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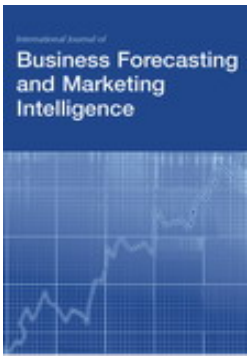

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Abstract: In recent decades, electronic commerce has grown significantly in scope and revenue through widespread internet access. Nevertheless, some consumers resist using electronic channels for online purchases. In this context, this article presents a typology addressing why consumers do not purchase electronic commerce and brings the main barriers preventing consumers from purchasing online. For this, a systematic literature review over 12 years. The typology was constructed, proposing four classes: 1) methodological procedures; 2) risk; 3) customer adoption; 4) business environment. Besides identifying the typology, this article makes other contributions: 1) the presentation of an updated portfolio of studies related to online consumer behaviour; 2) the presentation of the bibliometric characteristics of the field of research; 3) a set of barriers and strategies to reduce them; 4) a set of future research recommendations. This study can help managers formulate strategies to lower barriers preventing online purchases.

Keywords: internet commerce; consumer behaviour; online non-shopping; barriers.

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1 Introduction

The number of transactions in the virtual environment in diverse markets has grown in the last two decades, triggered by the internet wave, enabling consumers to make online purchases through many channels (Talwar et al., 2020a, 2020b; Reichert et al., 2021; Xu et al., 2022). Consequently, online retail sales have grown exponentially in recent years (Zhang et al., 2019; Ferraz et al., 2023). Purchases made through electronic platforms have grown on a global scale since their inception, and forecasts for the growth of e-commerce, in light of the total number of transactions that have taken place in global retail, remain optimistic (Shopify, 2020; Wegner et al., 2023).

Developed markets like the USA saw an average annual growth of 10% in electronic transactions compared with total US retail transactions from 2007 to 2019 (Ali, 2021). In the same market, in 2020, there was an increase of 44% in gross revenues generated through electronic platforms (Ali, 2021).

The reality of growing online transactions has been no different in low and middle-income countries, such as Brazil. The Brazilian market has seen a compound annual growth rate of 18% in e-commerce transactions in the last ten years (Ebit/Nielsen, 2020). These data corroborate statements regarding the trend that in the next 30 years, approximately 99% of commercial transactions will take place through an electronic platform (Ma, 2018). The increasing global adoption of e-commerce is in itself only one motivating factor for growth becoming exponential in many markets (Alonso Mosquera and Muñoz de Luna, 2014). Nevertheless, some consumers remain resistant to this form of consumption (Liao et al., 2021; Klein et al., 2020).

Even with the global growth trend, some consumers continue to face barriers to making online purchases (Liao et al., 2021; Kim et al., 2022), mainly when considering perceived risk (Wang and Lee, 2020) as a key factor in decision making (Bach et al., 2020; Liao et al., 2021). In the literature, a number of authors have highlighted that perceived risk is related to the degree of uncertainty that may be generated in decision making regarding purchase and sales transactions (Wang and Lee, 2020). Despite the increasing number of online retail transactions, online shopping is still perceived as a high-risk transaction (Bonnin, 2020; Cheng et al., 2008).

Given the growing concern over the theme, diverse studies in the literature on barriers and not purchasing online have been conducted (Chang et al., 2005; Kaur et al., 2020; Klepek and Bauerová, 2020; Li and Fang, 2019; Nel and Boshoff, 2019; Talwar et al., 2020a, 2020b; Zhu., 2019; Lucas et al., 2023). However, the study of barriers is associated with specific technologies and market segments, consequently, the literature review, when available, is not comprehensive, or does not clearly present the applied research protocol (e.g., used database and selection criteria). Thus, we are faced with the following research question: 'How has scientific research on online shopping barriers been developed in the last decade?'

In this context, to respond the research question, considering the scientific production available on Scopus and Web of Science databases, the purpose of this article is to analyse through a systematic literature review (SLR) (Biolchini et al., 2007; Tranfield et al., 2003), the main barriers that lead consumers not to make online retail purchases. For this purpose, the article presents a typology for the literature related to online shopping barriers. The SLR will enable:

1 the presentation of an updated portfolio of studies related to online consumer behaviour

2 the presentation of the bibliometric characteristics of the field of research

3 a set of barriers and strategies to reduce them

4 a set of future research recommendations.

The rest of this article is structured as follows: Section 2 addresses the theoretical background, and Section 3 describes the material and methods. Section 4 contains a presentation and analysis of the data, while Section 5 contains the final considerations and limitations of the study.

2 Theoretical background

The emergence of new possibilities for companies to reach their consumers resulted in the appearance of diverse sales channels in recent decades (Díaz et al., 2017; Liao et al., 2021; Furquim et al., 2023). The retail sector was one of the segments most directly affected by the technological evolution and underwent a major digital transformation (Hagberg et al., 2017). This transformation made way for the concept of electronic commerce. This is a phenomenon characterised by conducting business through digital transactions and is popularly known as:

1 e-commerce

2 e-tailing

3 e-business, in addition to other less known references (Ramzy and Eldahan, 2016).

These innovations applied to the business universe contributed to the emergence of new business models to meet better the growing demand for these digital channels (Faqih, 2016; Xu and Koivumäki, 2019). The internet enabled a definitive transformation in how companies conduct their business both locally and globally (Faqih, 2016; Ramzy and Eldahan, 2016). In addition to the global dissemination of internet access, easier access to electronic equipment, such as smartphones and computers, aided the growing access to the virtual world, highlighting the increasing importance of online commerce (Grewal et al., 2017; Pentz et al., 2020; Wagner et al., 2020; King et al., 2022).

