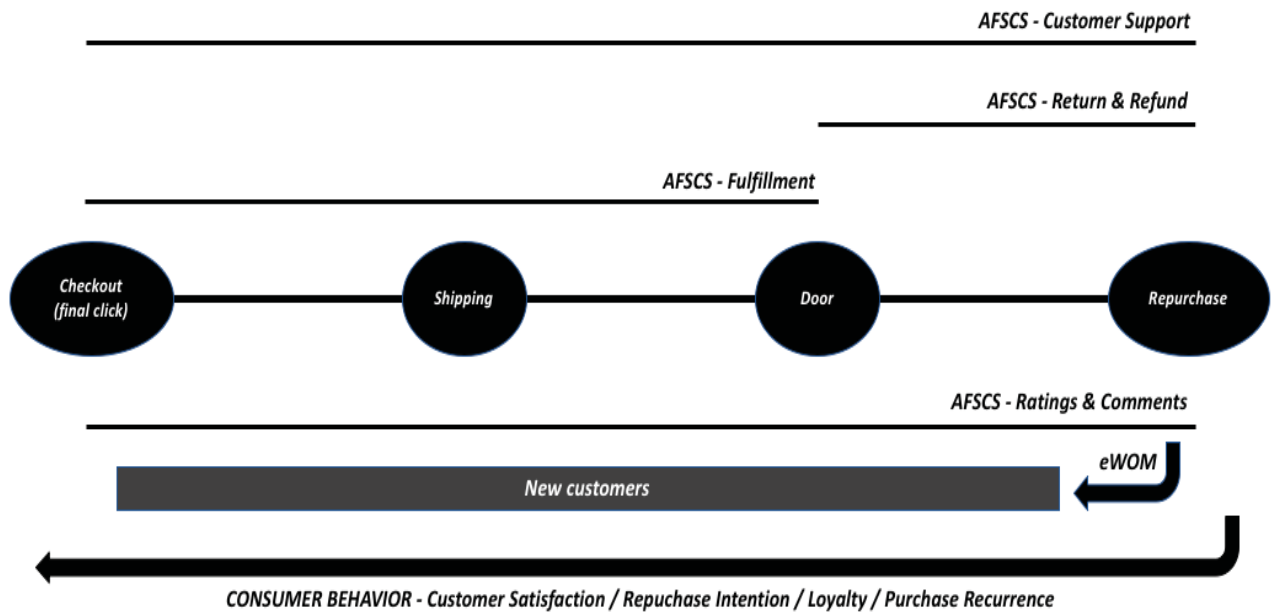
The Systematic Literature Review performs a thematic analysis of the corpus articles and groups them into clusters derived from the identified After-sales Customer Services (AFSCS) group. AFSCS, characterized in this paper as the pool of services offered in the e-commerce after-sales stage, is present in all the articles selected for this review. These articles use post-sale attributes to assess the role of AFSCS in online consumer behavior, suggesting strategies for retailers on how to attract, retain, and satisfy customers (DING; HU; SHENG, 2011), generate satisfaction and loyalty as well as increase perceived usefulness and ease of use (CHANG; WANG, 2011) to maximize transaction volume and reduce costs (DING; HU; SHENG, 2011). The fulfillment, return and refund, customer support, and ratings and comments clusters grouped the papers that addressed elements and services with similar characteristics in the nature of delivery and in the timing of emergence and availability in the e-commerce post-purchase journey. The fulfillment cluster considered papers that

investigate, in some way, all services offered within the click-to-door stage, i.e., from the moment of purchase until the moment the consumer receives the product. Papers addressing this topic are prevalent, identified in 45% of the research in the corpus. The return and refund cluster, in turn, considers the after-sales services made available after the consumer receives the product, while the customer support cluster evidences more diverse services concerning the retailer's availability and responsiveness throughout the entire after-sales journey, such as customer service, after-sales support, and communication in general. As it is more comprehensive, 55% of the articles in this text corpus feature some of these elements. Finally, the ratings and comments cluster segments the research that features sellers' ratings and online consumer comments that endorse the positive role of AFSCS and the good buying and post-purchasing experience for other consumers. eWOM constitutes a highly relevant concept that requires more strategic control.

