

The progress of e-commerce marketing: a systematic literature review

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Resumo

The relevance of marketing studies regarding e-commerce has grown significantly during the COVID-19 pandemic. This paper proposes a systematic literature review of the e-commerce marketing field, in the interest of identifying its evolution and the possible impacts that the pandemic presented on the literature development. Bibliometric analysis of the high-impact literature, 95 articles from the Scopus and Web of Science database were performed, with no time limits. Even though the pandemic didn't receive much attention by the high-impact literature concerning the direct effects on e-commerce marketing, it's possible to remark a growing and maturing interest at the thematic since its origin, which was intensified during the pandemic years. During its development, the body of knowledge in the field discussed and integrated many subjects, such as consumer behavior, strategic marketing, decision-making processes, relationship marketing, technology and innovation. Considering the findings' analysis, the challenges and opportunities of e-commerce marketing were discussed, alongside with a research agenda that indicated new avenues to explore the construct. With this general synthesis of the field's progress since its first appearance, a theoretical foundation was developed to highlight the path previously investigated and the directions to further research.

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ABSTRACT:

The relevance of marketing studies regarding e-commerce has grown significantly during the COVID-19 pandemic. This paper proposes a systematic literature review of the e-commerce marketing field, in the interest of identifying its evolution and the possible impacts that the pandemic presented on the literature development. Bibliometric analysis of the high-impact literature, 95 articles from the Scopus and Web of Science database were performed, with no time limits. Even though the pandemic didn't receive much attention by the high-impact literature concerning the direct effects on e-commerce marketing, it's possible to remark a growing and maturing interest at the thematic since its origin, which was intensified during the pandemic years. During its development, the body of knowledge in the field discussed and integrated many subjects, such as consumer behavior, strategic marketing, decision-making processes, relationship marketing, technology and innovation. Considering the findings' analysis, the challenges and opportunities of e-commerce marketing were discussed, alongside with a research agenda that indicated new avenues to explore the construct. With this general synthesis of the field's progress since its first appearance, a theoretical foundation was developed to highlight the path previously investigated and the directions to further research.

Keywords: e-commerce; marketing; literature review; bibliometric analysis; COVID-19.

1. Introduction

Despite the pandemic scenario caused by Covid-19, e-commerce is in one of the most important moments since its creation, receiving an even greater flow of transactions, consumers, and companies. United Nations data (2021) showed the increase in the global balance of e-commerce sales in 2020 to 26.7 trillion dollars, a value 4% higher compared to 2019. Other data shows that the best result of the online retailer Amazon happened in the 3rd quarter of 2020, with an increase of more than 35% in sales revenue, both in the United States and internationally (UNCTAD, 2021a). It is possible to relate these results to the fact that online commerce has become a providential part of human routine. With increasingly frequent protective measures, such as the lockdown, migrating to digital has become a way to provide and buy more products and services (UNCTAD, 2021b), keeping the market active even in a situation of intense social distance.

E-commerce was already a relevant channel before this scenario, but it has come a long way to its current state. Its initial adoption was strongly marked by the negative impact of users' perception of risk (Bhatnagar & Ghose, 2004). This was the picture shown in 2001 of German online consumers, showing that 53% of them expressed concern about privacy and security (van den Berg & van Lieshout, 2001). However, such concern was not limited to a specific country, becoming a reality for all possible online buyers. For all online customer segments, web attributes related to perceived losses, such as security of confidential information and internet provider reliability, had a greater impact on online customer behavior than perceived gains, such as ease of ordering (Bhatnagar & Ghose, 2004). At the time, e-commerce could be seen as a good channel for early adopters, but most customers were still concerned about the safety of online shopping in general.

This new normal, in the sense of carrying out transactions online, has been transformed over the years. Before, product-oriented marketing strategies prevailed among e-marketers (van den Berg & van Lieshout, 2001). Now, keywords like brand reputation, digital interaction, and customer behavior became some of marketing's latest contributions (Mu & Zhang, 2021; Silva & Bonetti, 2021; Wang et al., 2021). As society evolves, marketing also

evolves, and this is one of its main objectives: to add value to the customer and, with it, guarantee the fulfillment of the objectives pursued by the company, maintaining competitive advantages, and adapting to different environments (Varadarajan, 2010). From this perspective, organizations find new opportunities to solve society's demands through e-commerce, within the pandemic scenario, which makes it a factor for accelerating digital transformation (UNCTAD, 2021a). Due to the clear need to continue social and economic activities, this time remotely, digital solutions are increasingly in demand (UNCTAD, 2021a), a phenomena also explained by the high volatility of the environment created by high-risk situations for businesses, such as the Covid-19 pandemic (Amankwah-Amoah et al., 2021).

The literature on e-commerce developed from initial approaches in relation to distrust in e-commerce or the implications of adopting the channel in new markets (Sigala, 2002; van den Berg & van Lieshout, 2001; Wang et al., 2002), to advanced practices present in current marketing activities, such as the impact of augmented reality experiences on the relationship with the customer of virtual stores and scientific models to understand the differentiation created by the brand experience within e-retail (Kowalczyk et al., 2021; Mondal & Chakrabarti, 2021). However, considering the pandemic's impact and how it affected the evolution of e-commerce itself, either positively, as in the case of Amazon, or negatively, such as the 65% drop in online purchase of airline tickets in Brazil, comparing data from 2018 with those of 2020 (UNCTAD, 2021a), there's a gap in the literature regarding the evolution of applied marketing on digital commerce and the impacts of the pandemic.

Through the study of high-impact scientific production on marketing practices in the performance of virtual commerce in times of pandemic, the objective of this study is to present the development of the e-commerce marketing literature field, alongside with the impacts of the pandemic in this construct.