The global dissemination of internet access is considered a crucial factor in enabling the expansion of online retail, and indeed, it is directly related to the evolution of this sales channel (Faqih, 2016; Ramzy and Eldahan, 2016). The internet is responsible for major changes in the lifestyle and values of contemporary society, and social interactions were drastically impacted by the advent of this technology (Talwar et al., 2020a). Consumer relations have followed the same pattern of evolution on a global scale and the number of transactions through electronic commerce has grown exponentially as internet access has become more widespread (Ramzy and Eldahan, 2016).

Electronic channels have had an increasing share in people's portfolios. In this context, the literature suggests more in-depth studies on the behaviour of these consumers in this new shopping environment and the differences between the physical and virtual environment. Studies on purchase behaviour in the online environment have shown

differences compared with the offline environment (Díaz et al., 2017; Silva and Gonçalves, 2016). One of the characteristics of electronic channels is that there is still a lack of physical interaction between retailer and consumer. Thus, distance has become an object to be considered in the application of traditional marketing concepts in new electronic consumption relationships (Lim et al., 2016). Another point to be considered is promotions and sales, a traditional weapon of retailers with regard to generating revenue. It has a greater impact offline than it does on online purchases (Arce-Urriza et al., 2017). In this respect, the study of Zhang and Wedel (2009) highlights the differences in the impact of promotions when consumers purchase from online rather than offline channels. Due to these differences, it is necessary to understand better how consumers behave in an online environment.

Despite the differences between the form of offline and online sales, electronic commerce has emerged as an important factor of change in businesses (Iglesias-Pradas et al., 2013; Klepek and Bauerová, 2020; Sabbir et al., 2020). The integration of new digital technologies, principally in the retail universe, has transformed consumer relations in the last ten years (Pentz et al., 2020; Petit et al., 2019). These new relations are altering how business is conducted on a daily basis. However, in spite of the growing numbers related to online shopping, a high percentage of internet users view online purchases as a source of great risk and uncertainty (Mathur, 2015). Thus, a certain part of the market remains resistant to adopting online platforms as a shopping channel.

3 Materials and methods

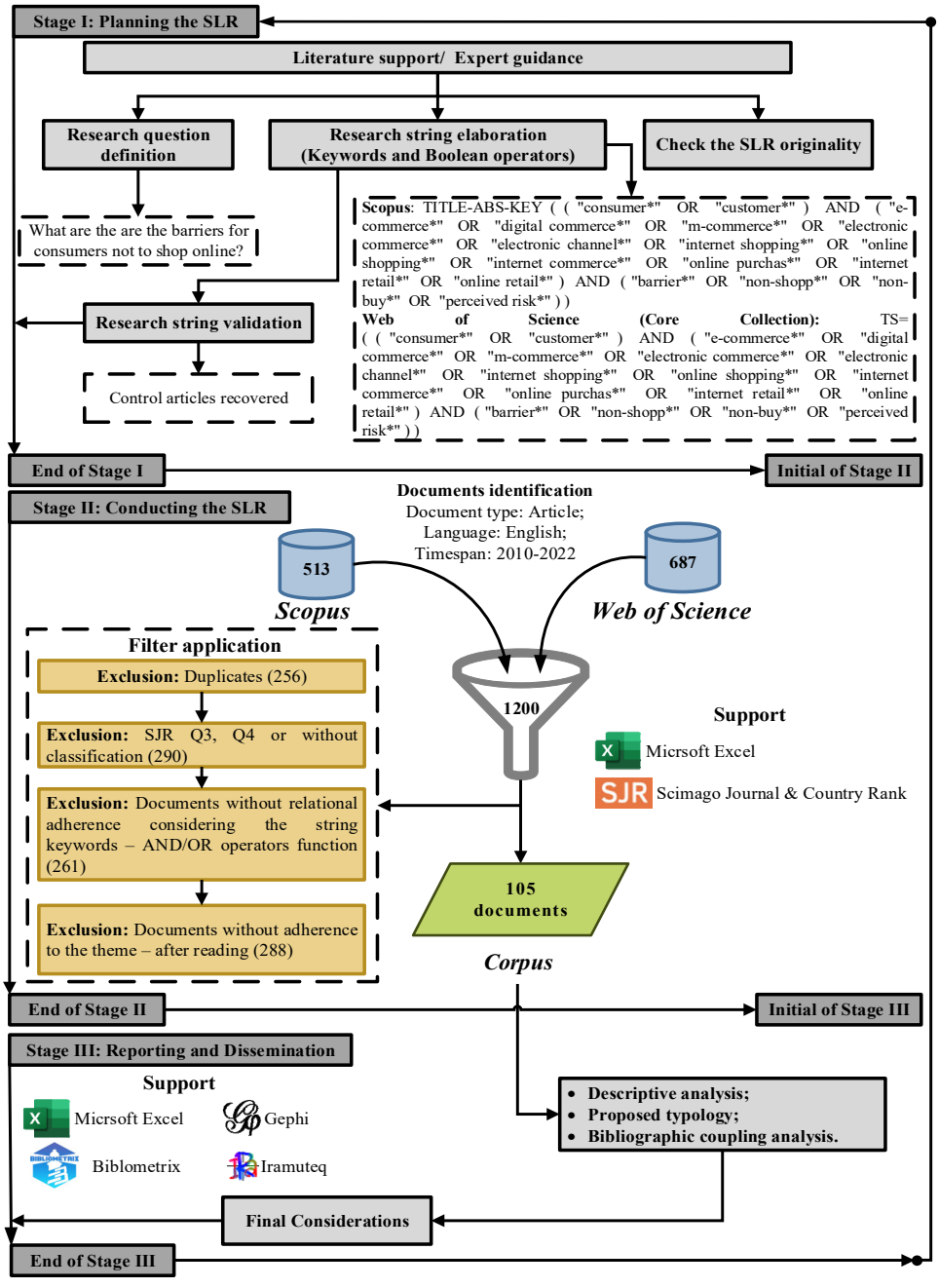
To respond to the proposed objective, it was necessary to conduct a SLR to map and treat the information in the literature on the main barriers that prevent consumers from purchasing online (Galvão and Pereira, 2014). This study unfolded through the use of the protocol developed by Tranfield et al. (2003) (Figure 1), widely applied in the scientific literature (Donthu et al., 2021; Rojon et al., 2021; Snyder, 2019). To conduct this SLR, the Scopus and Web of Science databases were chosen to conduct this SLR due to their scope and comprehensive coverage of scientific literature (Chadegani et al., 2013; Chersan et al., 2020). When considering that researchers from different contexts, interests, and languages use Scopus and Web of Science databases, it is also essential to mention their continuous updating process, seeking to adapt to the needs of their users (Okhovati et al., 2017).

