

Bibliometric Analysis of Omnichannel Retailing Trends : Insights from the Last 19 Years

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Abstract

Purpose : This study investigated the evolution of scholarly research on omnichannel retailing, an area that still lacked a comprehensive bibliometric assessment. By synthesizing existing literature, the study aimed to highlight key research trends, influential works, and thematic developments in the field.

Design/Methodology/Approach : A bibliometric analysis was conducted on 279 publications indexed in the Scopus database from 2002 to 2021. VoSviewer software was used to create a visual map of recurring research terms. The study identified key articles, authors, and journals, while a content analysis of highly cited papers and recent works further refined the understanding of omnichannel retailing.

Findings : The results revealed the most influential contributions to the field, categorized into five major research clusters. The analysis highlighted key authors, sources, and documents that shaped omni-channel retailing literature. Content analysis further captured evolving research priorities and emerging themes from recent publications.

Practical Implications : The study consolidated fragmented literature, offering insights for researchers, practitioners, and retailers. Understanding dominant themes and research trajectories helped businesses implement effective omnichannel strategies while guiding future academic investigations.

Originality : This study uniquely combined bibliometric and content analysis to systematically map omni-channel retailing research. By providing a structured overview of existing studies, it enhanced theoretical comprehension and practical application of omnichannel strategies.

Keywords : omni-channel, systematic literature review (SLR), bibliometric analysis, content analysis

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In today's growing retail landscape, customer expectations are more advanced than ever. Companies like Nike and Starbucks are using digital technologies to enhance customer satisfaction while purchasing goods (Krishnan et al., 2022). The creation of digital channels has provided consumers with multiple touchpoints and options to access products and services. Consumers frequently interact with multiple channels simultaneously, such as browsing a store's mobile app while physically shopping in-store (Rajan et al., 2017). This journey from multichannel retailing to omnichannel retailing has created a fundamental transformation in the retail industry. Multichannel retailing allows customers to interact with different channels separately, but omnichannel retailing integrates all touchpoints seamlessly (Sharma & Panda, 2025; Verhoef et al., 2015). This transformation incorporates touchpoints like personal computers, tablets, mobile phones, and social media to ensure a seamless shopping experience (Rigby, 2011).

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The widespread adoption of omnichannel approaches has both beneficial and problematic consequences. While it has increased customer accessibility and enhanced retailer outreach, it has, in turn, led to store closures and industry bankruptcies owing to changing customer demand (GlobalData, n.d.). Succeeding for omnichannel retailers requires minimizing resistance between both the online and offline channels, transparency, and synchronization to offer resistance-less buying (Sharma et al., 2025). The nature of the connections between channels requires smooth integration as a precondition for successful implementation. However, despite the increased ubiquity of omnichannel retailing, there is still a limited understanding of the retailers' and consumers' expectations (Cheah et al., 2022; Faulds et al., 2018). Retailers need to inform and enlighten customers about different omnichannel capabilities and provide convenience to enable effective usage (Gao, Fan et al., 2021). Moreover, in emerging economies like India, prohibitively high operating costs are a huge obstacle to the mass adoption of omnichannel retailing (Li et al., 2021).

Importance of the Study

Omnichannel retailing is a new research area; still, there is not much comprehensive research on this topic, especially across disciplines such as bibliometric analysis (Altıntaş et al., 2020). Researchers, as well as practitioners, need to be aware of different trends of research, collaboration between authors, and changes in top themes. In the context of this research, the Scopus database is a key tool to fill gaps in existing research through a critical analysis of scholarly literature, frequency of citations, author productivity, and institutional performance. The addition of conference proceedings, book chapters, and other peer-reviewed publications is added to a general assessment and gives a broad-brush picture of the subject. Due to the heterogeneity of the literature on omnichannel retailing, the use of a systematic bibliometric approach adds to the identification of developments and emerging trends in this research field (Sab et al., 2020).

Theoretical Grounding

The need for a bibliometric analysis of omnichannel retailing stems from the scattered nature of research on this topic (Van Nguyen et al., 2022). Previous studies have investigated various dimensions, such as patterns of fulfillment strategies (Hübner et al., 2016), patterns of citations (Cai & Lo, 2020), dimensions of service quality (Zhang et al., 2019), and using mobile technology to enable online and offline channels to be integrated (Liao & Yang, 2020). There is, however, a significant lack of comprehensive reviews on publication trends, collaborative structures, and thematic arrangements. The current study seeks to fill this gap by using bibliometric methods to study publication trends in research on omnichannel retailing from 2002 to 2021. Through a conceptual, intellectual, and social structure analysis of omnichannel retailing, this study presents meaningful knowledge of its development and potential future path.