Based on the perception of the impact of the theme, a literature review is required to understand the phenomenon in its entirety, as they facilitate the understanding of the milestones and gaps within the theme's progression (Paul & Criado, 2020). It is from the development of this research that the points of notoriety are evidenced, bringing this systematic review of the relevant production regarding the subject, which can reveal more details about the fundamentally striking points, considering the maturation of marketing strategies in the context of virtual commerce.

If recent marketing productions are concerned with the impact of design on points of contact with the customer (Kumar, 2021), it is because the study of previous demands, such as the perception of online security (Bhatnagar & Ghose, 2004) and consumer adoption in the retail market virtual (Ellis-Chadwick et al., 2002), created fertile ground for solutions in the market. These solutions could enable the advancement of marketing research, which will also serve as a basis for the construction of new strategies and themes, such as analyzing whether post-purchase satisfaction in contact with augmented reality technologies has a real impact on the loyalty of online channels (Kowalczyk et al., 2021). In a practical way, a review like this provides the theoretical foundation capable of supplying managers, researchers, and stakeholders as a whole to foster digital transformation in society, highlighting scientific production as a portrait, foundation and direction of this process.

2. Theoretical Background

According to Farida (2017), e-commerce is characterized by the execution of online business transactions. This definition becomes more comprehensive when brought to the e-business ecosystem, which is the operation of a business over the internet, making it able to expand its marketing to national and international markets (Farida et al., 2017).

Despite its time of existence, e-commerce's definition did not show much variation. In the early stages, the meaning was translated into a variety of business transactions carried out electronically (IFAC Quarterly, 1998), which, in a short time, already shared space with a new understanding that included "via the internet" in place of "by electronic means" (van den Berg & van Lieshout, 2001).

The perpetuity of this concept followed the dominant scientific production on the subject until recently. This in the sense that its literary set, in a general way, still consisted of the same striking aspect: the adoption of e-commerce by the market. Therefore, studies of purchase intent and acceptance of different markets within the virtual environment, which can be considered previous steps in the online customer journey, were common topics until 2019 (Bergendahl, 2005; Bhatnagar & Ghose, 2004; Ellis-Chadwick et al., 2002; Kim et al., 2009; Kim et al., 2011; Lim et al., 2006; van den Berg & van Lieshout, 2001; Zhu et al., 2019).

The acceptance and use of e-commerce, already recognized even before the pandemic (Kim, 2020), were reinforced with the pandemic, along with a strong presence of themes focusing on what could next steps in the customer journey, such as customer satisfaction and loyalty, and after-sales marketing, in addition to other types of marketing strategies such as user experience and inbound marketing (Chatterjee et al., 2021; Chen & Yang, 2021; Erdmann & Ponzoa, 2021; Kumar, 2021; Mu & Zhang, 2021; Srivastava et al., 2020).

It is possible to show that the e-commerce marketing field is surrounded by specificities that have gained notoriety in the digital scenario. Analytics such as text mining and machine learning are just some of the examples of technologies that provide even more efficient means of carrying out scientific research (Chatterjee et al., 2021). These technologies also end up impacting the consumer, who becomes the compass for advancing integrations such as augmented reality in virtual commerce (Kowalczyk et al., 2021).

These new practices and extensions of the scientific method enable the academic community to reach new levels of production. While statistical analyzes guarantee the reliability of quantitative research for a sample of hundreds of participants captured in a humanized way (Cazier et al., 2006), technological advances allow the study of hundreds of thousands of online assessments, within a qualitative approach, within the same period or even minor (Chatterjee et al., 2021).

In this way, the concept of e-commerce, its evolution in the context of marketing and the most current relevant works interact to represent not only a set of academic production, but a historical process. The validation of the internet as an intrinsic part of this channel, the systematic and multifaceted study of its adoption, together with other marketing strategies, and the advancement of research methodology impact the way of living in society.

3. Methodological Procedures

The guiding purpose of this work is to identify the theoretical-empirical development and impact of the pandemic in the field of e-commerce marketing, based on a systematic review of the high-impact literature. Therefore, this study made use of a systematic literature review with bibliometric analysis, for a deeper understanding of a given scientific field (Paul & Criado, 2020).

The protocol used was that of Templier & Paré (2015), which points out six steps for conducting a systematic literature review. The first step refers to the formulation of the problem, represented by the objective of this article. In turn, the second stage involves the search for literature. To this end, the Scopus and Web of Science databases were used due to the number of indexed journals (Scopus) and the quality and temporal scope of the journals (Web of Science) (Chadegani et al., 2013; Mongeon & Paul-Hus, 2016). Due to the intention

to understand the evolution of the theme since its inception, a temporal delimitation was not adopted for data collection, which was carried out in October 2021.