All the research, in general, points to a positive influence of AFSCS on consumer behavior. This impact may be to strengthen a positive post-purchase behavior attitude of the consumer, as well as a positive effect on other consumers' purchase intention behavior and subsequently post-purchase intention. Constructs such as consumer satisfaction, expectation and confirmation of expectations, loyalty, trust, and purchase and repurchase intention are widely discussed in the reviewed papers. Figure 9 presents a framework of AFSCS and their dynamics in the e-commerce post-purchase journey as a synthesis of the thematic analysis of the textual corpus of this review.

The work also presents a typological analysis of the articles of the AFSCS large grouping, through which it arrived at 4 clusters: E-commerce business; business and technology; post-purchase behavior; and after-sales attributes. The results obtained with the aid of Iramuteq software support the importance of post-sales and its attributes and services for the effective management of e-commerce businesses and the promotion of consumer satisfaction. Words such as "satisfaction", "loyalty", "consumer expectation", and "repurchase intention" are highlighted and complemented, mainly in the After-sales attributes cluster, with other terms such as "return", "order", "track", "ship", "support", and "post-sales services".

Figure 9: Framework: After-sales Customer Service at the e-commerce post-purchase stage.



SOURCE: Author (2023)

The bibliographic coupling analysis revealed four groups, in which we highlight some works that share important references and that are consequently more closely connected. In this work, the thematic similarity is highlighted as a link strengthening the connection, and there is a convergence among the works in pointing out the role of post-purchase attributes and services as elements of reinforcement of positive attitudes towards consumer behavior. The clusters aid a better view of the path toward which the academic research of this topic is oriented.

Although most scientific studies have not yet delved into the exclusive investigation of e-commerce after-sales, the attributes of this stage of the consumer journey play an important role in achieving a positive retail performance in online channels. Some of the analyzed studies show the crucial role of maintaining good after-sales communication and accurate management of delivery logistics, from the purchase click to receiving the product, in the delivery journey, for example. In addition, offering alternatives and solutions at the most sensitive moment of the entire shopping process (which is the post-purchase), such as the possibility of return or refund, can be decisive for an e-retailer to stand out from the competition in terms of consumer satisfaction. Furthermore, if properly applied and adapted to the context of the product

that is sold, consumer services in general can be essential for satisfaction in the shopping process, leading to repurchase intentions.

In general, the results obtained by most of the articles of the analyzed text corpus corroborate this perspective and point out a good possibility for the continuity of this line of research, which is expected to be a growing trend in the coming years.

## **5 CONCLUSION AND FUTURE RESEARCH AGENDA**

Using a Systematic Literature Review (SLR), this paper sought to synthesize the main insights of scientific studies and the future research direction on the theme of after-sales in the context of e-commerce. Despite being recent and with few articles dedicated to studying the theme exclusively, the research domain is relevant, strategic, and in a phase of maturity. Although it is part of an approach that is mostly complementary to the other stages of the online consumption journey (POSSELT; GERSTNER, 2005; LAMBA et al., 2020; JAVED et al., 2020), e-commerce after-sales have attracted more attention in recent years, and the topic is engaging more researchers.

One of the major contributions of this review is the presentation of after-sales e-commerce attributes and the influence of these elements on consumer behavior from the point of view of service provision by the retailer to the customer and the consumer. From the reading of the articles in the corpus, the After-sales Customer Services (AFSCS) explored in these works guide their segmentation into sub-clusters, producing a thematic synthesis on four fronts: (i) fulfillment; (ii) return and refund; (iii) customer support; and (iv) ratings and comments. The discussion of each of these clusters highlights the important and strategic role of good management of the post-purchase experience in the drive for consumer satisfaction, as well as repurchase intention and loyalty to the online channel. Although each sub-group presents its specific features, there is a complementary role between the services highlighted in each, demonstrating the need to understand the post-purchase journey in a more systemic and non-fragmented way.