Objectives and Research Questions

This study aims to understand the evolution and structuring of knowledge in the field of omnichannel retailing using bibliometric analysis. This field evolved from 2002 to 2021, and the most influential scholarly journals, prolific authors, leading institutions, and contributing countries. The study also examines the most common keywords with the hope of identifying different prevailing research themes.

To accomplish these goals, the study examines bibliometric profiles through publication distribution, citing patterns, and changing research dynamics. The study examines the most cited articles and citation trends over time, maps global research collaboration networks, and determines the most impactful authors and journals

contributing to the domain. In addition, the study examines thematic structures through keyword co-occurrence analysis and determining key patterns and research gap areas. Using bibliometric techniques, that is, descriptive and network analysis, this study is a systematic literature review in the context of omnichannel retailing, thereby providing insights into its present and future trends.

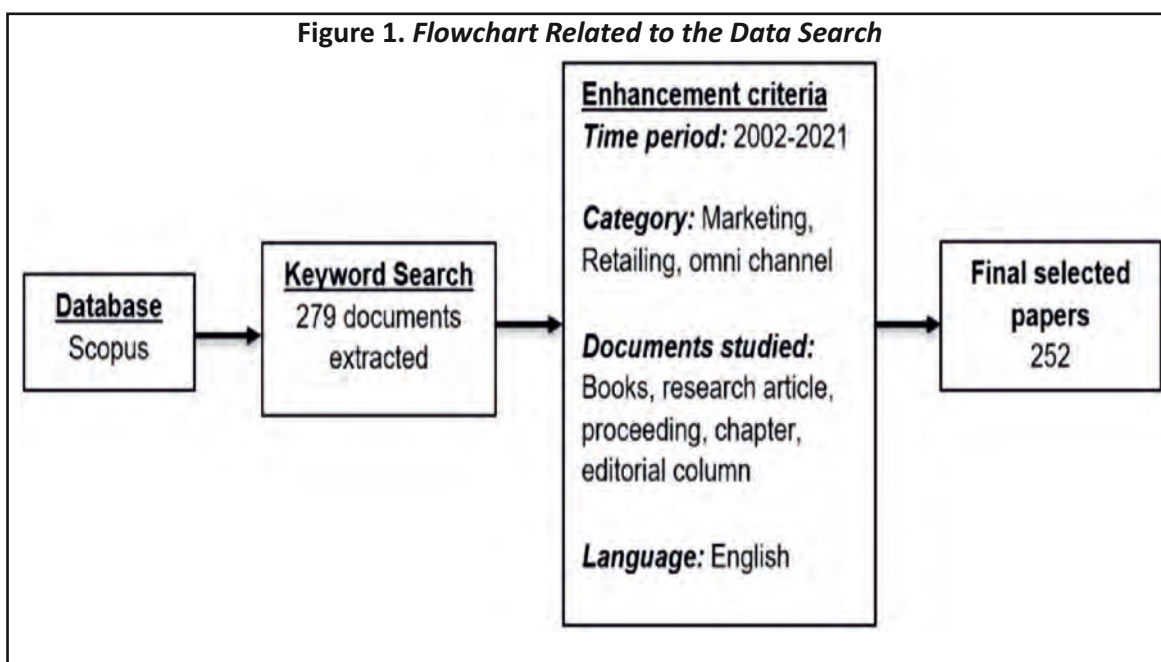
Research Methodology

This research study was carried out to search and condense applicable data from an appropriate database according to the given inclusion and exclusion criteria outlined in Table 1. The search strategy was created carefully through careful filtering of keywords, initially identified through filtering of applicable literature (Cai & Lo, 2020). The chosen keywords were “omnichannel,” “omnichannel retailing,” and “omnichannel retail,” whereas “multichannel” was deliberately not used due to its more general contextual meaning. For bibliometric analysis, Scopus was employed as the primary database since it comprehensively indexes over 21,000 peer-reviewed journals of major publishers, including Elsevier, Emerald, Wiley, Taylor & Francis, and Inderscience. Scopus indexed more academically and encompassed almost all WoS-indexed journals, therefore a more comprehensive tool for this study (Joshi et al., 2024).