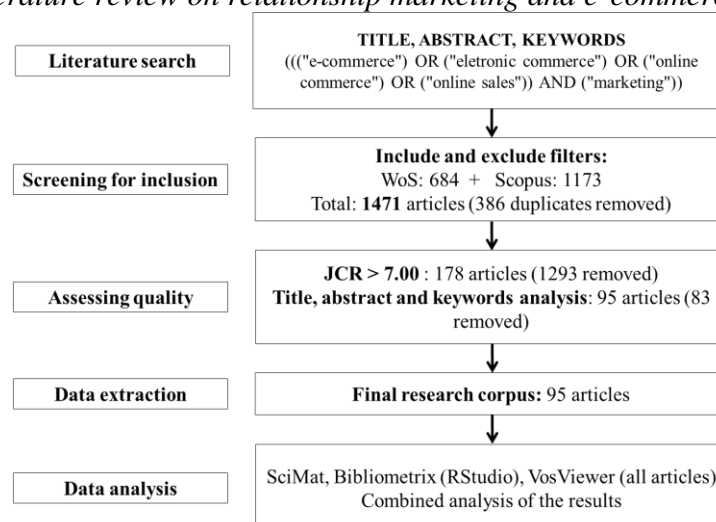
Thus, searches were performed in both databases through the title, abstract and keywords of the articles, with the following combination: (((("e-commerce") OR ("electronic commerce ") OR ("online commerce ") OR ("online sales ")) AND ("marketing")). This selection aimed to cover all articles related to marketing in the context of e-commerce. With this, the third stage, the inclusion criteria, was selected, in which articles published only in English-language journals, as well as in the Business and Management area, the focus of the present study. Thus, 684 articles were identified in the Web of Science database and 1173 in Scopus, of which 386 duplicates were removed. In the end, the total of articles was 1471.

The fourth step involves evaluating the quality of the articles. Following the initial assumption of this study of analyzing the evolution of marketing in e-commerce and its main trends in the high-impact literature, only journals with a Journal Index Citation Report (JCR) above 7.00 were selected. As a result, the Top 30 of journals was maintained, as recommended by Aguinis et al. (2020), who uses the Top 50 in his study, since it comprised the 100 articles with the greatest impact. However, the large number of articles found prevented the same criterion, so it was adapted in this study to the Top 30, since it contained the 178 articles from journals with the highest impact factor. After this selection, a new quality filter was carried out when analyzing the title, abstract and keywords of the remaining articles, to verify the effective relevance of the articles to the desired theme, or if the theme was treated only in an underlying way. Therefore, 95 articles remained, reaching a number close to the target during the choice of the criterion followed by (Aguinis et al., 2020).

The fifth step refers to data extraction, so that the original databases were returned to access the final articles in the sample. Finally, the final stage of data analysis was carried out, in which bibliometric analysis were made to identify the evolution of the theme and its future paths. Figure 1 illustrates the research strategy, through the chosen systematic review protocol.

Figure 1

Protocol of the literature review on relationship marketing and e-commerce



Continuing with the bibliometric analyses, the 95 articles were all analyzed using the software SciMat, VosViewer, and the Bibliometrix package, in the R language. SciMat enables the creation of a bibliometric mapping of scientific production over time periods,

according to its performance, impact, and quality (López-Robles et al., 2021). The Bibliometrix package, which uses the R language in the RStudio software, allows bibliometric analysis from the databases used in this study, in addition to being recognized for enabling a complete analysis of scientific fields (Aria & Cuccurullo, 2017). In turn, the VosViewer software provides analyzes based on the identification of relationships within the same scientific field, a tool with broad potential for applying literature analysis, especially due to its attention to graphic display and interpretation of results through thematic clusters (van Eck & Waltman, 2010).

In addition to the bibliometric analyses, the data analysis stage included a reading of the articles in the final sample, to cover aspects not analyzed by the software used. Also, the places where the researches were applied out, the main themes discussed and the suggestions for future research of each article, composing an agenda, were also analyzed.

4. Findings

In order to complement the exposition of the evolution of the theme over the years, the analysis of the production by periods was carried out in SciMat, in addition to other bibliometric analysis carried out with the Bibliometrix package, in the R language, in order to map the scientific field. Finally, the analysis performed by VosViewer makes it possible to identify the main trends, used to build an agenda for future research so that the past, present and future of marketing in e-commerce were analyzed.

4.1 Evolution of e-commerce marketing

It is relevant to understand how the scientific field has evolved in journals with the greatest impact since the emergence of electronic commerce. It is noteworthy that there was no time restriction for the development of this study, so that the first article published on the topic, according to the listed criteria, was in 2001, as can be seen in Figure 2.