From a managerial practice perspective, the analysis of the text corpus also shows that marketing plays a fundamental role not only in attracting new customers in terms of the traditional sales funnel, but also in understanding, monitoring and

orchestrating the performance of the after-sales attributes. It is a marketing approach not at the funnel top, incessantly seeking new clients, but rather preserving current ones, stimulating recurrence. Recurrence, in turn, is sufficiently strategic to minimize customer acquisition cost (CAC) and maximize lifetime value (LTV).

## 5.1. FUTURE RESEARCH AGENDA

The after-sales issue is very relevant to the e-commerce context, and the recent maturation of the theme in the academic environment shows the evolution of research interest. However, the review has pointed out that gaps remain that need to be addressed in future research.

### 5.1.1. Exclusive after-sales studies

Among the articles selected for this systematic literature review, only 15% produced an exclusive investigation of the post-sales stage of e-commerce. This demonstrates an avenue of opportunities for further empirical studies that evaluate this step, its context, and the strategic potential for online retail in greater detail and with more depth.

### 5.1.2. Longitudinal studies: detailing the after-sales journey, relationship between constructs and purchase recurrence

In general, research focuses on a more specific analysis of the relationship between retailer and customer, which leaves a gap for the application of longitudinal studies that can analyze the relationship between constructs of post-purchase attributes and consumer behavior at different moments of the journey of the same consumer. This is justified by the need to understand the impact of certain elements in different scenarios and contexts, as well as an opportunity to increase the influence capacity of certain attributes and their combination in producing an effect over a longer period of time. Furthermore, longitudinal studies enable an investigative design that can better understand the linear construction from the first contact between consumer and brand and the evolution of this relationship to repeat purchase. Although the



framework presented in the last section of this article alludes to the theme, it still does not substantiate, present and explain the recurrence of the online channel based on a continuous construction and a linking relationship that has been present since its inception.

#### 5.1.3. Post-purchase behavior

Although this is a debated topic and is present in some of the analyzed articles [61], it is important to consider that it is not the study's objective to gain a deeper understanding of the post-purchase behavior of the consumer itself. This review focused, as already mentioned, on the relationship between retailer and consumer and the relevant role of After-sales Customer Services (AFSCS) in moderating this relationship in the post-purchase period. Therefore, it is recommended that future studies, including other meta-narratives, strive to directly assess post-purchase behavior and, consequently, repurchase intention as the main driver of the study.

#### 5.1.4. Application of the studies in different market contexts and geographical regions

Studies conducted in the North American and Asian marketing contexts are prevalent. Emerging markets, such as Latin America, and mature ones, such as Europe, lack more studies dedicated to the after-sales of online commerce. In addition, today, we see a significant growth of so-called cross-border e-commerce (in which retailers facilitate their internationalization through online sales to consumers in other countries) (ELIA et al., 2021; ZHU; MOU; BENYOUCEF, 2019), which also opens up an avenue of opportunities for studies that explore the transnational perspective and its cultural, technical and business challenges for post-purchase management that contributes to the growth and good performance of e-commerce.

Furthermore, more detailed studies of specific retail sectors constitute a research opportunity that can identify the greater or lesser power of the influence of each package of services and after-sales attributes, for example, in the behavior of the consumer in each of these sectors. Understanding these possible combinations could aid strategic definition and retail managerial decision-making.

Finally, it is also worth considering the new e-commerce configuration models, which explore new channels and new media, such as the omnichannel and social commerce perspective.

#### 5.1.5. Delving deeper into each of the clusters presented in this review

Another research opportunity is an in-depth look at each of the clusters presented here, from After-sales Customer Services (AFSCS) to e-commerce. This seminal study presents four broad research fronts that allow theoretical, conceptual, within the research domain and practical deepening for the management of retail organizations. There is also great potential in understanding, in a targeted way, the role of each of the AFSCS attributes in promoting more repeat purchases in electronic retail.

