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Mapping the Trend of Digital Transformation in Omni-Channel Retailing: A Bibliometric Analysis

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Abstract: The omnichannel, a new concept in retailing, has surpassed the genre of electronic business (e-commerce) and has significantly influenced consumer thoughts and decisions. This approach refers to a retailing approach that has transformed the way customers shop, seamlessly transitioning between online and offline platforms due to the increased usage of smartphones and tablets. Presently, retailers are focusing on delivering excellent service experiences. However, despite being a prominent topic in the retail sector, bibliometric and systematic reviews exploring omni-channels are scarce. To contribute to further research collaboration and expand knowledge in this subject area, a bibliometric study was conducted to examine omni-channel research trends, including publication outputs, notable journals, top-performing authors, leading countries, and author keywords. A total of 773 articles were acquired from Scopus databases from 2013 to March 2023. The findings revealed a continuous increase in the number of omni-channel publications each year, indicating its growing relevance in the retail industry. Among the 61 countries analysed, Chile had the highest number of active paper publications, followed by Sweden and Spain. The systematic analysis conducted using VOSviewer identified 2103 keywords. This research explores focal points in research, evaluates trends in evolution, visualizes collaboration networks, and identifies a prominent topic in the field of omni-channel research. Cluster analysis revealed prominent topics of interest within the omni-channel context, including the grocery, fashion, luxury, and tourism domains. As a result, this study provides an information and implementation direction for the development of omni-channel retailing.

Keywords: omni-channel; grocery; fashion; luxury; tourism; bibliometric analysis

1. Introduction. The globalization of the economy and increased connectivity worldwide have driven the growth of digital marketing in the retail industry. This shift towards digital marketing has empowered businesses to acquire and retain customers more effectively while ensuring long-term sustainability (Gerea et al., 2021). Arguably, a significant development in retail marketing is the transformation to omni-channel retailing from traditional offline retailing (Fang et al., 2022). This approach aims to provide a seamless user experience across various channels, both online and offline, and is typically associated with a single brand that maintains centralized control over customer information. An omnichannel is introduced to maximize customer experience and at the same time enhance firm performance by integrating all retailing channels, such as physical stores, telephones and online shops (Barann et al., 2022). This approach has been widely adopted by retailers aiming to offer a more personalized and streamlined experience for their customers, and it is recognized as a key driver of success in the modern retail landscape (Beck & Rygl, 2015a).

The coronavirus disease 2019 (COVID-19) pandemic has had a tremendous impact on industry, especially the retail industry, where many companies have been forced to change the way in which they market their products either by combining or renouncing their market channels. Casual transitions between offline and online purchases have created a new wave of marketing known as omni-channels, where customers manage their purchases both online and offline to maximize their shopping experience. As a result, companies have begun developing new business models that focus on providing seamless experiences for consumers. More importantly, these changes may be maintained in the long term. Hence, it is crucial for retailers to prioritize omni-channel strategies and invest in technologies that can facilitate them in delivering the best possible experiences to their customers (Soto-Acosta, 2020, Verhoef, 2021). The integration and synchronization of channels and touchpoints in an omni-channel strategy can be a complex and risky undertaking due to concerns related to channel cannibalization (Hansen & Sia, 2015). Companies confront a progressively intricate market environment as digital technologies advance, and consumers' lifestyles, as well as their relationships with brands and stores, undergo changes (Von Briel, 2018). The concept of omni-channels is broad and diverse, leading to the emergence of multiple streams of academic research that focus on specific disciplines and perspectives (Saghiri et al., 2017, Barann et al., 2022).

2. Literature Review. To the best of our knowledge, few studies have focused on omni-channel retailing segments with specific themes, particularly bibliometric analysis (Lopes et al., 2021). Previous studies have focused more on general overviews and empirical findings than on summaries of previous studies on this topic. This current study is distinct from that conducted by Cai & Lo (2020), who employed a systematic literature review approach. In contrast, studies by Lopes et al. (2021) and Salvietti et al. (2022) combined multiple research methods, such as systematic reviews, cocitation analyses and field expert reviews. Cai & Lo (2020) explored topics specific to omni-channel customer service, omni-channel logistics and fulfilment, omni-channel marketing and advertisement, omni-channel consumer behaviours and omni-channel customer preferences. To our knowledge, no previous research has specifically focused on reviewing the trend of omni-channel retailing. Therefore, in the present bibliometric analysis, we identified the evolution of omni-channel retailing, the top ten journals that concentrated on this topic, the top ten most prolific authors, countries with the highest publication output, and trends/themes within the research domain of omni-channel retailing. To answer these research objectives, a systematic map was generated based on literature from the Scopus database to analyse omni-channel retailing studies from 2013 to 2023 utilizing bibliometric approaches.

The first section provides an introduction to omni-channel retailing. Section 2 discusses the methodology employed for conducting the bibliometric analysis, including the databases and software used. In Section 3, the results of the bibliometric analysis are presented, which includes the use of VOSviewer to determine the evolution of omni-channel retailing publications, the most prominent journals, the distribution of countries, and the distribution of keywords. Section 4 explores the emerging themes and fields related to omni-channel retailing. The final section concludes the paper, highlighting theoretical and practical implications, limitations, and recommendations for future research endeavours.

3. Methodology and research methods. This study utilized a bibliometric analysis approach to retrieve articles pertaining to the domain of omni-channel retailing. This approach differs from traditional review papers, which primarily focus on identifying publication trends, recent advancements, and future directions within a specific topic (Carrión-Mero et al., 2021). Previous studies by Lopes et al. (2021) and Salvietti et al. (2022) have used the Web of Science (WoS) database. For this study, the Scopus database was used to gather relevant articles related to omni-channel retailing. Scopus is a comprehensive database that provides access to more than 70 million records from 5,000 publishers spanning various fields of study (Zupic & Cater, 2015). VOSviewer software was used to construct bibliometric networks for the analysis of intellectual groups and

clustering solutions (Van Eck & Waltman, 2010). This software employs useful scientific publication elements such as authors, journals, keywords, references and other bibliographic criteria such as origins, development and top keywords to gather useful information related to the field of study. The bibliometric analysis employed in this study is crucial because it offers a detailed and comprehensive understanding of the literature pertaining to omni-channel retailing. This approach allows researchers to identify key trends, research gaps, and future directions within the field. Furthermore, it provides a scientific foundation for decision-making, policy formulation, and the setting of research priorities (Montalvan-Burbano et al., 2017).