3.1 Stage I: planning the SLR

Stage I was based on guidance from experts in the field, in addition to literature support, to determine the scope, research question, and SLR search string. It is important to highlight that this SLR is based on Bach et al. (2020), used as control articles to validate the search string. After constructing the research problem, defining the keywords and Boolean operators, a study was conducted of the selected databases in an attempt to identify the pre-existence of a similar study. The purpose of this search was to guarantee the theoretical and practical relevance, as well as the uniqueness, of this SLR.

To search the databases, the same strings and filters used to construct the textual corpus were used (Figure 1), with the addition of the term ‘SLR’, as shown in Table 1.

Figure 1 SLR protocol (see online version for colours)



Source: Adapted from Tranfield et al. (2003)

Table 1 Strings and number of articles resulting from searching about reviews

Databases	*Strings*	*Results*
Scopus	(TITLE-ABS-KEY (“systematic literature review”)) AND (TITLE-ABS-KEY ((“consumer*” OR “customer*”) AND (“e-commerce*” OR “digital commerce*” OR “m-commerce*” OR “electronic commerce*” OR “electronic channel*” OR “internet shopping*” OR “online shopping*” OR “internet commerce*” OR “online purchas*” OR “internet retail*” OR “online retail*”) AND (“barrier*” OR “non-shopp*” OR “non-buy*” OR “perceived risk*”)))	4
Web of Science	TS = (“systematic literature review”) AND TS = ((“consumer*” OR “customer*”) AND (“e-commerce*” OR “digital commerce*” OR “m-commerce*” OR “electronic commerce*” OR “electronic channel*” OR “internet shopping*” OR “online shopping*” OR “internet commerce*” OR “online purchas*” OR “internet retail*” OR “online retail*”) AND (“barrier*” OR “non-shopp*” OR “non-buy*” OR “perceived risk*”))	7

The search resulted in 11 articles, of which eight are exclusive:

1 Klepek and Bauerová (2020) used a SLR with a focus on online grocery stores

2 Kumar (2022) review the state-of-the-art literature on online retailing

3 the SLR developed by Soleimani (2022) focus on trust in e-commerce environments

4 in the context of e-commerce, Christian and Utama (2021) study the problems and what influences consumers to give feedback

5 Kajol et al. (2022) identified the factors that influence the adoption of digital financial transactions

6 Chi et al. (2021) developed and validated a scale that measures consumers’ trust

7 Talwar et al. (2020b) provided an SLR on consumer resistance to digital innovations

8 De Borba et al. (2021) provide a theoretical description of reverse logistics applied to omnichannel retail, the identification of the return barriers in omnichannel and a conceptual framework.

The content analysis showed that the reviews found were not intended to propose any kind of typology for the studies that they analysed. Thus, their work does not diminish the importance and uniqueness of the present study, as the two studies have different goals, thus reinforcing the originality of the present study.

3.2 Stage II: conducting the SLR

Stage II involves applying the search string in the Scopus and Web of Science (Core Collection) databases. As shown in Figure 1, after identifying the documents, was used the inclusion/exclusion criteria (Rojon et al., 2021; Tranfield et al., 2003). After identifying the articles (1,200):

1 The first filter was to remove the duplicate studies (256).

2 The second filter was to verify the quartiles from the journals in which the articles were published, according to Scimago Journal and Country Rank (SJR, https://www.scimagojr.com/). We selected articles published in journals classified in the first and second quartiles (Q1 and Q2). Journals in these first two quartiles have lower acceptance rates than those in the third and fourth quartiles or those without classification (WC). They are, therefore, more productive, more selective, and publish higher quality work than those in Q3 and Q4 (Gu and Blackmore, 2017; Kaczam et al., 2022). With the execution of this filter, we removed 290 articles (Q3, Q4, or WC/register in the platform).

3 The third filter consisted of verifying the presence of the string words in the title, abstract, and keywords fields, also obeying the functions of the OR and AND operators. With the execution of this filter, we removed 261 studies.

4 The fourth filter was to verify the adherence to the research theme by reading the documents.

After this filter, we removed 288 papers, finalising the selection process with a textual corpus of 105 pieces.

It is essential to highlight that, based on the recommendations of Almeida and Goulart (2017), the selection process of the textual corpus involved all authors working independently to collect information and working together to resolve disagreements. This way, we seek to ensure a comprehensive search strategy and reduce errors and selection biases.