#### 5.1.6. Ewom and disconfirmation and dissonance concepts

Although concepts such as e-Word-of-mouth (eWOM), disconfirmation, and dissonance are discussed in some works (PARK; CHO; RAO, 2015; QAZI et al., 2017; WU; FAN; ZHAO, 2018), there is ample opportunity for deeper study. eWOM has begun to be more widely discussed and studied (SUN; ZHAO, 2022), based on studies that seek to delve into post-purchase consumer behavior and its influence on the attitude of other consumers. The thematic cluster of ratings and comments presents, in a segmented way, research that includes this perspective. However, this concept will require further research, especially with the growth of social commerce and social selling. The difference between dissonance and disconfirmation and the relationship of these constructs with after-sales attributes is another opportunity for future research.

#### 5.1.7. The role of technology in the development of post-purchase e-commerce

The outsourcing of post-purchase services, through the automation offered by technology platforms and systems, fundamentally represented by SaaS services (Software as a Service), has proven to be economically viable to advance the level of service of online retailers. Understanding this market and how it contributes to the

maturation of operational excellence and experience in e-commerce is an emerging topic with the potential to be explored through case studies, for example, which can be built by strategies of multiple comparative studies between different technical, service delivery, and geographical activities.

#### 5.1.8. Comparison of after-sales services in offline retail versus in ecommerce or even in the omni-channel commerce context

It is important to consider that after-sales customer services may have a greater or lesser impact on performance, if we consider the channel and the market context in which they are analyzed. Therefore, and mainly because this is the first work that seeks to gather and synthesize the attributes of after-sales services in e-commerce, which opens up an avenue of possibilities for future studies concerning the subject, it is recommended that other researchers compare the effect of these attributes discussed here on analogous services in offline retail, or even in an omni-channel commerce context.

## 5.2. LIMITATIONS

Despite the scope of the study and the basis for building the review based on a clearly delimited objective, some limitations need to be pointed out: (i) the methodological path limited the search to the Scopus and Web of Science databases; (ii) the choice of only articles that included the investigation of some element of the after-sales of e-commerce in their research aims puts restrictions on the study; (iii) only articles in English were considered; (iv) according to the selection criteria, articles without a DOI and or still in press were excluded from the search. As a result, some important articles may have been left out of the sample. For future work, we suggest that articles still in press articles be included in the text corpus; (V) although the search string is broad enough to meet the scope and objective of the study, there are newer terms that appear in the findings and elucidate the advancement of the practice of e-commerce, which opens up potential avenues for future research.

Artigo publicado na íntegra: <https://www.mdpi.com/0718-1876/18/1/25>



Journal of  
*Theoretical and Applied  
Electronic Commerce Research*

an Open Access Journal by MDPI



## After-Sales Attributes in E-Commerce: A Systematic Literature Review and Future Research Agenda

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*J. Theor. Appl. Electron. Commer. Res.* **2023**, Volume 18, Issue 1, 475-500