3.1. Database Selection. This study encompassed the entire available timespan in the Scopus database pertaining to omni-channel retailing, ranging from 2013 to March 23, 2023, which is the date when the data were extracted. The keywords used for the analysis were finalized based on a total of 773 articles identified from the PRISMA table, as depicted in Figure 1. Various parameters were analysed in this study, including document type, distribution across subject categories, publication language, total publications, authorship patterns and top referred articles. These parameters contributed to insight into the current trend of the omni-channel retailing market. This bibliometric study provides a rigorous and extensive analysis to enhance the understanding of the omni-channel market and its research direction.

This section describes the combination of performance analysis and science mapping as a powerful approach for assessing the conceptual evolution within a research topic (Zupic & Cater, 2015). Performance analysis enables a comprehensive understanding of key characteristics of scientific publications, including publication year, document count, journals, and impact indicators. A visual representation of the research field and subfields, as well as the relationships between countries and keywords, are mapped onto a scientific map (Hallinger & Suriyankietkaew, 2018). In this study, performance analysis was employed to extract essential characteristics of scientific publications, considering various activity indicators such as publication year, document count, journals, and other indicators of scientific productivity (e.g., the H-index of journals) (del Río-Rama et al., 2020). Furthermore, the top four themes/fields are discussed at the end of this section. Overall, this study thoroughly examined omni-channel retailing studies by focusing on the top-cited published articles and contributing to future research agendas that can advance this study.
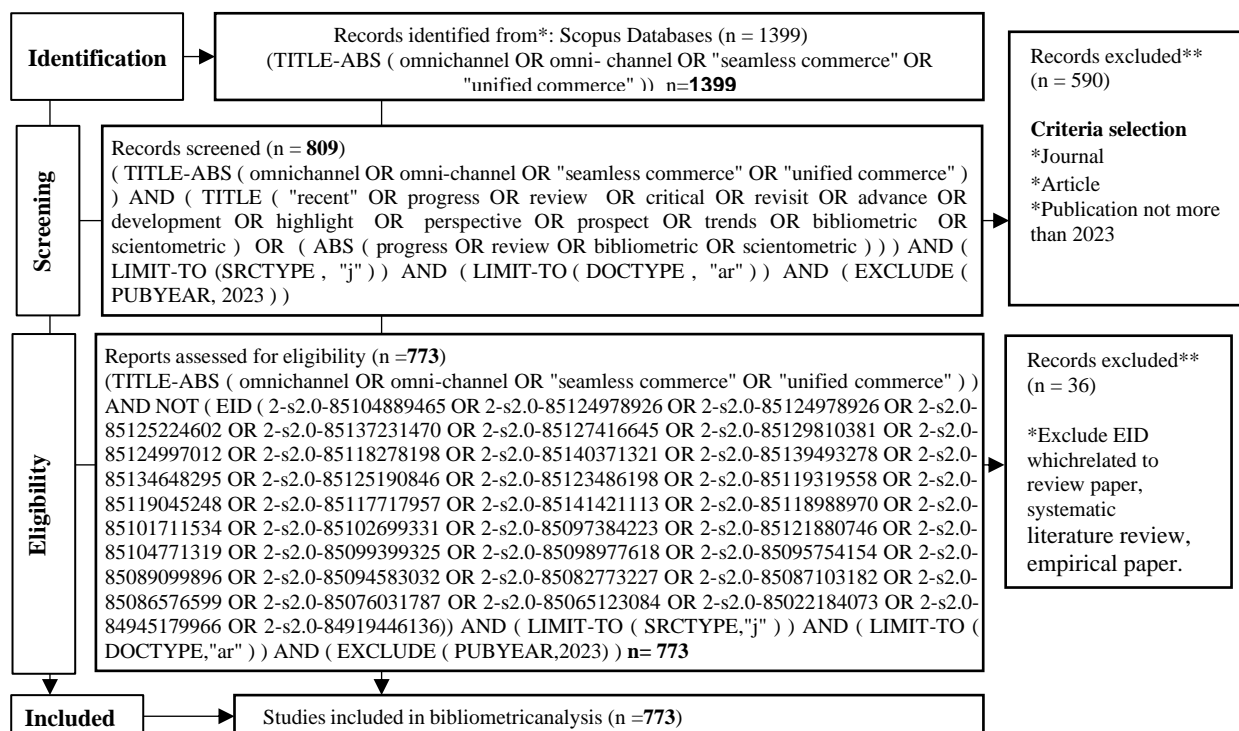
**Figure 1.** PRISMA Table of the keyword strategies
Sources: developed by the authors.

4. Results and Discussion. In this section, a combination of performance analysis and science mapping is utilized as a powerful approach to evaluate the conceptual evolution within the research topic (Zupic & Cater, 2015). Performance analysis provides a comprehensive understanding of the key characteristics of

scientific publications, including publication year, document count, journals, and other impact indicators. On the other hand, science mapping offers a visual representation of research fields and subfields, as well as the identification of relationships between countries and keywords (Hallinger & Suriyankietkaew, 2018). To extract the essential characteristics of scientific publications, performance analysis is employed, considering various activity indicators such as publication year, document count, journals, and indicators of impact on scientific productivity (the H-index of journals) (del Río-Rama et al., 2020). Furthermore, the section concludes by discussing the top four themes/fields identified. Overall, this study extensively examines the network of highly cited and published articles in the field of omni-channel retailing, providing valuable insights for future research agendas to advance the field.

4.1. Trend of publications. The entire timespan available from 2013 to March 2023 reflected the top publication of omni-channel retailing based on the Scopus database stemming from continuous subjects of interest in this topic (see Figure 2). In the last twenty years, conventional dealers have experienced a process whereby their businesses are forced to adapt to multiple channels, cross-channels and ultimately to omni-channels (Bezes, 2019). The main distinction between multichannel retailing and omni-channel retailing is that multichannel retailing focuses on the relationship with customers by establishing a variety of sale channels, while omni-channel retailing integrates multichannel elements into one complete retailing concept (Adivar et al., 2019). Omni-channel sales provide customers with access to multiple channels, including stores, online, smartphones and social media (Beck & Rygl, 2015b), which, as a whole, has increased the customer shopping experience through seamless purchases (Picot-Coupey et al., 2016). A number of multinational companies have decided to practice omni-channel management approaches in an effort to maximize their customer shopping experience through digital service platforms. Companies are implementing omni-channel strategies to enhance customer value (Gómez et al., 2017), positioning omni-channels as the future standard over the next decade (Von Briel, 2018). Recently, retailers have acknowledged the significance of adopting omni-channel strategies and started to practice this new method, although the transition is much slower than anticipated (Weinswig, 2019).