Figure 2

Number of publications per year

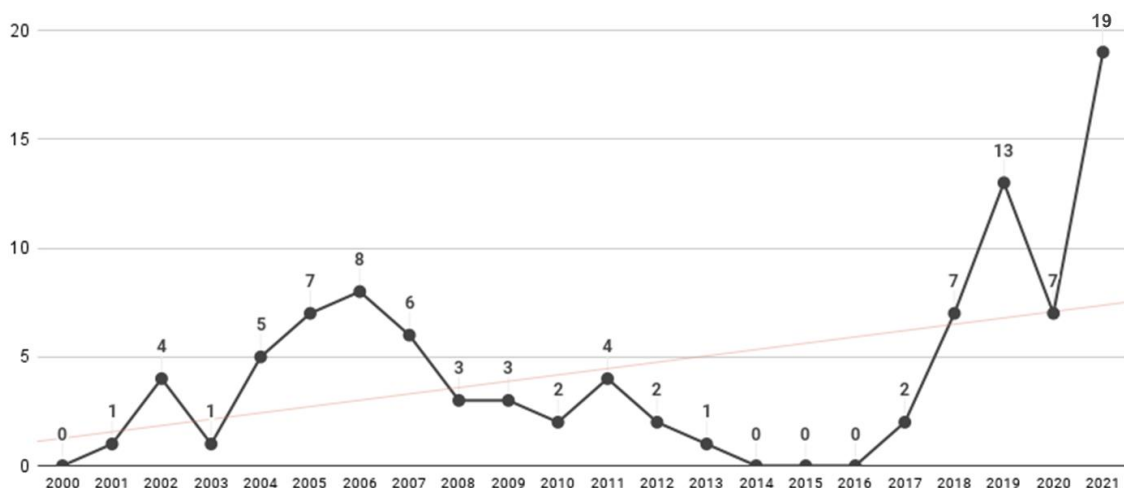
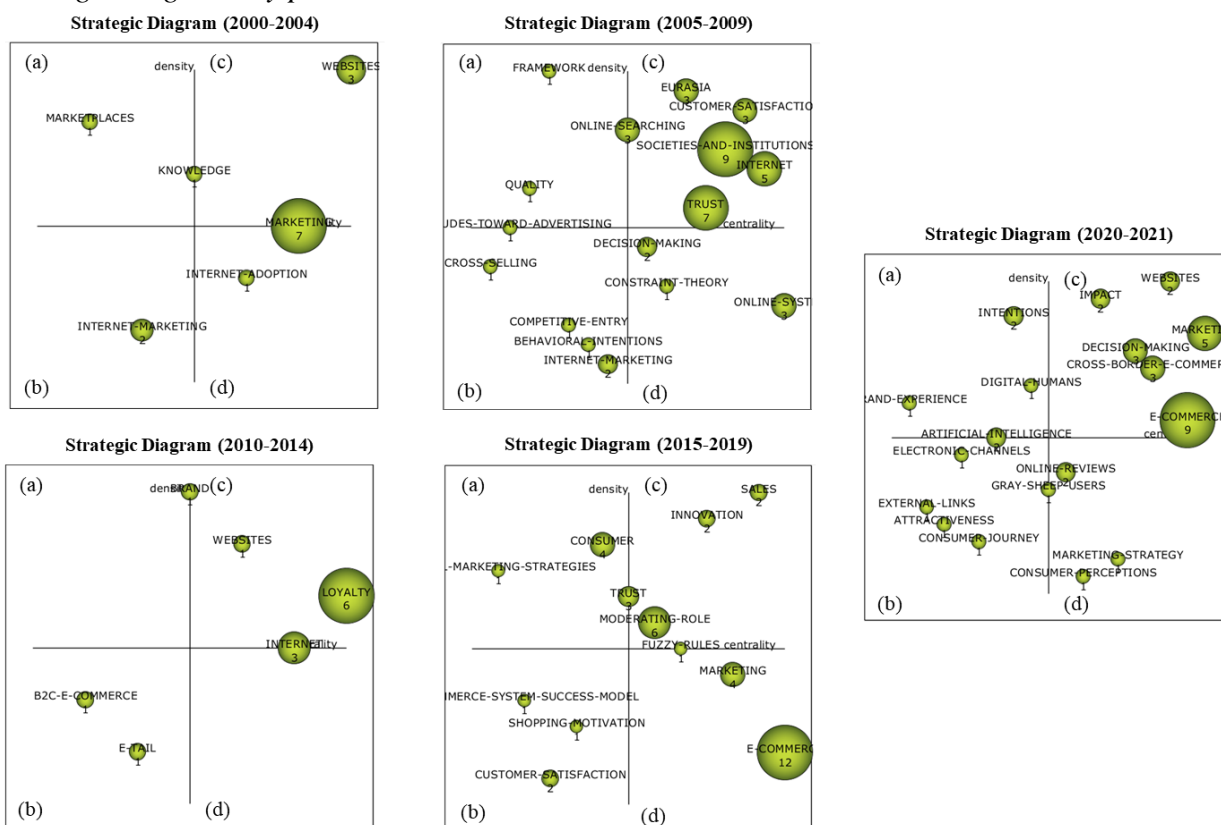


Figure 2 indicates the temporal evolution of publications since the emergence of the theme, so that an initial growth can be seen in its early years, between 2000 and 2006, but a certain decline and stabilization until the end of the decade. This period reflects the creation

of electronic commerce and its incipience in scientific publications with greater impact. At the beginning of the second decade, between 2011 and 2016, there was a noticeable drop in the production of journals with the greatest impact on e-commerce marketing, given the absence of publications between 2014 and 2016. However, from 2017 onwards, there is noticeable growth, especially in 2019, a period associated with the popularization of e-commerce in everyday life. Even though there was a slight decrease in publications in 2020, the year of 2021 had the largest number of publications in the entire analyzed period. This may reflect the strong impact of the Covid-19 pandemic on scientific production, since social isolation was intensely related to the increase in virtual purchases (UNCTAD, 2021a), but it's uncertain to relate both considering the low number of 2020, period when the pandemic started.

The Scimat software allows the development of strategic diagrams, a visual representation of the scientific field according to centrality (x-axis) and density (y-axis) axes. Based on the analysis of the words that make up the body of each article, the program makes the main themes available in the axes, according to the selected publication periods. Each quadrant of the diagram has a distinct classification, as follows: (a) Isolated or specialized themes, that is, themes with marginal relevance or very restricted application; (b) Declining or emerging topics; (c) Motor themes, those already consolidated and essential for the structuring of the scientific field; and (d) Basic and transversal topics, which represent topics of relevance, but not developed due to their general, transversal or basic character (López-Robles et al., 2021).

From the analysis of all the articles that make up the final sample, the strategic diagrams indicated in Figure 3 were developed. Through the division into temporal periods, it is possible to identify and analyze the role that each theme presented in the consolidation of the scientific field.

Figure 3*Strategic diagrams by period*

In the first period, which comprises the years 2000 to 2004, the presence of few themes can be seen in all quadrants of the strategic diagram. This can be related to the initial presence of e-commerce, in its early stages (Ellis-Chadwick et al., 2002), as indicated by the theme of “internet adoption” as a basic theme of the period. In this context, the use of websites was consolidated as a driving theme of high density and centrality, demonstrating the introduction of the concept for carrying out commercial transactions. Thus, marketing was present as a central theme, but close to transversality, that is, it represents a common theme that unites the research carried out.