3.3 Stage III: reporting and dissemination

To process the information extracted from the final corpus, the articles were submitted to a set of analyses with the aid of the following software:

1 Gephi network analysis and visualisation software package (Jeyasekar and Saravanan, 2015)

2 Bibliometrix (RStudio, version 3.6.3, 2020-02-29), which is an integrated interface based entirely on R statistical software (RStudio Team, 2021)

3 Microsoft Excel for data compilation

4 IramuteQ, version 0.7 Alpha 2, an interface built on R software that helps to construct graphic analyses of textual data (Camargo and Justo, 2013).

It is important to highlight that the development of the analysis in the present SLR is supported by the Zipf Law (1949), with words as unit analysis, and Lotka Law (1926), with authors as unit analysis.

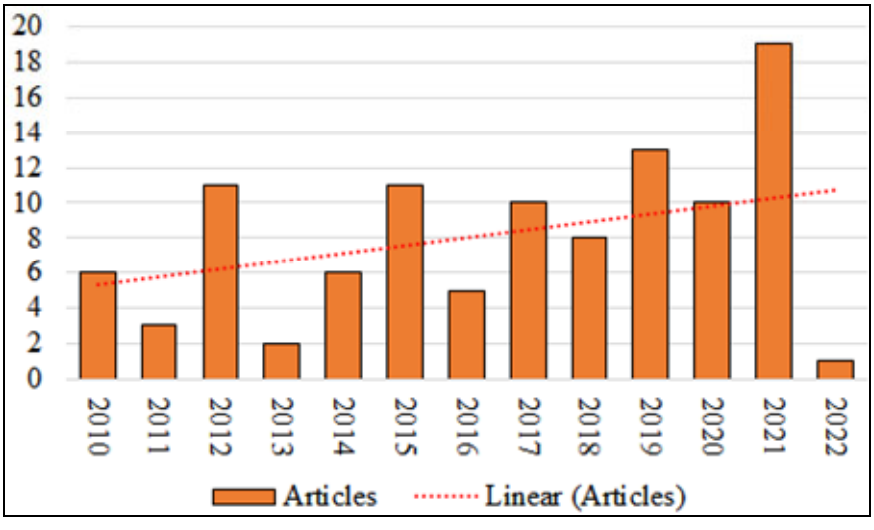
4 Data presentation and analysis

This section highlights the results obtained from the analysis of the corpus of 105 articles. In this stage, the descriptive analysis is presented to provide evidence of some general characteristics of the textual corpus. The results, based on the content analysis, are presented in the light of the proposed typology. The analysis of the coupling network shows how the authors in the corpus are connected, with focus on future research suggestions.

4.1 Descriptive analysis

The final textual corpus was composed of 105 articles published between 2010 and the 25th of September 2022, taken from 69 top-tier journals. The selected articles were produced by a total of 286 authors and co-authors. The evolution of the scientific production on the theme in question is shown in Figure 2, distributed by year of publication. It should be observed that, despite a slowly growing trend, it cannot be said that the number of publications constantly evolved. The data series shows some dips in the scientific production, especially in 2013, when only one scientific article was published.

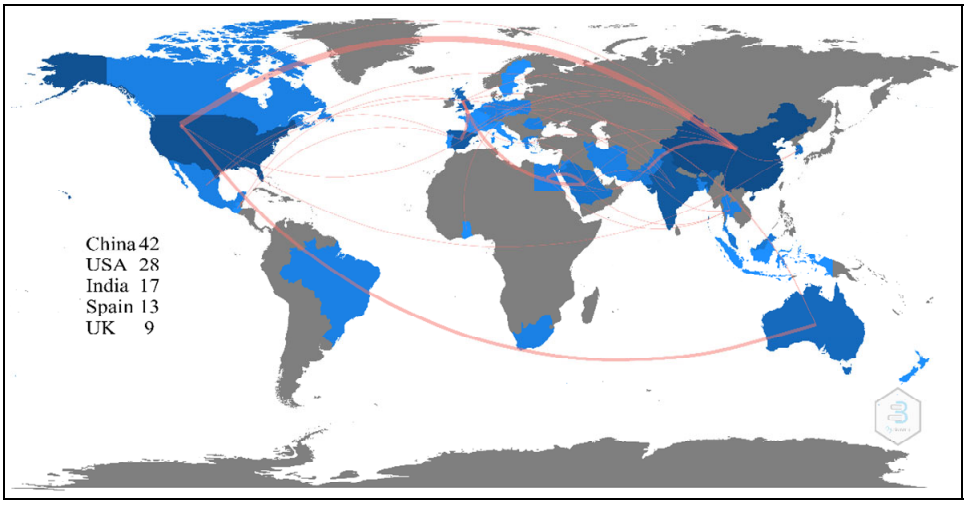
Figure 2 Annual scientific production (see online version for colours)



The set of works considered during the period contains an average of 44.04 citations per article, in particular the work of Kim and Lennon (2013), entitled 'Effects of reputation and website quality on online consumers' emotion, perceived risk and purchase intention: Based on the stimulus-organism-response model', and published in the *Journal of Research in Interactive Marketing*. This article contains the highest number of citations of all the articles in the textual corpus, having been cited 303 times. The most frequently cited articles are the oldest ones, in other words, from the beginning of the period under study, in the year 2010. This is natural, given that a citation window was considered of at least two years following their publication (Campanario, 2015).

With regard to the geographical distribution of the scientific production in question (Figure 3), the countries with the most scientific production on the theme are the China and the USA. These two countries, respectively, account for 40% and 26.67% of the scientific production in the textual corpus. Coincidentally, the USA and China are the countries with the biggest electronic commerce markets in the world (Forer, 2019). China and the USA are also the countries that most engage in international collaboration to publish studies. It is important to highlight that some authors and co-authors may be linked to more than one education institution, which may be from different countries. Therefore, an author or co-author may represent more than one country simultaneously.