The COVID-19 pandemic and subsequent lockdown measures in various countries have resulted in an unexpected surge in digital channels. Online retailers and omni-channel businesses have more readily embraced this "new normal" than brick-and-mortar retailers (Briedis et al., 2020). The pandemic has served as a catalyst for the latter to acknowledge the importance of expanding their digital presence (Salesforce, 2020), making omni-channel retailing a key priority for retailers aiming to thrive in a highly competitive environment. Simultaneously, a significant number of consumers were compelled to alter their behaviors and habits by shifting towards online channels and touchpoints. Simultaneously, a significant number of consumers were compelled to alter their behaviour and habits by shifting towards online purchases and contact points. Those customers who have first-hand experience with this new retail method feel that this method is much easier and that there is a high tendency for them to maintain this purchase behaviour after COVID-19 (Arora & Grey, 2020).
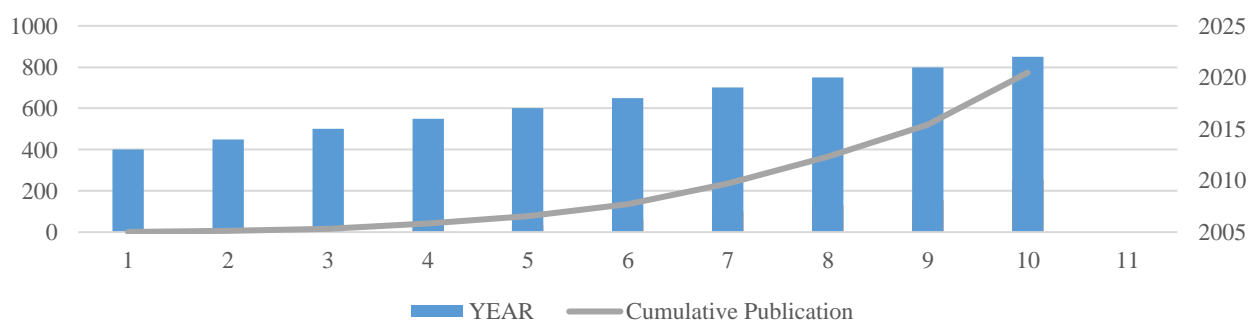
Figure 2. Trend of omni-channel retailing research
Sources: developed by the authors.

4.2. The Top 10 Most Productive Journals on Omni-channel Marketing In this systematic analysis, the citation numbers for each of the articles were analysed to determine the main articles that dominate the omni-channel retailing field, which encompasses few main themes. This study analysed omni-channel retailing studies published between 2013 and 2023 across 158 wide-ranging journals. As such, the ranking provided in the Scopus database was used to determine the total number of publications and citations and the citation

score. Information on the top-cited articles, number of citations and publisher identification was obtained. The reference list allows the researchers to identify the themes that build omni-channel literature.

Table 1 shows that prominent publishers actively published on the topic of omni-channel retailing. According to the ranking in the Scopus database, the International Journal of Retail and Distribution Management ranked first, with 47 publications, 1291 citations, and an accumulation of 6.1 CiteScore 2021. The inclusion of the CiteScore metric is arguably important for computing all document citations related to omni-channels in the last three years (Zupic & Cater, 2015). This information allows a correct and robust assessment of one journal's impact for the researchers. The Journal of Retailing and Consumer Services recorded 1259 citations, 44 publications, and the highest CiteScore of 11.4. This journal recorded the highest citation frequency (325) for the article entitled "Categorization of multiple channels retailing in multi, cross-, and omni-channel retailing for retailers and retailing". The total citation counts derived from the Scopus database did not necessarily imply the quality of an article but rather a measurement of the degree of impact and visibility.

Table 1. The Top 10 Most Productive Journals on Omni Channel Retailing

Rank	Journal	Number of publications	Number of citations	CiteScore 2021	The most cited article	Times cited	Publisher
1	International Journal of Retail and Distribution Management	47	1291	6.1	Last mile fulfilment and distribution in omni-channel grocery retailing: A strategic planning framework	236	Emerald Publishing
2	Journal of Retailing and Consumer Services	44	1259	11.4	Categorization of multiple channel retailing in Multi, Cross-, and Omni-Channel Retailing for retailers and retailing	325	Elsevier
3	Sustainability Switzerland	33	261	5.0	How does consumers' omni-channel shopping behaviour translate into travel and transport impacts? Case-study of a footwear retailer in Belgium	29	Multidisciplinary Digital Publishing Institute (MDPI)
4	European Journal of Operational Research	16	278	10.5	Inroad into omni-channel retailing: Physical showroom deployment of an online retailer	50	Elsevier
5	International Journal of Physical Distribution and Logistics Management	16	1007	11.4	Retail logistics in the transition from multichannel to omni-channel	184	Emerald Publishing
6	International Journal of Production Economics	13	368	14.3	Examining customer channel selection intention in the omni-channel retail environment	68	Elsevier
7	Journal of Business Research	13	433	11.2	Toward a three-dimensional framework for omni-channel	45	Elsevier
8	Journal of Distribution Science	12	32	1.4	Effect on brand loyalty in omni-channel: Focus on category knowledge	7	Korea Distribution Science Association
9	Transportation Research Part E Logistics and Transportation Review	12	247	11.6	Omni-channel retail operations with consumer returns and order cancellation	70	Elsevier
10	Computers And Industrial Engineering	10	78	9.7	Smart locker bank design optimization for urban omni-channel logistics: Assessing monolithic vs. modular configurations	26	Elsevier

Sources: developed by the authors.