With the achievement of greater maturity, the scientific field acquired greater thematic diversity in the following period, between 2004 and 2009. In this period, the most discussed themes referred to institutions and societies, demonstrating a more sociological character of the analysis of electronic commerce and its effects on people's lives (Kwak et al., 2006; Shang et al., 2005), in addition to trust, as so to indicate a concern for the safety of virtual purchases (Aiken & Boush, 2006; Lim et al., 2006). Also, in the motor themes, there is consumer satisfaction and online search, demonstrating an advance in marketing studies more focused on the consumer's perspective (Sen et al., 2006; Souitaris & Balabanis, 2007). It is also noted, as a motor theme, researches carried out involving Eurasia, a region that received emphasis in the theoretical-empirical research of the period.

Regarding the basic and transversal themes, the decision-making process, the theory of restrictions and online systems were present, indicating the realization of studies that addressed the factors involved in the decision of online consumption (de Kervenoael et al., 2009; Falk et al., 2007; Yadav & Varadarajan, 2005). As emerging or declining topics,

internet marketing remained in the same quadrant compared to the previous period, but with lower density, signaling a possible migration of researchers' interests. In addition, the themes of competitive entry, cross-selling and consumer behavioral intentions emerged in the quadrant, being emerging topics of the period.

Between 2010 and 2014, there was a decline in production and thematic diversity in the field. However, studies on loyalty took on significant importance in the period, located in the quadrant of motor themes, together with the internet and websites (Audrain-Pontevia et al., 2013; Nusair et al., 2011). The theme referring to brands presented high density but found itself on the threshold between a motor theme and a specialized theme, revealing a niche with relevance in the field. Still, studies on commerce in the B2B perspective and on online retail, called e-tail, emerged as emerging or declining themes in the respective years of analysis.

Between 2015 and 2019, there was a return in the growth of scientific production, with the theme of e-commerce and marketing as basic themes central to the studies, demonstrating greater consolidation and maturity in the field. In this context, the driving themes started to involve innovation, the moderating role, and online sales, demonstrating a more innovative perspective of research on marketing in e-commerce (Hu et al., 2019; Ieva et al., 2018; Lo & Campos, 2018). The themes of trust aimed at the consumer changed their quadrant, starting to represent isolated areas, indicating a specialization of the themes, despite their positive density (Zhu et al., 2019). It is noted that consumer satisfaction is no longer a central theme, as in the period from 2004 to 2009. When appearing as a theme that was not present in the following period, its return can indicate both a new attention, as an emerging theme, or its decline in the field.

In comparison to the last period, from 2020 to 2021, there is another increase in the diversity of themes. In the context of a pandemic, e-commerce and marketing returned to the quadrant of motor themes, reinforcing interest in the field in a scenario of social isolation and the need for reinvention of companies, given the current crisis (UNCTAD, 2021a). In that way, studies on decision-making and websites, as well as international electronic commerce, point out the impact of Covid-19 on the scientific field, reflecting its impact on organizational and socioeconomic reality (Cheah et al., 2020; Chen & Yang, 2021; Erdmann & Ponzoa, 2021). As isolated themes, the use of artificial intelligence and digital approaches to prescribing consumer behavior indicate the combination of marketing practices with the potential of information technology, typical of digital marketing (Chinchanachokchai et al., 2021; Chiu & Chuang, 2021). Furthermore, the brand experience also represents a specialized theme (Mu & Zhang, 2021).

In this period, marketing strategies appear as a transversal theme, as well as studies on the consumer's perspective that make use of online evaluations. There is greater attention to the impact that the consumer has on organizations in electronic commerce, an understanding that is essential for the adoption of successful marketing strategies, as well as potentially applicable in conjunction with other topics and perspectives in the field. As emerging or declining themes, the consumer journey and the attractiveness in electronic channels indicate a focus on the experience at the time of purchase on digital platforms, aspects already discussed in other perspectives, but of special relevance for e-commerce marketing (Kim et al., 2021; Wagner et al., 2020; Wang et al., 2021). During this period, however, besides few of the articles previously mentioned, the direct impacts of the pandemic on the structural basis of the e-commerce marketing field were not present in any of the quadrants.

4.2 Characterization of the scientific field

Regarding the journals from which the articles originated, Table 1 shows the number of publications and the JCR, respectively. The journal with the highest number of published

articles was the Journal of Retailing and Consumer Services, with a total of 21 articles, standing out for its high productivity in the field of e-commerce marketing. Also noteworthy was the Journal of Business Research (n=16), the Journal of the Academy of Marketing Science (n=10), the Journal of Management Information Systems (n=9) and Information & Management (n=8), with a high number of publications, compared to other journals.