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## APPENDIX

### Appendix A: Textual Corpus

Authors	Title	Journal	Year
Burroughs, R.E., Sabherwal, R.	Determinants of retail electronic purchasing: A multi-period investigation	INFOR	2022
Cao, Y., Gruca, T.S.	The influence of pre- and post-purchase service on prices in the online book market	Journal of Interactive Marketing	2004
Posselt, T., Gerstner, E.	Pre-sale vs. post-sale e-satisfaction: Impact on repurchase intention and overall satisfaction	Journal of Interactive Marketing	2005
Otim S., Grover, V.	An empirical study on Web-based services and customer loyalty	European Journal of Information Systems	2006
Yun, Z.-S., Good, L.K.	Developing customer loyalty from e-tail store image attributes	Managing Service Quality: An International Journal	2007
Khalifa, M., Liu, V.]	Online consumer retention: Contingent effects of online shopping habit and online shopping experience	European Journal of Information Systems	2007
Choudhury, V; Karahanna, E	The relative advantage of electronic channels: A multidimensional view	MIS Quarterly	2008
Khalifa, M; Shen, KN	Modelling electronic customer relationship management success: functional and temporal considerations	Behaviour and Information Technology	2009
Clegg, B., Melián Alzola L., Padrón Robaina V.	The impact of pre-sale and post-sale factors on online purchasing satisfaction: a survey	International Journal of Quality and Reliability Management	2010
Yongqing, Y., Nan, L., Meijian, L., Shanshan, L.	Study on the effects of logistics service quality on consumers' post-purchase behavior of online shopping	Advances in Information Sciences and Service Sciences	2011
Chen, H.]	The impact mechanism of consumer-generated comments of shopping sites on consumer trust	Journal of Computers	2011
Hsin Chang, H., Wang, H.-W.	The moderating effect of customer perceived value on online shopping behaviour	Online Information Review	2011
Kim, DJ	An investigation of the effect of online consumer trust on expectation, satisfaction, and post-expectation	Information Systems and E-business Management	2012
Kuo, YF; Wu, CM	Satisfaction and post-purchase intentions with service recovery of online shopping websites: Perspectives on perceived justice and emotions	International Journal of Information Management	2012
Endo S., Yang J., Park J.	The investigation on dimensions of e-satisfaction for online shoes retailing	Journal of Retailing and Consumer Services	2012

Jiang, L; Yang, ZL; Jun, M	Measuring consumer perceptions of online shopping convenience	Journal of Service Management	2013
Taylor, S.A., Donovan, L.A.N., Ishida, C.	Consumer Trust and Satisfaction in the Formation of Consumer Loyalty Intentions in Transactional Exchange: The Case of a Mass Discount Retailer	Journal of Relationship Marketing	2014
Park, I; Cho, J; Rao, HR	The Dynamics of Pre- and Post-purchase Service and Consumer Evaluation of Online Retailers: A Comparative Analysis of Dissonance and Disconfirmation Models	Decision Sciences	2015
Mpinganjira, M. [47]	An investigation of customer attitude towards online stores	African Journal of Science, Technology, Innovation and Development	2016
Lin C., Lekhawipat W.	How Customer Expectations Become Adjusted After Purchase	International Journal of Electronic Commerce	2016
Chen, L; Lu, M; Tu, YB	After Auction's Complete: What Will Buyers Do Next?—A Case Study of Feedback Rating at eBay	International Journal of E-business Research	2017
Qazi A., Tamjidyamcholo A., Raj R.G., Hardaker G., Standing C	Assessing consumers' satisfaction and expectations through online opinions: Expectation and disconfirmation approach	Computers in Human Behavior	2017
Nawi N.B.C., Al-Mamun A.	Customer satisfaction of online apparel businesses in Malaysia: Point-purchase and post-purchase comparison	International Journal of Business Innovation and Research	2017
Kumar, A; Anjaly, B	How to measure post-purchase customer experience in online retailing? A scale development study	International Journal of Retail and Distribution Management	2017
Kotni, VVDP	Paradigm Shift from Attracting Footfalls for Retail Store to Getting Hits for E-stores: An Evaluation of Decision-making Attributes in E-tailing	International Journal of Production Economics	2017
Xu, X; Zeng, S; He, YJ	The influence of e-services on customer online purchasing behavior toward remanufactured products	Consumer willingness to pay across retail channels	2017
Tseng, A.	Why do online tourists need sellers' ratings? Exploration of the factors affecting regretful tourist e-satisfaction	Tourism Management	2017
Wu J., Fan S., Zhao J.L.	Community engagement and online word of mouth: An empirical investigation	Information and Management	2018
Mohapatra S., Sahu K.C.	Empirical research on the adoption and diffusion of e-commerce portals	International Journal of Business Innovation and Research	2018
Kaur, S.	Online shopping preferences of consumers—The web experience and purchase pattern	JIMS8M—The Journal of Indian Management and Strategy	2018
Cao, YX; Ajjan, H; Hong, P	Post-purchase shipping and customer service experiences in online shopping and their impact on customer satisfaction: An empirical study with comparison	Asia Pacific Journal of Marketing and Logistics	2018
Pham, QT; Tran, XP; Misra, S; Maskeliunas, R; Damasevicius, R	Relationship between Convenience, Perceived Value, and Repurchase Intention in Online Shopping in Vietnam	Sustainability	2018
Luo, XQ; Lee, JJ	The Effect of Post-Purchase Discount Format on Consumers' Perception of Loss and Willingness to Return	Journal of Asian Finance Economics and Business	2018
Lin, CH; Wei, YH; Lekhawipat, W	Time effect of disconfirmation on online shopping	Behaviour and Information Technology	2018
Jacobsen, S.	Why did I buy this?: The effect of WOM and online reviews on post purchase attribution for product outcomes	Journal of Research in Interactive Marketing	2018
Al-Adwan, A.S.	Revealing the influential factors driving social commerce adoption	Interdisciplinary Journal of Information, Knowledge, and Management	2019