4.3. List of the 10 Most Prolific Authors on Omni-Channel Retailing. Table 2 lists the top 10 most prolific authors on omni-channel retailing, which are affiliated with five countries, namely, China, Germany, Sweden, Spain, and Belgium. Moreover, most of the top leading authors come from Germany. The first publication was determined between 2016 and 2020, when 6 authors were ranked as 1st authors, 4 as coauthors and the rest as 3rd authors. To determine the author's position, the corresponding author usually acts as the first author,

and the last author usually plays a supervisory role or is a nonacademic writer. The calculation of the H-index is very useful for analysing authors, institutions and countries. This indicator evaluates a set of publications by considering the quality and quantity of a set of publications (Roldan-Valadez et al., 2019). Hübner, Alexander H., from Germany, is the leading author of omni-channel retailing, with 13 total publications, an H-index of 7 and 764 total citations. The second leading author is He, Yi from China, with 9 total publications, an H-index of 5 and 228 total citations. None of the top 10 authors come from similar institutions, which indicates that interest in this field is growing.

Table 2. List of the 10 Most Prolific Authors on Omni-Channel Retailing

Rank	Authors	Scopus Id	1st Publication	TP	H-index	TC	Current Affiliation
1	Hübner Alexander H.	39261771600	2016	13	7	764	Technische Universität München, Munich, Germany
2	He Yi	57184568800	2018	9	5	228	Hainan University, Haikou, China
3	Wollenburg J.	57188820546	2016	7	6	627	Katholische Universität Eichstätt Ingolstadt, Eichstatt, Germany
4	Li Z.	57209468088	2020	8	7	75	Soochow University, Suzhou, China
5	Norrman A.	6507225045	2019	7	6	101	Lunds Tekniska Högskola, Lund, Sweden
6	Acquila-Natale E.	56521517500	2020	6	4	56	Universidad Politécnica de Madrid, Madrid, Spain
7	Buldeo Rai H.	57195135422	2019	6	5	211	Vrije Universiteit Brussel, Brussels, Belgium
8	Frasquet M.	57208712082	2020	7	4	51	Universitat de Valencia, Valencia, Spain
9	Holzapfel A.	56681031400	2016	6	5	415	Hochschule Geisenheim University, Geisenheim, Germany
10	Kuhn H.	7402259452	2016	5	5	589	Katholische Universität Eichstätt - Ingolstadt, Eichstatt, Germany

Sources: developed by the authors.

4.4. Publication Distribution of Countries/Territories and Institutions. The 61 countries that were responsible for generating literature on omni-channel retailing were designated into five main world regions (clusters) (Figure 3).
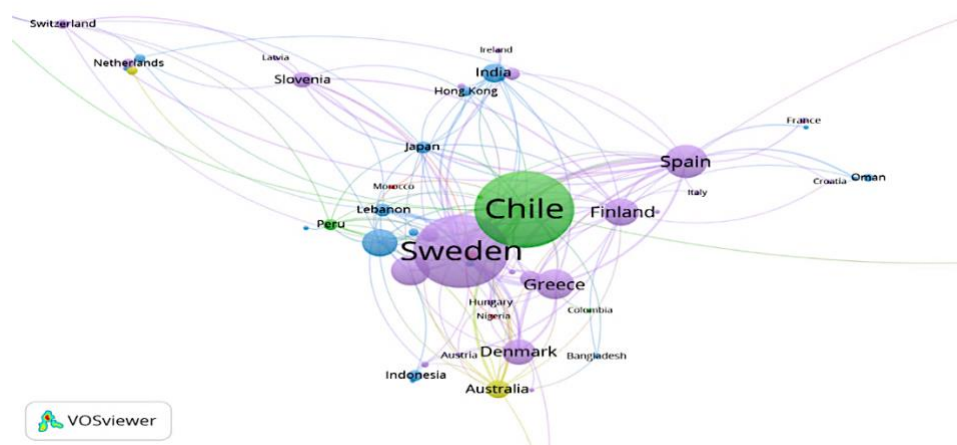
Figure 3. A bibliometric map based on country distribution
Sources: developed by the authors.

Researchers have identified five clusters to group the countries and regions, whereby Africa is in Cluster 1 (red), which comprises 4 countries; Clusters 2 (blue), which is South Asia, with 18 countries; Cluster 3 (purple), which is the US, with 7 countries; and Cluster 5 (yellow), which represents Oceania, with 2 countries. Each of the clusters may provide different types of information according to the relevant issues that arise that contribute to knowledge diversity in omni-channels. Articles that belong to the same cluster may contain fairly similar references, suggesting that similar clusters may investigate similar issues (Van Eck & Waltman, 2010). Chile led the publication with 183 publications, which included international collaboration with Sweden (26 publications) and Spain (11 publications). This is in line with the reasoning that the omni-channel retailing concept is more prevalent in developed countries.

4.5. Distribution of Keywords. A total of 2103 keywords were identified from 773 papers. The total strength of co-occurrences was determined by calculating the number of links connected with the keywords. Figure 4 presents the co-occurrence map of keywords in the articles related to omni-channel retailing. Comprehensive bibliometric tools were used in topological analysis to identify existing and emerging research clusters based on key research topic recognition, interrelationships and collaboration patterns. This systematic map allows researchers to track the current progress of publications over time, including current research trends, and at the same time provides insight into future research opportunities. Each of the colours is designated for each of the clusters, where the lightest colour is always associated with the current research keywords in omni-channel retailing. The size of the circle denotes the frequency of the keywords, where the larger the circle is, the greater the frequency. The findings from this study will open a new opportunity for future research in this area. Upon further review, the four most frequently employed keywords were identified from a set of keywords that represent popular research topics. The first top keyword is "omni-channel retailing" (Fig. 4), with the average publication year 2020 representing the development or cultivation process of omni-channel retailing.

Figure 4. The map of keywords used in omni-channel retailing research
Sources: developed by the authors.

This keyword was used in the most cited article and all first published articles in this field. The documents containing this keyword typically focused on omni-channel retailing. In the case of co-occurrence analysis, the link strength is calculated based on the number of publications in which two keywords occur together. Research interest in certain areas can be analysed by the link strength of two keywords. This keyword was linked with 68 other keywords, thus resulting in 695 total link strengths. The second most popular keyword was "grocery" (average publication year 2020), which occurred 242 times and was related to 55 other keywords. The next highly utilized keyword was "fashion" (average publication year 2020), which occurred 158 times and was linked with 41 other keywords. Another focus of this study on omni-channel retailing is "luxury" (average publication year 2020), which occurred 131 times and was linked with 31 other keywords, and "technology devices", which occurred 108 times and was linked with 25 other keywords. The different colours in Figure 4 indicate the average publication year of the articles in which a keyword occurred. The lighter the colour is, the more recent it is; thus, the keywords supply chain, COVID-19, customer engagement and customer experience are included. Further review suggested that the top four most common keywords were frequently used in top research studies. The figure portrays the most employed keywords in omni-channel retailing, such as grocery, fashion, luxury and tourism.