Figure 3 Map of collaboration between countries (see online version for colours)



Source: Data research, estimated by RStudio

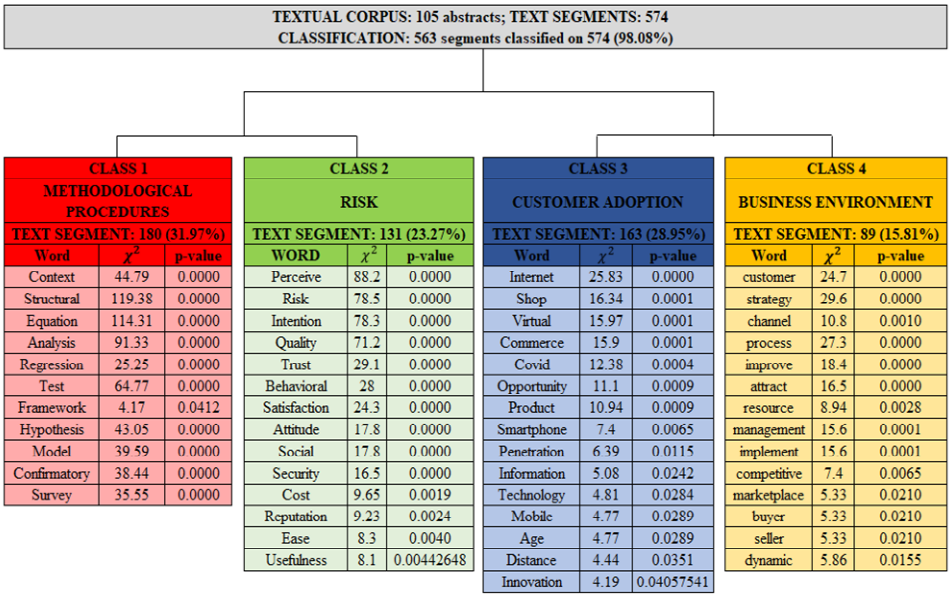
Figure 3 also shows the most influential countries, highlighting the USA and Spain. These two countries are also the ones with the oldest publications in the corpus, which corroborates their considerable influence. Furthermore, developing countries, such as Brazil and South Africa, have the most recent studies on the theme. This finding is in keeping with the recent increase in the dissemination of e-commerce tools in these countries. On the other hand, North America and Europe were pioneers in the mass dissemination of e-commerce tools and have the oldest studies. In this respect, it could be said that studies on e-commerce are directly proportional to the degree of diffusion of this shopping channel in a country. The more widespread the technology, the greater the interest of researchers in the theme.

4.2 Proposed typology

Based on the definition provided by Bilro and Loureiro (2020), corroborated by Fabrizio et al. (2021), a typology is a systematic clustering of words based on how frequently they occur and their meaning and context. The organisation of a text allows the interpretation of more relevant words associated with the main research theme to provide insights to strengthen studies related to the field.

This article's typology was taken from the Reinert method, which uses descending hierarchical classification (DHC) obtained with IRAMUTEQ software. Eighty-five abstracts of articles from the textual context were considered, comprising 574 text segments, of which 563 were classified, corresponding to approximately 98.08% of the sample. A minimum of 70% of text segments must be classified for the DHC to be statistically significant (Camargo and Justo, 2013). Concerning categorisation, four classes were obtained, which were renamed following the content analysis, as shown in Figure 4.

Figure 4 Classes of the typology (see online version for colours)



CLASS 1 METHODOLOGICAL PROCEDURES		
TEXT SEGMENT: 180 (31.97%)		
Word	χ^2	p-value
Context	44.79	0.0000
Structural	119.38	0.0000
Equation	114.31	0.0000
Analysis	91.33	0.0000
Regression	25.25	0.0000
Test	64.77	0.0000
Framework	4.17	0.0412
Hypothesis	43.05	0.0000
Model	39.59	0.0000
Confirmatory	38.44	0.0000
Survey	35.55	0.0000

CLASS 2 RISK		
TEXT SEGMENT: 131 (23.27%)		
WORD	χ^2	p-value
Perceive	88.2	0.0000
Risk	78.5	0.0000
Intention	78.3	0.0000
Quality	71.2	0.0000
Trust	29.1	0.0000
Behavioral	28	0.0000
Satisfaction	24.3	0.0000
Attitude	17.8	0.0000
Social	17.8	0.0000
Security	16.5	0.0000
Cost	9.65	0.0019
Reputation	9.23	0.0024
Ease	8.3	0.0040
Usefulness	8.1	0.00442648

CLASS 3 CUSTOMER ADOPTION		
TEXT SEGMENT: 163 (28.95%)		
Word	χ^2	p-value
Internet	25.83	0.0000
Shop	16.34	0.0001
Virtual	15.97	0.0001
Commerce	15.9	0.0001
Covid	12.38	0.0004
Opportunity	11.1	0.0009
Product	10.94	0.0009
Smartphone	7.4	0.0065
Penetration	6.39	0.0115
Information	5.08	0.0242
Technology	4.81	0.0284
Mobile	4.77	0.0289
Age	4.77	0.0289
Distance	4.44	0.0351
Innovation	4.19	0.04057541