Table 1

Leading journals of publications on the subject

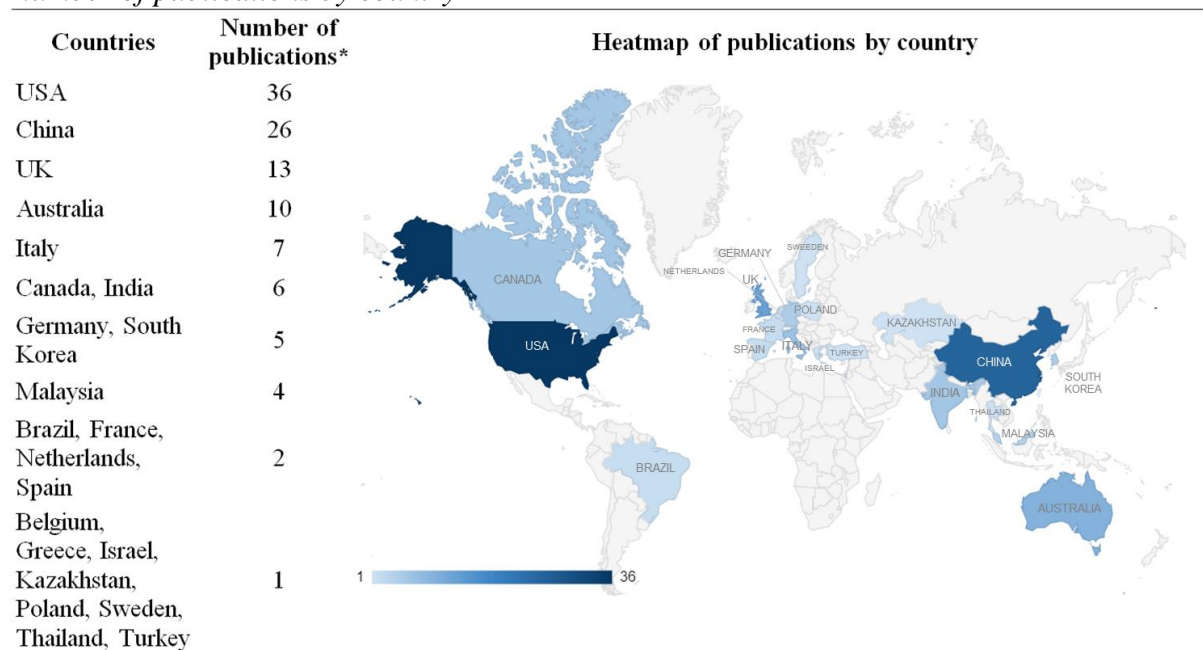
Journal	Number of Articles	JCR
JOURNAL OF RETAILING AND CONSUMER SERVICES	21	7,135
JOURNAL OF BUSINESS RESEARCH	16	7,550
JOURNAL OF THE ACADEMY OF MARKETING SCIENCE	10	9,418
JOURNAL OF MANAGEMENT INFORMATION SYSTEMS	9	7,838
INFORMATION & MANAGEMENT	8	7,555
TOURISM MANAGEMENT	6	10,967
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	4	8,593
INTERNATIONAL JOURNAL OF PRODUCTION RESEARCH	3	8,568
JOURNAL OF MARKETING	3	9,462
JOURNAL OF TRAVEL AND TOURISM MARKETING	3	7,564
OMEGA	3	7,084
MIS QUARTERLY	2	7,198
INTERNATIONAL JOURNAL OF HOSPITALITY MANAGEMENT	1	9,237
JOURNAL OF SERVICE RESEARCH	1	10,667
KNOWLEDGE-BASED SYSTEMS	1	8,038
LONG RANGE PLANNING	1	8,802
M&SOM-MANUFACTURING & SERVICE OPERATIONS MANAGEMENT	1	7,600
PRODUCTION PLANNING AND CONTROL	1	7,044
REVIEW OF MANAGEMENT SCIENCE	1	7,127
Total	95	-

In turn, regarding the countries of origin of publication of the articles, the United States had the largest number of articles produced (n=36), followed by China (n=26). With this, it is understood that e-commerce represents a topic of great interest to the two largest economic powers in the world, revealing the strength of the topic. Figure 4 represents a heat

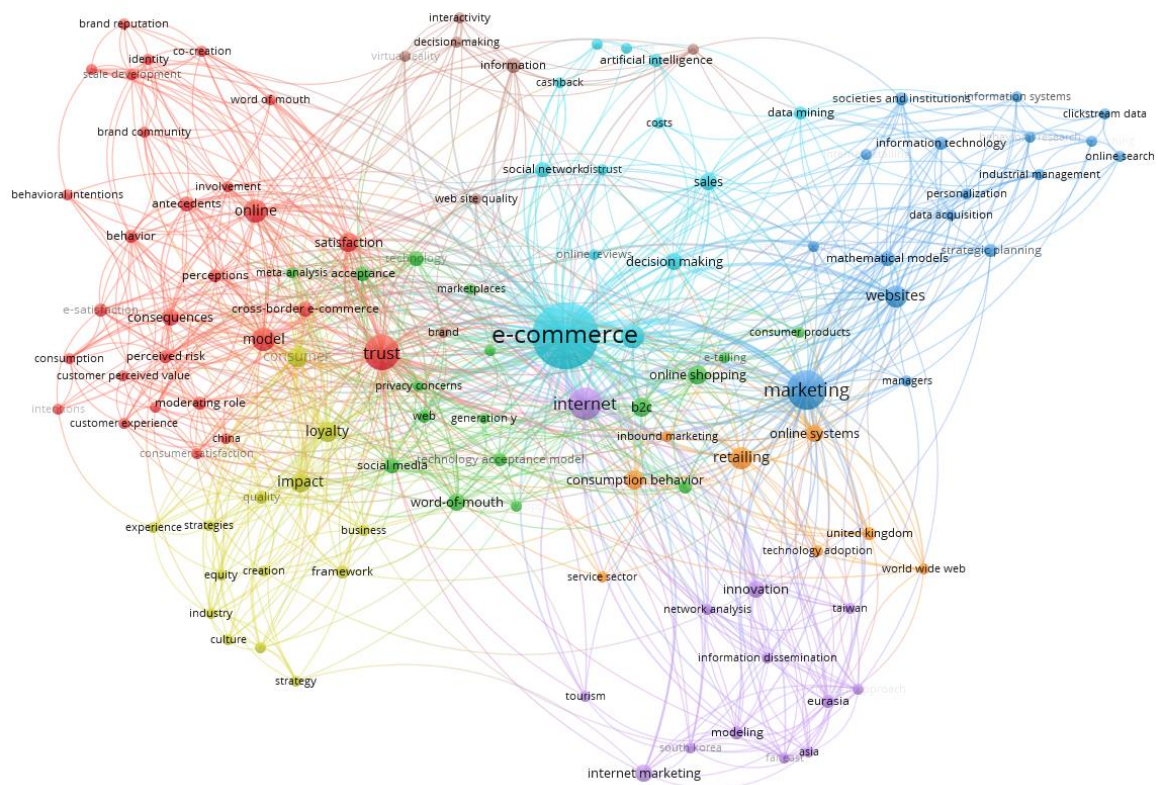
map of high-impact international production, which displays the number of publications according to each country so that, as a country has more publications, its geographic area is filled with a shade of darker blue. Accordingly, the fewer publications a subject has, the lighter the shade of blue that fills the area of a given country.