To analyze the trend of changing terminology over time, the Google Books Ngram Viewer was employed, which granted access to a large corpus of 360 billion English words (Omar et al., 2017). Figure 1 displays the

Table 1. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Papers related to Omnichannel	Papers focusing on multichannel were not included in the study.
Only articles	Conference papers and book chapters were not included.
Only English articles	Only English-language papers were preferred.
Note. This table shows the inclusion and exclusion criteria. Papers mentioning multichannel were not taken into the study. Only articles dealing with omnichannel are taken, and conference and book chapters are excluded.	



frequency trends of “retailing” and “omnichannel” in the literature between 2002 and 2021. A literature search was conducted to scan publications using the term “omnichannel retailing” between 2002 and 2021, with a preference for articles that made direct use of the term. Only English-language articles were utilized to bring uniformity to the analysis; however, some articles written in other languages may have been missed. After screening titles, keywords, and abstracts, 279 papers were shortlisted, with 252 selected for further analysis (Figure 1).

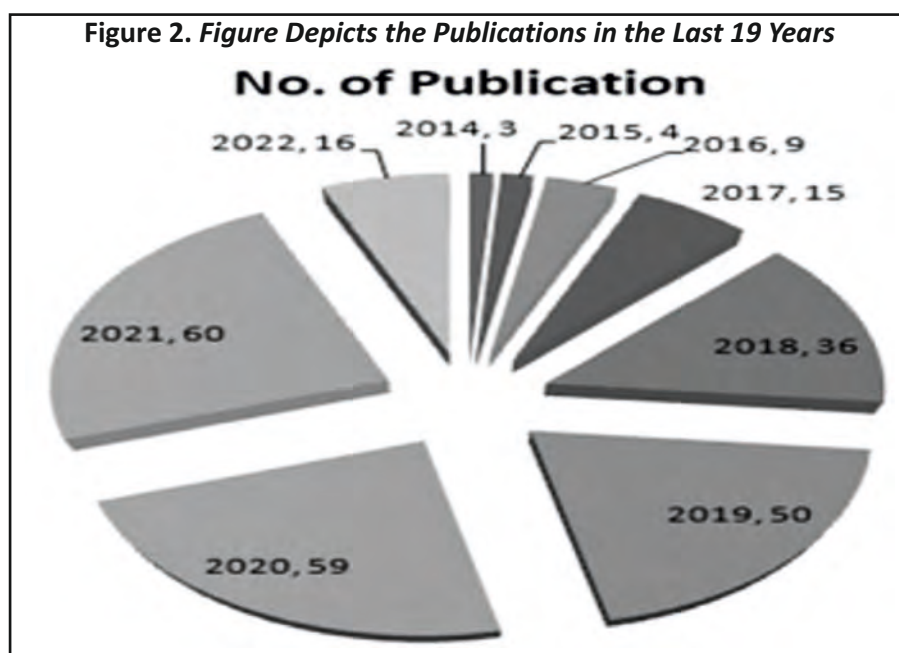
To map the scholarly landscape, VOSviewer was employed for its high-level bibliometric functionality. It supports progressive analysis of research trends, clustering techniques, and network visualizations, hence being most applicable to the study of literature for omnichannel retailing (Rodriguez-Rodriguez et al., 2021). Compared to other scientometric software, VOSviewer is visual presentation-based, hence better-reflecting research patterns (van Eck & Waltman, 2011). It also offers data integrity through systematic processing and open procedures (Cobo et al., 2011; Markoulli et al., 2017), hence being one of the widely used software packages in scientometrics. VOSviewer was applied in the current study to map a network visualization of the most frequent terms in omnichannel retailing, with main research clusters and thematic developments being highlighted.

Analysis and Results

This section delves into the analysis of data using VOSviewer software. We present both the quantitative results (summarized in tables for swift comprehension) and visual representations to provide a deeper understanding of the key findings and their implications.

Year-Wise Publication

An analysis of year-wise publications shows that the highest number of publications is in the year 2021, which shows that in this area, research work has increased. In 2021, 60 articles were published, which is higher than last year's publications. Figure 2 shows the detailed analysis of data. In 2020, the total number of publications was 59 and in 2019, 50 publications took place. Based on the analysis, it can be said that the trend of publications is increasing.



Top Journals in the Field of Retailing

As omnichannel retailing comes under the broad area of retailing, journals of retailing are the ones in which papers related to this area are published. Table 2 shows that the *Journal of Retailing and Consumer Services*, with 33 publications as of January 25, 2023, ranks at the top.

Top Publishers

Elsevier, Taylor and Francis Ltd., and Emerald Group Publishing Ltd. are among the top publishers. The analysis shows that Elsevier Ltd., with 56 publications, is on the top, followed by Emerald Group Holdings Ltd., Elsevier, and Routledge. Table 3 mentions the list of the top 10 publishers with the number of publications.