CLASS 4 BUSINESS ENVIRONMENT		
TEXT SEGMENT: 89 (15.81%)		
Word	χ^2	p-value
customer	24.7	0.0000
strategy	29.6	0.0000
channel	10.8	0.0010
process	27.3	0.0000
improve	18.4	0.0000
attract	16.5	0.0000
resource	8.94	0.0028
management	15.6	0.0001
implement	15.6	0.0001
competitive	7.4	0.0065
marketplace	5.33	0.0210
buyer	5.33	0.0210
seller	5.33	0.0210
dynamic	5.86	0.0155

Source: Data research, estimated by Iramuteq

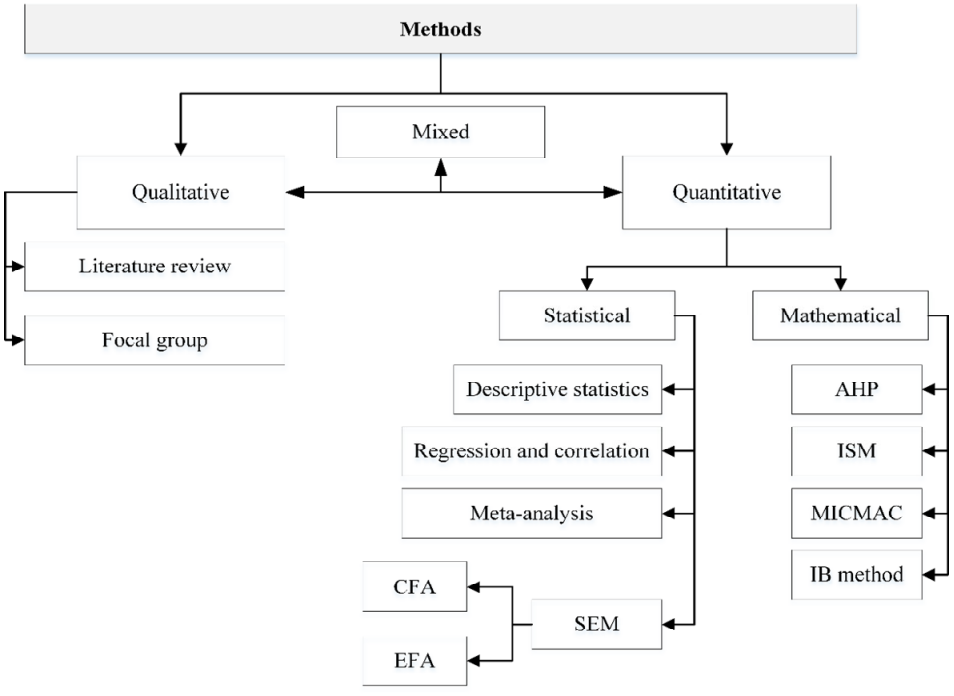
We only considered words with a minimum frequency of 10 and with a chi-square statistic higher than 3.80 ($\chi^2 > 3.80$) were considered, or alternatively, with a probability value of less than 5% (p-value < 0.05). It should be highlighted that a p-value < 0.05 portrays a level of significance in terms of association between words and classes (Reinert, 1990).

Class 1 has terms related to the methodological procedures used in the articles in the textual corpus. To complement the discussion of this class, a more detailed classification of the analysis methods that were used is presented in Figure 5.

Regarding the approaches, the studies that were analysed were mostly quantitative, with the application of statistical and mathematical methods. In addition to the descriptive statistic, regression and correlation, the information bottleneck method (IB method) was also applied (Iwański et al., 2018). Furthermore, structural equation modelling (SEM), through confirmatory factor analysis (CFA) or exploratory factor analysis (EFA), was widely used to test hypotheses (Chen et al., 2018; Cho, 2010; Herrero and San Martín, 2012; Hong, 2015; Thaw et al., 2012; Zendehdel et al., 2016; Zhao et al., 2017). Of the various kinds of software that were used, SmartPLS, WarpPLS

and AMOS should be highlighted. Concerning the mathematical models, the analytical hierarchy process (AHP) stood out (Guru et al., 2020).

Figure 5 Detail of main methods



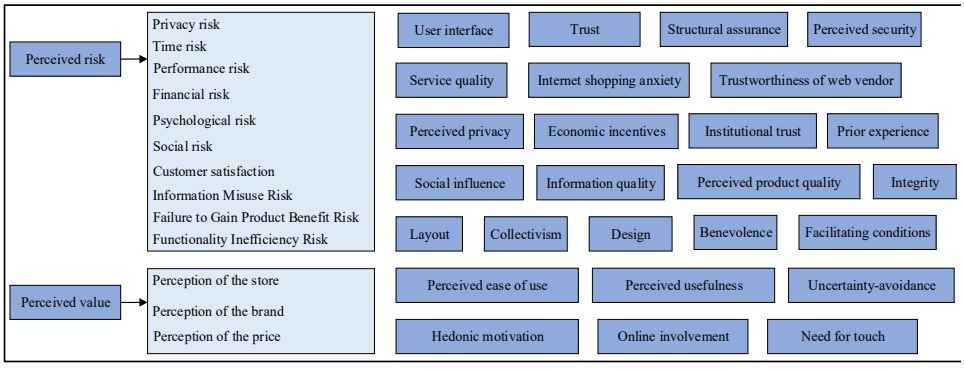
With regard to mixed methods, Khan et al. (2015) used the interpretive structural model (ISM) approach and impact matrix cross-reference multiplication applied to a classification (MICMAC). Martinez et al. (2018) combined the focal group method with descriptive statistics. Chaparro-Peláez et al. (2016) used a fuzzy-set qualitative comparative analysis (fsQCA), which, according to Kraus et al. (2018), is a tool kit that is simultaneously qualitative and quantitative.