Figure 4

Number of publications by country



Then, using the VosViewer software, a co-occurrence analysis was carried out to identify thematic groupings and the main trends in the scientific field of marketing in e-commerce. Thus, from the keywords of the articles, it was possible to recognize 8 thematic clusters, as shown in Figure 5. Each word is linked to a sphere that, depending on its size, represents the volume of its occurrence within the database of articles used. These spheres also have a connection with each other, which shows their correlation within this same base. The colors, on the other hand, serve to differentiate groups that are more related to each other, but without necessarily excluding the correlation with other words or groupings, thus emerging patterns, trends, lines of research and more information that are exemplified in the following analysis.

Figure 5*Keyword co-occurrence analysis*

The first cluster, in red, highlights the words “trust”, “satisfaction” and “online”. These are mainly representing research orders around the willingness of consumers to transact through the online channel and with different markets. Trust began as an initial concern in the relationship of customers with e-commerce itself (van den Berg & van Lieshout, 2001), and over time it was evaluated within different market niches, such as legal services (Cho, 2006), music (Crosno et al., 2007), tourism (Kim et al., 2011), and even social networks (Sembada & Koay, 2021). Despite not being the main determinant of online satisfaction, it still reveals its impact during the customer journey towards a satisfying experience (Kohli et al., 2004).

The second cluster, in green, adds the terms “online shopping”, “B2C” and “word-of-mouth” as more expressive. Thus, it is possible to see the online channel as a channel mostly marked by transactions with end customers, that is, it is highly influenced by individual perceptions. The scientific production related here demonstrates the interest in understanding this relationship from the perspective of the final consumer (Hong et al., 2004; Kukar-Kinney & Close, 2010; Kwak et al., 2006; Zhang et al., 2006). In addition, as it is a channel highly geared towards individuals, it suffers a relevant and positive impact from “word-of-mouth marketing” (Hu et al., 2019; Wu et al., 2018), translated into the digital context by the practice of online evaluation of products and services.

The dark blue cluster is marked mainly by the words “marketing”, “websites” and “information technology”. Within this parameter, the instruments, tools, and other mechanisms for creating customer relationships are highlighted, including the importance of technology for this. The modeling and review of marketing strategies for the digital environment (Sigala, 2002; Steinhoff et al., 2019), the quality assessment of online sites (Wells et al., 2011), in addition to text mining and the multicriteria decision support method

(MCDA) to guide management decisions (Guo et al., 2020), are some examples of this categorization.

In turn, cluster four, in yellow, presents a highlighted construction for “consumer”, “loyalty” and “impact”. Consumer loyalty is one of the concerns of relationship marketing, and its study within the context of digital commerce is relevant. Preceded by factors that may impact online consumer loyalty, it appears in scientific production as a long-term relationship validator, seeking to understand aspects capable of positively influencing loyalty, such as the perception of value of an item (acquisition value) and the brand value (Audrain-Pontevia et al., 2013; Carlson et al., 2019), or negatively, such as the price difference (transactional value) (Audrain-Pontevia et al., 2013).

The fifth cluster, in purple, highlights “internet”, “innovation”, and “internet marketing” in its structure. In its conceptualization, e-commerce is seen as a transaction dependent, at some point, on the internet connection, making marketing and innovation studies on this perspective also follow this keyword. Thus, not only studies on the online presence of people and organizations from different niches are part of this aspect (Aiken & Boush, 2006; Sigala, 2002), but also the market opportunities related to exploration by sector (Buhalis & Law, 2008) and the possibility of boosting relationship marketing through the advent of the internet (Lo & Campos, 2018).

In another perspective, the light blue cluster is marked by the terms “e-commerce”, “decision-making”, and “sales”. In this view, the focus is given to the channel itself and its purpose of resulting in transactions, with the evaluation of factors to intermediate this objective. By understanding how the online purchase decision process takes place, platforms can optimize their availability of resources aiming at the greatest perceived benefit for the customer, who usually chooses the channel due to the ability to save time and money (Kohli et al., 2004). Other factors that are taken into consideration by consumers are: perceived product quality, promotions, and brand reputation (Wang et al., 2021).

Also, the orange cluster has as main words “retailing”, “consumption behavior” and “online systems”. Retail is the routine option for end customers, and its success is directly related to consumer behavior. Bringing this theme to online commerce, its study allows us to identify internal and external factors capable of affecting the use of this resource, such as the technology implemented and the conjuncture of the period (Wagner et al., 2020). In addition, it includes new trends in customer interaction, such as the use of augmented and virtual reality, and artificial intelligence in the interaction of humans with digital humans in the fashion industry (Kowalczyk et al., 2021; Silva & Bonetti, 2021).