4.6. Topics of interest based on themes. If retailers wish to successfully trade in omni-channels, carefully reviewed retailing strategies should be adopted by considering customer preferences between offline and online purchases (Bell, 2014). Additionally, Lazaris & Vrechopoulos (2014) emphasize the need for a comprehensive exploration of various themes and fields within the omni-channel retailing environment. Using

clustering techniques, the journals included in the dataset were grouped into five clusters. The analysis revealed four prominent themes: grocery, fashion, luxury, and tourism. These themes represent key areas of focus and research within the realm of omni-channel retailing. By understanding and addressing the specific dynamics and challenges within each theme, retailers can develop targeted strategies to enhance their omni-channel performance and cater to the unique needs of their customers in different sectors.

4.6.1. Theme 1: Grocery Industry. When comparing the adoption of omni-channel practices in the home furnishing and fashion industries with that in the groceries industry, it becomes evident that the groceries industry has been slower in embracing omni-channel strategies. One of the reasons for this slow adoption in the grocery industry is the limited understanding of the sales distribution across different channels (Santiago et al., 2022, Eriksson, 2022). In contrast, the home furnishing and fashion industries have made more progress in adopting mobile applications as part of their omni-channel approach. The slower adoption of omni-channels in the grocery industry could be seen as a missed opportunity to engage prospective customers, build loyalty, and gather more comprehensive customer data (Vyas et al., 2021). Additionally, investments in new technological capabilities, facilities, and internal processes are necessary for omni-channel grocery retailers to remain competitive (Eriksson, 2022).

Customers in the grocery industry have become accustomed to quick deliveries and have a high demand for this type of fulfilment. They often expect fast deliveries to consume products shortly after purchase. However, they may be willing to wait longer for nonperishable items (Dethlefs et al., 2022). The implementation of buy-online-deliver-to-home (BODH) and buy-online-pick-up-in-store (BOPS) models has been beneficial for both retailers and customers, particularly for fresh produce, as it helps reduce in-store potential losses (Gao et al., 2021). Overall, there is room for improvement in the adoption of omni-channel strategies within the grocery industry. By investing in technology, enhancing logistics capabilities, and meeting customer expectations for quick and convenient options, grocery retailers can better serve their customers and improve their profitability.

4.6.2. Theme 2: Fashion Industry. Omni-channel marketing especially has a notable impact on the fashion industry, benefiting from the digital revolution (Lorenzo-Romero et al., 2021, El-Seoud & Taj-Eddin, 2019). Compared with other shopping methods, omni-channel shopping ecosystems offer various advantages, such as ease of use, compatibility, and high consumer engagement. It allows customers to browse, select, and purchase products anytime and anywhere (Chaudhary et al., 2022, Cattapan & Pongsakornrungsilp, 2022). The integration of online and offline channels in the omni-channel approach reduces customer-perceived risk by providing consistent product and price information across different channels. The integration of online and offline purchases in the omni-channel has improved customer perceived risk by providing consistent information on the product and price across different channels. This helps to lower the data discrepancies between sales channels, improving the overall customer experience (Chaudhary et al., 2022, Cattapan & Pongsakornrungsilp, 2022).

The COVID-19 pandemic has compelled fashion brands to adopt new marketing and operational strategies. To address emerging challenges, fashion companies have recognized the potential benefits of leveraging technology to reduce product returns and manage customer inquiries from various sources, including physical stores and communication platforms such as WhatsApp. These changes have put significant pressure on employees to adapt to the evolving demands of the omni-channel environment (Chan et al., 2020).

In summary, omni-channel marketing has transformed the fashion industry by offering a seamless and engaging shopping experience for customers. The COVID-19 pandemic has indirectly accelerated the adoption of technology and allowed omni-channel strategies to grow, especially in the fashion industry, to overcome challenges and improve operational efficiency.

4.6.3. Theme 3: Luxury Industry. Luxury fashion brands have witnessed significant growth and importance in the past decade, driven by factors such as increased living standards, globalization, evolving consumer aspirations, and a desire to convey exclusivity and a vintage image (Goldstein & Carpenter, 2022, Jebarajakirthy & Das, 2021, Shahid & Paul, 2021). In response, luxury fashion retailers have embraced omni-channel strategies by establishing official websites, online stores, e-commerce platforms, social media presence, and mobile technologies to enhance their communication and distribution channels, enabling effective customer engagement and brand promotion (Bai, 2017, Gonzalez Romo et al., 2017). Luxury companies are particularly focused on improving communication between retail staff and customers through the adoption of technology, including internet platforms, mobile applications, WhatsApp, and video calls. These tools are used to showcase the latest products, designs, and catalogues, which later involve active

participation from consumers through physical store visits during the process (El-Seoud & Taj-Eddin, 2019, Pangarkar et al., 2022).

In addition to communication and distribution, luxury retailers also prioritize providing comprehensive product information, educating consumers about unique product attributes, and understanding diverse customer needs to offer superior service and customization. They leverage technology to create interactive and collaborative touchpoints that enhance the overall customer experience. Furthermore, luxury brands emphasize long-term value creation by building strong customer relationships and focusing on relational aspects (Wei, 2020). By adopting omni-channel strategies and leveraging technology, luxury fashion brands aim to create seamless and personalized shopping experiences that align with their customers' expectations while maintaining their brand image of exclusivity and sophistication.

4.6.4. Theme 4: Tourism Industry. In the tourism industry, the demand and supply of information data, including omni-channel capabilities, are considered crucial but also inflexible due to the vulnerability of the business environment (Buangam et al., 2022). Therefore, it is essential for tourism firms to focus on retaining existing customers and competing in the market while also exploring opportunities to create new markets (Hyun & Perdue, 2017, Al-Hazmi, 2022). The adoption of customer engagement technology plays a significant role in enhancing cocreation processes, allowing for the transformation of conventional tourism experiences into technology-enhanced experiences (Anto et al., 2021, Chai-Arayalert et al., 2023). This strategic orientation highlights the importance of knowledge provision and human resource facilities in facilitating service provided in the travel sector through redesigning customer engagement technologies. From an upselling perspective, the omni-channel approach upgrades existing multichannel upselling communications by offering consistent information and elevating customer experience (Basak et al., 2020).