Yang, S; Xiong, GY	Try It On! Contingency Effects of Virtual Fitting Rooms	Journal of Management Information Systems	2019
Freitas, A.L.P., De Souza Gomes Dos Santos A.C.	Using a multicriteria approach to identify factors that influence e-tailing service quality	International Journal of Electronic Marketing and Retailing	2019
Palacios, S., Jun, M.	An exploration of online shopping convenience dimensions and their associations with customer satisfaction	International Journal of Electronic Marketing and Retailing	2020
Iqbal S., Bhatti Z.A., Khan M.N.	Assessing e-service quality of B2C sites: a proposed framework	International Journal of Information Technology (Singapore)	2020
Gupta, P; Sachan, A; Kumar, R	Different stages of the e-service delivery system process: belief-attitude-intention framework	International Journal of Retail and Distribution Management	2020
Bi, Y; Kim, I	Older Travelers' E-Loyalty: The Roles of Service Convenience and Social Presence in Travel Websites	Sustainability	2020
Shahbaz H., Li Y., Li W.	Psychological contract-based Consumer Repurchase behavior on Social commerce platform: An Empirical study	KSII Transactions on Internet and Information Systems	2020
Javed, MK; Wu, M; Qadeer, T; Manzoor, A; Nadeem, AH; Shouse, RC	Role of Online Retailers' Post-sale Services in Building Relationships and Developing Repurchases: A Comparison-Based Analysis Among Male and Female Customers	Frontiers in Psychology	2020
Chen, JW; Ma, Y	What constitutes excellent user experience in online consumers' return services?	International Journal of Services Technology and Management	2020
Lin, HH; Tseng, TH; Yeh, CH; Liao, YW; Wang, YS	What drives customers' post-purchase price search intention in the context of online price matching guarantees	Journal of Retailing and Consumer Services	2020
Purohit, HKS; Deokuje, AS	An Empirical Study of Online Consumer Behavior for Apparel and Electronics Segment	Bioscience Biotechnology Research Communications	2021
Liu Y., Gan W.-X., Zhang Q.	Decision-making mechanism of online retailer based on additional online comments of consumers	Journal of Retailing and Consumer Services	2021
Dospinescu O., Dospinescu N., Bostan I.	Determinants of e-commerce satisfaction: a comparative study between Romania and Moldova	Kybernetes	2021
Tata, SV; Prashar, S; Parsad, C	Examining the influence of satisfaction and regret on online shoppers' post-purchase behaviour	Benchmarking—An International Journal	2021
Stöcker, B., Baier, D., Brand, B.M.	New insights in online fashion retail returns from a customers' perspective and their dynamics	Journal of Business Economics	2021
Mu, JF; Zhang, JZ	Seller marketing capability, brand reputation, and consumer journeys on e-commerce platforms	Journal of the Academy of Marketing Science	2021