As for the literature review, in addition to the traditional qualitative review (Paredes et al., 2014), the use of meta-analyses was also identified (Pelaez et al., 2019; Sarkar et al., 2020), with research combining multiple studies through statistical analyses.

Class 2 highlights some critical factors for online purchase intention. Perceived risk is what stands out the most in the textual corpus, and as can be seen in Figure 6, it assumes different definitions.

The research by Rosillo-Díaz et al. (2020) contributes to understanding e-commerce and consumer behaviour when shopping online, focusing on the relationship between individual cultural dimensions and variables of perceived product quality, perceived risk and intention to purchase. To increase purchase intention, the authors suggest that, when implementing navigation, interaction, and purchase systems, professionals should consider all aspects related to individual cultural differences to minimise any probability of uncertainty or distrust and ensure that consumers feel comfortable when carrying out any transaction.

Figure 6 Barriers to online shopping (see online version for colours)



For Thaw et al. (2012), security and perceived privacy about information, as well as the reliability of the web provider and the perceived risk, can affect consumer confidence. Perceived risk, in turn, is affected by economic incentives and confidence.

According to Tong (2010), the perceived usefulness and the perceived risk of online shopping affect consumers' online purchase intentions. While perceived ease of use shows an equivalent positive effect on perceived usefulness, the previous online shopping experience has an equivalent positive effect on perceived ease of use and an equivalent negative effect on perceived risks.

Lack of trust can also be considered a barrier to online shopping. In this sense, according to Sarkar et al. (2020), the antecedents of trust in mobile commerce are perceived usefulness, perceived ease of use, system quality, information quality, service quality, user interface, perceived risk, perceived security, structural assurance, ubiquity, and disposition to trust. While, the consequences are: attitude, user satisfaction, behavioural intention and loyalty.

From the perspective of the information system designer, Glover and Benbasat (2010) analyse the perceived risk characterised by the risk of functionality inefficiency, risk of information misuse, and risk of failure to gain product benefit, highlighting the importance of developing simple software, which facilitates the journey of the consumer.

Kaur and Quareshi (2015) validate the relationship of intentions of trust with integrity, benevolence, competence, company image, price awareness and purchase intentions. Recommendations to maintain and improve reliability, benevolence, and craftsmanship are: proper implementation of money back guarantee, using an online shopping cart process, display contacts details, fix resolution to mistakes, promoting online presence, enhance product search, providing after-hour customer service, proper and fair communication of prices, dispute resolution system, instil confidence in customers, highlight security and privacy policy.

Class 3 leads us to discuss environmental factors external to the individual and characteristics intrinsic to the individual, which affect technological adoption, which is essential for online shopping.

Verkijika (2018) highlights social influence and facilitating conditions as important factors for the acceptance of m-commerce. Concerning social impact, m-commerce companies could develop strategies that take advantage of their consumers' social environment. Regarding facilitation conditions, e-commerce vendors should focus on

aspects they can easily control, such as improving customers' knowledge of how to use applications by making them user-friendly.

According to Kumar (2019), age, factors such as design, layout, user interface, and transaction security influence online shopping behaviour and the level of satisfaction, as it interferes with the search and choice of product. Sure, safely.

For Faqih (2016), gender plays a statistically significant moderating role in the relationships between perceived ease of use, social influence, perceived risk, probability factors, and online purchase intention. Thus, it is important to find ways to map behavioural differences based on gender to formulate future marketing strategies.

Additionally, the global COVID-19 pandemic has made it clear that companies need to communicate quickly and efficiently with their customers. In this context, companies can obtain a competitive advantage by developing the utilitarian or practical aspects of their m-services or e-services to continuously improve the shopping experience to satisfy and build customer loyalty. Another important factor is developing applications based on ease of use and sharing, which can contribute to increased sales, especially among millennials (Akram et al., 2021).

Class 4 reinforces the dynamic aspect of the market and the dynamic consumer journey (Kawaf and Tagg, 2017), whether due to technological advances or environmental conditions such as the COVID-19 pandemic. Therefore, the strategic decision to continue the effort to understand the transformations is essential for companies to continue innovating and connecting in a relevant way with people. Experiencing loss and absence in the COVID-19 pandemic transformed and boosted the relevance of 'being together' (omnipresence). In this scenario, the companies will need to challenge themselves to 'be together' in this 'new' world, and thus, build a lasting journey.

4.3 Coupling of authors

Bibliographic coupling was used to measure the degree of similarity between pairs of documents that use the same citations (Kessler, 1963). According to Soós (2014), sharing a set of references indicates a similarity between studies, which may be theoretical, thematic, or methodological. In this context, Figure 7 contains 57 nodes and 740 edges, with a node connectivity of 25.97. The average clustering coefficient is 0.762, and the modularity index of 0.201 suggests that the network has a modular structure (Newman, 2006). Therefore, the entire network can be analysed in four clusters based on modularity.