By leveraging the omni-channel approach, hospitality players may personalize their own upselling strategies to increase customer satisfaction and performance. Furthermore, the tourism industry is witnessing new development trends related to green concepts, health, and sustainability. These trends require tourism supply chain managers to make joint decisions regarding operations and the integration of green concepts, design efficient supply chain structures, and improve the level of environmental sustainability. These developments align with the adoption of technology and the implementation of omni-channel retailing strategies (Li et al., 2022). By embracing omni-channel capabilities, leveraging customer engagement technology, and incorporating sustainability principles, the tourism industry can enhance its competitiveness, deliver personalized experiences, and contribute to a more sustainable and responsible tourism ecosystem.

5. Conclusions. This study examined omni-channel research trends for the past decade (2013-March 2023) based on 773 publications retrieved from the Scopus database. In the last 10 years of publications, the growth of omni-channel articles rapidly increased despite the COVID-19 pandemic. Hence, it is anticipated that the number of publications related to this topic will continue to increase. Notably, our research helps to fill the gap in the field of omni-channel marketing by including the evolution of omni-channel retailing, the top ten journals that concentrate on this topic, the top ten most prolific authors, the countries with the highest publication output, and trends/themes within the research domain of omni-channel retailing. Among the 61 countries analysed, Chile and Sweden led the publications with strong international collaboration. These top-ranking countries may provide valuable opportunities for lower-publication countries (e.g., the Netherlands, Ireland, and France) to increase their collaboration efforts. According to the ranking in the Scopus database involving 158 journals, the International Journal of Retail and Distribution Management ranked first, with 47 publications, 1291 citations, and an accumulation of 6.1 CiteScore 2021. The most prolific author for omni-channel retailing is Hübner, Alexander H., from Germany, with 7 H-indexes and 764 citations. The systematic analysis conducted using VOSviewer identified 2103 keywords.

In fact, this study has analysed multiple disciplines and identified the top interest in the field of omni-channels, which has resulted in the grocery, fashion, luxury and tourism industries. New areas, such as inventory management, could be a potential topic for future research in the field of omni-channel retailing. Exploring these major classes revealed that omni-channel retailing is mainly established in the fields of consumer behavior and retailing. An important conclusion that arises from this research is that retailers should adopt an integrated omni-channel strategy, providing consumers with the benefits of buying online, as well as the benefits of buying in a local retail store. This requires a multichannel approach for multichannel customers, respecting the different stages of the buying process. Nevertheless, special attention needs to be given to a different industry, as the effects of channel integration might vary across different types of customer journeys. Each industry has a different subgroup of customers, including generational cohorts, deal-prone consumers and different cultural subgroups.

6. Limitations and Avenue of the Research. By limiting the search string to "omni-channel", "seamless commerce", and "unified commerce" in the titles and abstracts of the articles, the generated results might not be comprehensive enough to cover all omni-channel studies in the Scopus database. This is because some omni-channel researchers may use different terms to describe omni-channels in their research. The analysis of co-occurrence keywords by using VOSviewer may not be comprehensive, as this study merely used a single database for analysis purposes. Future studies should include multiple databases in the analysis section to generate more generalizable research outcomes. The WoS, for instance, has introduced a new feature called 'hot paper' in its database. This feature identifies the recent top articles in the database by referring to the number of citations. A recent article that receives rapid and significant citations will be classified as a 'hot paper' under the WoS. Arguably, bibliometric analysis with multiple databases is a better approach, as this method generates useful outcomes for a study. Exploring the abovementioned research directions might require the adoption of new approaches and methodologies. The novelty of omni-channel environments calls for the use of field experiments or big data analysis so that we can better understand how customer purchase behavior and customer engagement are influenced by omni-channels.

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References
1. Adivar, B., Hüseyinoğlu, I. Ö. Y., & Christopher, M. (2019). A quantitative performance management framework for assessing omnichannel retail supply chains. *Journal of Retailing and Consumer Services*, *48*, 257-269. [Google Scholar] [CrossRef]
2. Al-Hazmi, N. M. (2022). E-marketing by Mobile Apps for Tourism Products and Its Impact on the Performance of Travel and Tourism Organizations. *International Journal of Interactive Mobile Technologies*, *16*(12), 145–153. [Google Scholar] [CrossRef]
3. Anto, S., Sudhakar, M. P., Ahamed, T. S., Samuel, M. S., Mathimani, T., Brindhadevi, K., & Pugazhendhi, A. (2021). Activation strategies for biochar to use as an efficient catalyst in various applications. *Fuel*, *285*, 119205. [Google Scholar] [CrossRef]
4. Arora, T., & Grey, I. (2020). Health behaviour changes during COVID-19 and the potential consequences: A mini-review. *Journal of health psychology*, *25*(9), 1155-1163. [Google Scholar] [CrossRef]
5. Bai, Y. (2017). Artification and authenticity: Museum exhibitions of luxury fashion brands in China. *Fashion curating: Critical practice in the museum and beyond*, *32*(4), 213-228. [Google Scholar]
6. Barann, B., Hermann, A., Heuchert, M., & Becker, J. (2022). Cannot touch this? Conceptualizing the customer touchpoint in the context of omni-channel retailing. *Journal of Retailing and Consumer Services*, *65*, 102269. [Google Scholar] [CrossRef]
7. Basak, S., Basu, P., Avittathur, B., & Sikdar, S. (2020). Manufacturer driven strategic coordination as a response to "showrooming". *Decision Support Systems*, *133*, 113305. [Google Scholar] [CrossRef]
8. Beck, N., & Rygl, D. (2015). Categorization of multiple channel retailing in Multi, Cross-, and Omni-Channel Retailing for retailers and retailing. *Journal of retailing and consumer services*, *27*, 170-178. [Google Scholar] [CrossRef]
9. Bell, D. R., Gallino, S., & Moreno, A. (2014). How to win in an omnichannel world. *MIT Sloan Management Review*. [Google Scholar]
10. Bezes, C. (2019). What kind of in-store smart retailing for an omnichannel real-life experience?. *Recherche et Applications en Marketing (English Edition)*, *34*(1), 91-112. [Google Scholar] [CrossRef]
11. Briedis, H., Kronschnabl, A., Rodriguez, A., & Ungerman, K. (2020). Adapting to the next normal in retail: The customer experience imperative, *14*, 1-9. [Google Scholar] [CrossRef]
12. Buangam, P., Sriyom, U., Kanjanaklod, W., Atitang, P., Janwichian, K., & Sutthirak, T. (2022). Mobile application development for management of information system of agro-tourism activities and attractions with yii framework. *International Journal of Interactive Mobile Technologies*, *16*(20), 18. [Google Scholar] [CrossRef]
13. Cai, Y. J., & Lo, C. K. (2020). Omni-channel management in the new retailing era: A systematic review and future research agenda. *International Journal of Production Economics*, *229*, 107729. [Google Scholar] [CrossRef]
14. Carrión-Mero, P., Montalvan-Burbano, N., Morante-Carballo, F., Quesada-Roman, A., & Apolo-Masache, B. (2021). Worldwide research trends in landslide science. *International journal of environmental research and public health*, *18*(18), 9445. [Google Scholar] [CrossRef]