Finally, the brown cluster includes nomenclatures that appear with lesser links in the studies, such as “information”, “brand” and “interactivity”. Even if less prominent, words make up an important category selection, responsible for interacting with user experience design and interface design areas. In this direction, the academic production on the subject was able to generate both models for the creation and management of web systems in their initial stages (Albert et al., 2004), as well as indices on new virtual reality technologies and the opportunities made possible by them (Cowan & Ketron, 2019).

5. Discussion and Research Agenda

The academic production with the greatest impact on marketing applied to e-commerce was able to explore in detail the evolution of consumer trust and the aspects that influence satisfaction during their online journey, in addition to the progression of relationship marketing. Approaches that bring more analysis on the impact of the digital environment in relation to B2B commerce could quickly gain prominence, due to the existing gap on the subject.

Despite the stabilization and consequent significant drop in high-impact scientific production on the subject from 2006 onwards, there was a return and broad growth from the greater popularization of electronic commerce in the daily lives of consumers. The B2B perspective was also present, since e-commerce allows facilitated commercial transactions between different organizational levels. In that way, it is of interest to explore the use of electronic commerce from the consumer-to-consumer perspective, a strong trend in the behavior of marketplaces and in social networks by consumers, especially what are the consequences of the pandemic context on this modality. Also, exploring the relationship between companies in the digital B2B modality also gains relevance, to better understand the role of collaborative networks and relationship marketing in this scenario.

The literature also covers e-commerce and digital marketing from an international perspective, a topic of great relevance with broad research potential about the effects of the pandemic. Still, these effects should be explored in more depth by future research, since the pandemic has had broad impacts worldwide, both economic and social. In this way, deepening the behavior of online consumers in a pandemic and post-pandemic scenario is of great contribution to the adoption of marketing strategies with greater chances of success by organizations.

The trends traced by research so far reveal a strong presence of technology, such as artificial intelligence, machine learning, data mining and others, applied to the study of the purchase process. In addition, the use of virtual reality tools, augmented reality, and other forms of interaction to connect companies and people was also identified as a trend in the literature. As a result, it has become a field of research with broad potential in understanding certain phenomena that influence consumer buying trends and the very actions taken by organizations.

Furthermore, studies that understand the phenomenon in countries other than the dominant ones in this type of literature are also relevant. In addition, there was a large concentration of high-impact literature in US and Chinese publications, revealing a gap regarding regionally diverse applications.

In addition, the research lines of publications on the subject are the adoption of new markets within the digital aspect, the methodologies and instruments of current marketing, the factors that impact consumer loyalty, the opportunities with the availability of the internet, the process of online purchase decision, online consumer behavior and the disruptive and innovative potential of new technologies. From these aspects, it is possible to explore in depth the proposals already made, however, to innovate in this production, it is necessary to continuously identify new problems that require new solutions.

The initial purpose to define the impacts of the pandemic in the field of e-commerce marketing revealed that the high-impact literature didn't explore much of the subject, since neither the SciMat period analysis nor the VosViewer cluster visualization revealed the presence of the term "pandemic" in their findings. These impacts were mostly viewed with the increase of the production regarding the thematic, only reinforcing a trend and the natural evolution of the literature during the past years. Some of the articles published during the pandemic's period related its influence, showing that the social and economic effects of the COVID-19 pandemic influenced the subjects of researches made, but the basic constructs and fundamentals of the field remained majorly constant.

Despite the restriction of this research to journals with the greatest international impact, which constitutes a limitation of this study, it is interesting that other researches expand this scope to explore the use of marketing in e-commerce from different perspectives. Another limitation refers to the exclusive focus on journals in the Business area. Other areas

related to the topic, such as Information Technology, could also add to the results collected so far.

The agenda proposed here sheds light on new challenges, perspectives, and research opportunities. The process of digitizing society began a long time ago, but it was intensified by the COVID-19 pandemic and the current production structure, so that the impacts experienced today by global society will have permanent consequences for the way of relating and buying.

6. Conclusion

This study achieved its main objective, identifying the evolution of marketing applied to e-commerce, as well as its main topics since its emergence and future trends in its use. To this end, the high-impact international literature was analyzed through a systematic review with bibliometric analysis, to characterize the theoretical field and indicate new avenues to be covered. Regarding the impacts of the pandemic on this field, it was noticed that the basic structures remained, but without much presence of the crisis in the high-impact literature.

With the use of two highly significant and complementary databases, Scopus and the Web of Science, it was possible to access a quality literature and a strong presence of the discussed topic. As no time frames were used, the historical evolution of e-commerce was fully explored from a marketing perspective. There has been an amplified growth in recent years, especially with the influence of the impacts of the COVID-19 pandemic globally, whose reflexes are yet to be perceived in the future, but already sufficient to change the attention given to the topic by the literature.

E-commerce has a consolidated history in its growth, but it brings with it a research potential when dealing with the role of marketing, as perceived by the analysis of this study. The pandemic had an impact on consumer behavior, many of whom have compulsively become digital consumers, and on organizations, which needed to adapt to the virtual context to maintain their survival or had changes in results in the new context. However, these impacts were not highly focused by the high-impact literature, as shown by the general absence of discussions regarding specifically the pandemic in the articles analyzed. Mostly, it was possible to confirm the interest at the thematic and that it remains a subject with much room for investigation.

With this, this study represents an initial effort to gather the findings of the high-impact literature on the subject, to support strategies of organizations in the adequacy, as well as in the understanding of the behavior of consumers in this scenario, alongside with the discussion of a historical construction of e-commerce and the identification of its future trends. Marketing has an essential role for organizations in this context, so that its literature focused on e-commerce has fertile ground to develop.

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