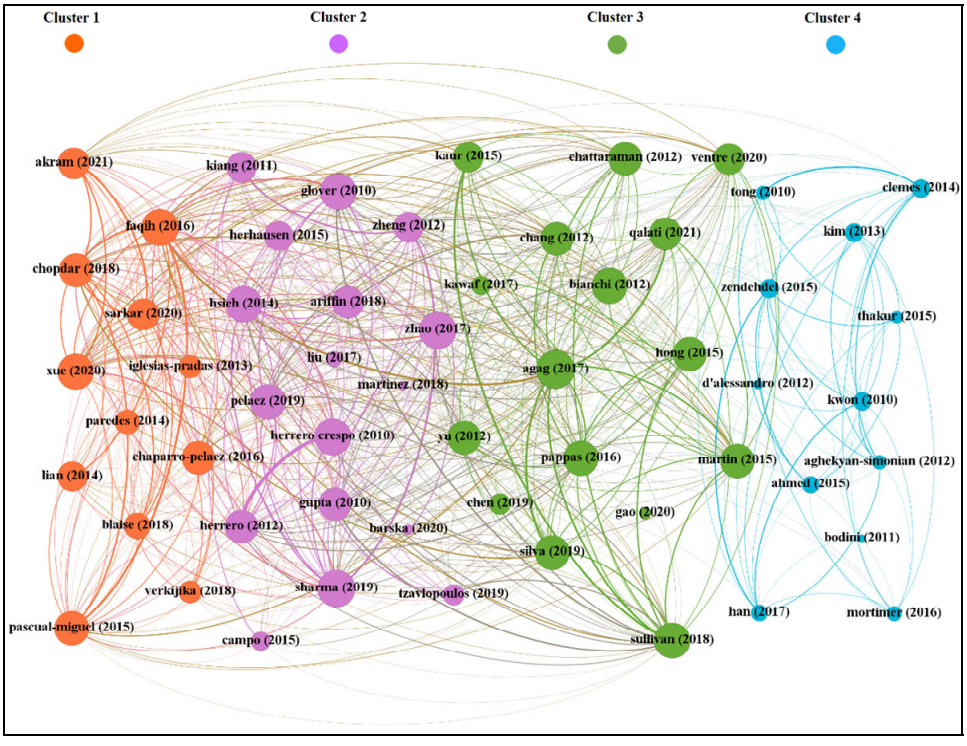
According to Grácio (2016), the bibliographic coupling analysis makes it possible to study the development of research lines, as it allows the identification of the most important research centres, researchers, and articles in a scientific domain. From this perspective, we discuss suggestions for future research development for each cluster.

Indications for future research in Cluster 1 point to the use of broader and more heterogeneous samples to obtain more robust results (Lian and Yen, 2014) and also to the application of the studies in question in different types of products, so that purchasing behaviour can be compared depending on the product or service to be purchased (Pascual-Miguel et al., 2015).

Cluster 2 indicates future studies that bring greater specificity to the results obtained, pointing to the need to analyse specific product categories to understand better the

behaviour of each one (Glover and Benbasat, 2010). Still, Sharma et al. (2019) indicate the removal of the price attribute in future research so that this attribute, considered of great relevance in the purchase decision, can be mitigated and the other purchase influencers can be analysed with greater assertiveness.

Figure 7 Coupled authors' network (see online version for colours)



Source: Data research, estimated by Gephi

It is noted that the studies that are part of Cluster 3 indicate the need for attention to data on the study participants (Pappas, 2016). As in Cluster 1, here are recommendations for the studies to be replicated in different categories of products, pointing mainly to the need for a separate analysis of trade in products and services.

Cluster 4 points to the need for future studies that consider the degree of previous experience of the study participants, in order to identify participants who are already familiar with online shopping and also familiar with the brands they are buying (Clemes et al., 2014). All clusters presented indicate the need to apply the studies in different countries and geographic regions.

5 Final considerations and limitations

Considering the scientific production available on Scopus and Web of Science databases, the purpose of this article was to analyse, through a SLR, the scientific research on online shopping barriers. Among the main results, based on descriptive analysis, we identified a

textual corpus comprising 105 articles published in 69 top-tier journals. Furthermore, the studies identified were conducted by 286 authors and co-authors representing 35 different nationalities. This demonstrated the importance of the theme in several markets and a growing concern over understanding the principal barriers that lead consumers not to make online purchases, which helps to support the widespread dissemination of the theme of this study. Furthermore, the diversity of the authors' and co-authors' nationalities shows that barriers to online shopping, as a research theme, are relevant worldwide.

The principal contribution of this article is related to the identification of the proposed typology, with four classes discussing:

1 research methods

2 a set of barriers to online shopping and strategies to reduce them

3 environmental factors external to the individual, as well as characteristics intrinsic to the individual

4 the dynamism of the market and the consumer journey.

The findings of this study also present theoretical and managerial implications. In addition to identifying the typology for studies on the reasons why people do not make online purchases, this study makes other contributions to the field:

1 the presentation of an updated portfolio of studies related to online consumer behaviour

2 the presentation of the bibliometric characteristics of the field of research

3 a set of barriers and strategies to reduce them

4 a set of future research recommendations.

Thus, companies that intend to or that already operate in e-commerce can use this study as a starting point to help define their strategies to minimise risks to increase consumers' trust in online shopping transactions.

Until the conclusion of this article, this is the first to propose a typology for studies that address why consumers do not make online purchases while presenting a scientific basis for future studies on the topic. In addition, this study provides evidence of research that serves as a background for managerial decisions related to electronic commerce by indicating why consumers do not shop online, corroborating the current literature.

The main limitation of this study is that it involved only articles published in journals classified within the first two quartiles of the Scimago Journal Ranking (SJR). Relevant studies on the theme could also have been published in journals ranked in the other quartiles or even in other databases. The limitations presented in the initial search of this study, such as the only choice of articles in English, could have excluded works published in other formats and languages. The period of the textual corpus is a relevant limitation of this study. All of the limitations could serve as a starting point for future studies.

A suggestion for future studies is to apply the proposed typology in different markets to identify the similarities and differences in objections to online shopping, depending on the kind of product or service. Future studies could also contain deeper separate analyses

in each typology class to construct classifications within the four classes indicated in the present study. Finally, we suggest more profound studies to solve the barriers represented herein. It should be highlighted that this is a complex theme and that the present study was not intended to be exhaustive.

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