15. Cattapan, T., & Pongsakornrungsilp, S. (2022). Impact of omnichannel integration on Millennials' purchase intention for fashion retailer. *Cogent Business & Management*, *9*(1), 2087460. [Google Scholar] [CrossRef]

16. Chai-Arayalert, S., Sansompron, N., Chodchuang, S., Chantanaphant, J., & Duangjan, C. (2023). Digital Platform-Mediated Tourism System in Small-Town Destination. *International Journal of Interactive Mobile Technologies*, *17*(5), 143–161 . [Google Scholar] [CrossRef]

17. Chan, H. L., Wei, X., Guo, S., & Leung, W. H. (2020). Corporate social responsibility (CSR) in fashion supply chains: A multimethodological study. *Transportation Research Part E: logistics and transportation review*, *142*, 102063. [Google Scholar] [CrossRef]

18. Chaudhary, P., Singh, A., & Sharma, S. (2022). Understanding the antecedents of omni-channel shopping by customers with reference to fashion category: the Indian millennials' perspective. *Young Consumers*, *23*(2), 304-320. [Google Scholar] [CrossRef]

19. del Río-Rama, M. D. L. C., Maldonado-Erazo, C. P., Alvarez-García, J., & Duran-Sanchez, A. (2020). Cultural and natural resources in tourism Island: Bibliometric mapping. *Sustainability*, *12*(2), 724. [Google Scholar] [CrossRef]

20. Dethlefs, C., Ostermeier, M., & Hübner, A. (2022). Rapid fulfilment of online orders in omnichannel grocery retailing. *EURO Journal on Transportation and Logistics*, *11*, 100082. [Google Scholar] [CrossRef]

21. El-Seoud, M., & Taj-Eddin, I. A. (2019). An Android Augmented Reality Application for Retail Fashion Shopping. *International Journal of Interactive Mobile Technologies*, *13*(1), 4–19. [Google Scholar]

22. Eriksson, E. (2022). *Exploring the omnichannel transformation of material-handling configurations and logistics capabilities in grocery retail*. Lund University. [Google Scholar]

23. Fang, J., Liu, H., Cai, Z., & Tan, C. W. (2023). Omni-channel retailing on platforms: Disentangling the effects of channel integration and inter-platform function usage difference. *Journal of Operations Management*, *69*(2), 197-216. [Google Scholar] [CrossRef]

24. Gao, W., Fan, H., Li, W., & Wang, H. (2021). Crafting the customer experience in omnichannel contexts: The role of channel integration. *Journal of Business Research*, *126*, 12-22. [Google Scholar] [CrossRef]

25. Gerea, C., Gonzalez-Lopez, F., & Herskovic, V. (2021). Omnichannel customer experience and management: An integrative review and research agenda. *Sustainability*, *13*(5), 2824. [Google Scholar] [CrossRef]

26. Goldstein, G. A., & Carpenter, G. S. (2022). Legitimately luxurious: Creating authentic luxury brands. *Business Horizons*, *65*(5), 631-642. [Google Scholar] [CrossRef]

27. Gómez, M., Gonzalez-Díaz, B., Martín-Consuegra, D., & Molina, A. (2017). How do offline and online environments matter in the relational marketing approach?. *Economic research-Ekonomska istraživanja*, *30*(1), 368-380. [Google Scholar] [CrossRef]

28. Gonzalez Romo, Z. F., Garcia Medina, I., & Plaza Romero, N. (2017). Storytelling and social networking as tools for digital and mobile marketing of luxury fashion brands. *Journal of Interactive Mobile Technologies, 2017, 11*(6), 136–149.[Google Scholar]

29. Hallinger, P., & Suriyankietkaew, S. (2018). Science mapping of the knowledge base on sustainable leadership, 1990–2018. *Sustainability*, *10*(12), 4846. [Google Scholar] [CrossRef]

30. Hansen, R., & Sia, S. K. (2015). Hummel's digital transformation toward omnichannel retailing: key lessons learned. *MIS Quarterly Executive*, *14*(2), 3. [Google Scholar]

31. Hyun, S. S., & Perdue, R. R. (2017). Understanding the dimensions of customer relationships in the hotel and restaurant industries. *International Journal of Hospitality Management*, *64*, 73-84. [Google Scholar] [CrossRef]

32. Jebarajakirthy, C., & Das, M. (2021). Uniqueness and luxury: A moderated mediation approach. *Journal of Retailing and Consumer Services*, *60*, 102477. [Google Scholar] [CrossRef]

33. Lazaris, C., & Vrechopoulos, A. (2014, June). From multichannel to "omnichannel" retailing: review of the literature and calls for research. In *2nd International Conference on Contemporary Marketing Issues,(ICCMI)* (Vol. 6, pp. 1-6). [Google Scholar]

34. Li, Z., Wang, D., Abbas, J., Hassan, S., & Mubeen, R. (2022). Tourists' health risk threats amid COVID-19 era: role of technology innovation, Transformation, and recovery implications for sustainable tourism. *Frontiers in Psychology*, *12*, 769175. [Google Scholar] [CrossRef]

35. Lopes, J. M., Sousa, A., Calçada, E., & Oliveira, J. (2021). A citation and cocitation bibliometric analysis of omnichannel marketing research. *Management Review Quarterly*, *72*(4), 1017-1050 . [Google Scholar] [CrossRef]

36. Lorenzo-Romero, C., Andrés-Martínez, M. E., Cordente-Rodríguez, M., & Gómez-Borja, M. A. (2021). Active participation of e-consumer: A qualitative analysis from fashion retailer perspective. *Sage Open*, *11*(1), 2158244020979169. [Google Scholar] [CrossRef]

37. Montalvan-Burbano, N., Pérez-Valls, M., & Plaza-Úbeda, J. (2020). Analysis of scientific production on organizational innovation. *Cogent Business & Management*, *7*(1), 1745043. [Google Scholar] [CrossRef]

38. Pangarkar, A., Arora, V., & Shukla, Y. (2022). Exploring phygital omnichannel luxury retailing for immersive customer experience: The role of rapport and social engagement. *Journal of Retailing and Consumer Services*, *68*, 103001. [Google Scholar] [CrossRef]

39. Picot-Coupey, K., Huré, E., & Piveteau, L. (2016). Channel design to enrich customers' shopping experiences: synchronizing clicks with bricks in an omni-channel perspective-the Direct Optic case. *International Journal of Retail & Distribution Management*, *44*(3), 1-44 . [Google Scholar] [CrossRef]

40. Roldan-Valadez, E., Salazar-Ruiz, S. Y., Ibarra-Contreras, R., & Rios, C. (2019). Current concepts on bibliometrics: a brief review about impact factor, Eigenfactor score, CiteScore, SCImago Journal Rank, Source-Normalized Impact per Paper, H-index, and alternative metrics. *Irish Journal of Medical Science (1971)*, *188*, 939-951. [Google Scholar] [CrossRef]

41. Saghiri, S., Wilding, R., Mena, C., & Bourlakis, M. (2017). Toward a three-dimensional framework for omni-channel. *Journal of Business Research*, *77*, 53-67. [Google Scholar] [CrossRef]

42. Salesforce, C. P. Q. (2020). Salesforce. Cloud CRM Solutions. [Link]

43. Salvietti, G., Ziliani, C., Teller, C., Ieva, M., & Ranfagni, S. (2022). Omnichannel retailing and postpandemic recovery: building a research agenda. *International Journal of Retail & Distribution Management*, *50*(8/9), 1156-1181. [Google Scholar] [CrossRef]

44. Santiago, V. A., Cassin, S. E., Sockalingam, S., & Carter, A. (2022). Food Addiction and Policy. In *Handbook of Substance Misuse and Addictions: From Biology to Public Health* (pp. 2903-2925). Cham: Springer International Publishing. [Google Scholar] [CrossRef]

45. Shahid, S., & Paul, J. (2021). Intrinsic motivation of luxury consumers in an emerging market. *Journal of Retailing and Consumer Services*, *61*, 102531. [Google Scholar] [CrossRef]

46. Soto-Acosta, P. (2020). COVID-19 pandemic: Shifting digital transformation to a high-speed gear. *Information Systems Management*, *37*(4), 260-266. [Google Scholar] [CrossRef]

47. Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *scientometrics*, *84*(2), 523-538. [Google Scholar] [CrossRef]

48. Verhoef, P. C. (2021). Omni-channel retailing: Some reflections. *Journal of Strategic Marketing*, *29*(7), 608-616. [Google Scholar] [CrossRef]

49. Von Briel, F. (2018). The future of omnichannel retail: A four-stage Delphi study. *Technological Forecasting and Social Change*, *132*, 217-229. [Google Scholar] [CrossRef]

50. Vyas, P., Ling, P., Gordon, B., Callewaert, J., Dang, A., Smith, D., ... & Glantz, S. (2021). Compliance with San Francisco's flavoured tobacco sales prohibition. *Tobacco control*, *30*(2), 227-230. [Google Scholar]

51. Wei, B. (2020). Influence of fashion design methods on psychological preferences of consumers: An analysis based on social psychology theory. *Revista Argentina de Clínica Psicológica*, *29*(1), 1272. [Google Scholar] [CrossRef]

52. Weinswig, D. (2019). Omnichannel in Europe today lessons from leading retailers. [Google Scholar]

53. Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational research methods*, *18*(3), 429–472. [Google Scholar] [CrossRef]

Тенденції цифрової трансформації в омніканальній роздрібній торгівлі: бібліометричний аналіз

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Поширення омніканального підходу у роздрібній торгівлі спричинило відповідні трансформації в електронному бізнесі (е-комерції), що тим самим каналізувало зміну споживчої поведінки та факторів, які впивають на прийняття ними рішень. Цей підхід трансформував спосіб покупок клієнтів, забезпечуючи безперервний перехід між онлайн- та офлайн-платформами шляхом нарощення інтенсивності використання смартфонів та планшетів. Наразі роздрібні продавці зосереджені на наданні високоякісних сервісних послуг. Однак, незважаючи на актуальність цієї теми в секторі роздрібної торгівлі, бібліометричні та систематичні огляди, що досліджують омніканальність, залишаються рідкісними. З метою сприяння подальшим дослідженням та розширенню знань у цій сфері було проведено бібліометричний аналіз для виявлення тенденцій досліджень омніканальності в електронній комерції, включаючи публікаційну динаміку, рейтинги наукових періодичних видання, провідних авторів, лідери країн у яких вчені досліджують дану проблематику. Вибірка дослідження становила 773 статті, що опубліковані у наукових виданнях, які індексуються базою даних Scopus за період з 2013 по березень 2023 роки. Результати показали постійне зростання кількості публікацій, що присвячені дослідженню проблематики омніканальності в електронній комерції. Серед 61 проаналізованих країн, Чилі мала найбільшу кількість публікацій за даною тематикою, за нею слідують Швеція та Іспанія. Систематичний аналіз за допомогою VOSviewer ідентифікував 2103 ключових слів, що сформували підґрунтя для кластеризації наукових досліджень. У статті визначено ключові патерни в дослідженнях, оцінено тенденції їхнього розвитку за часовим виміром, візуалізовано мережі співпраці між країнами та кластеризовано провідні тематики досліджень щодо використання омніканального підходу в електронній комерції. У результаті, це дослідження надає теоретичне підґрунтя (принципи, специфіку тощо) розвитку та впровадження омніканального підходу у роздрібної торгівлі.

Ключові слова: омніканальність; харчові продукти; мода; розкіш; туризм; бібліометричний аналіз.