Table 2. List of Top Journals in the Field of Retailing (N = 121)

S. No.	Journals	Articles (N)
1	<i>Journal of Retailing and Consumer Services</i>	33
2	<i>International Journal of Retail and Distribution Management</i>	20
3	<i>International Journal of Physical Distribution and Logistics Management</i>	12
4	<i>International Journal of Production Economics</i>	10
5	<i>Transportation Research Part E: Logistics and Transportation Review</i>	10
6	<i>Electronic Commerce Research and Applications</i>	8
7	<i>Journal of Business Research</i>	8
8	<i>Decision Support Systems</i>	8
9	<i>Management Science</i>	7
10	<i>International Transactions in Operational Research</i>	5

Note. N represents the total number of publications in the top 10 journals.

Table 3. List of the Top Six Publishers (N = 212)

S. No.	Publisher	No. of Articles (N)
1	Elsevier Ltd.	56
2	Emerald Group Holdings Ltd.	50
3	Elsevier B.V.	29
4	Routledge	17
5	INFORMS Inst. for Operations Res. and the Management Sciences	14
6	Elsevier Inc.	14
7	Taylor and Francis Ltd.	8
8	Emerald Group Publishing Ltd.	7
9	SAGE Publications Ltd.	6
10	Blackwell Publishing Ltd.	6

Note. N represents the total number of publications with the top 10 publishers.

Top Authors in Terms of Publications

Hübner A. is the topmost contributor to the topic omnichannel with six articles; He Y. and Wollenburg J. have published five articles, followed by five articles by Liu H. and Li Y. Table 4 lists the top 10 authors, such as Hübner A. and He Y., along with the number of their publications.

Top Cited Articles

Verhoef et al. (2015), in their influential paper titled “*From Multi-Channel Retailing to Omni-Channel Retailing*,” explored the evolving landscape of retail, specifically the transition from multi-channel to omnichannel retailing. Their discussion of omnichannel development received considerable attention, as evidenced by its prominent citations within the paper (see Table 5).

Table 4. Top 10 Authors in Terms of Maximum Publications

S. No.	Authors	No. of Articles
1	Hübner A.	6
2	He Y.	5
3	Wollenburg J.	5
4	Liu H.	5
5	Li Y.	5
6	Gallino S.	5
7	Xu Q.	4
8	Norrman A.	4
9	Kuhn H.	4
10	Song G.	4

Table 5. Top Five Cited Articles

S. No.	Title	Cited by
1	“From Multi-Channel Retailing to Omni-Channel Retailing. Introduction to the Special Issue on Multi-Channel Retailing”	918
2	“Integrating Bricks with Clicks: Retailer-Level and Channel-Level Outcomes of Online-Offline Channel Integration”	292
3	“Categorization of Multiple Channel Retailing in Multi-, Cross-, and Omni-Channel Retailing for Retailers and Retailing”	260
4	“Omnichannel Retail Operations with Buy-Online-and-Pick-Up-in-Store”	236
5	“Last-Mile Fulfillment and Distribution in Omnichannel Grocery Retailing: A Strategic Planning Framework”	187

Table 6. Top Five Contributing Authors

S. No.	Author	Documents	Citations
1	Peter C. Verhoef	3	1,002
2	P.K. Kannan	2	1,001
3	Alexander H. Hübner	6	602
4	Johannes Wollenburg	5	493
5	Heinrich Kuhn	4	438

Note. The above shows the list of the top contributing authors in the area of omnichannel.

Top Contributing Authors

In a recent study on omnichannel research, Verhoef et al. (2015) emerged as the most influential author based on their citations in the Scopus database. With 1,002 citations from just three publications, Vaerhoef's work has garnered significant attention within the field. Close behind is P. K. Kannan, whose two omnichannel publications have amassed an impressive 1,001 citations. As shown in Table 6, these findings highlight the growing impact of omnichannel research and the key players shaping its discourse.

Country-Wise Publications

The United States has the highest number of documents, with 3,457 citations. China and the United Kingdom followed, with 58 and 30 documents. Although Germany has 17 documents, the citations are more than China and the United Kingdom (see Table 7).

Bibliometric Analysis (Citation and Co-Citation Analysis)

Citation analysis is a widely used method to assess the influence of scholarly articles within a field (Klavans & Boyack, 2017). It examines how frequently an article is cited and by whom, providing insights into its impact on ongoing research. Specifically, direct citations help trace the historical development of a topic by showing how an article contributes to scholarly discussions (Garfield et al., 1964). Meanwhile, bibliographic analysis offers a broader view of research networks by identifying co-citations, where two papers frequently appear together in reference lists. Therefore, this approach assists in revealing clusters of related studies and future trends. For example, Table 8 shows the top 10 cited papers both globally and locally. A local citation is an article's citation within a given network of 252 articles, whereas a global citation is its citation in all areas. For instance, Saghiri et al. (2017) have 118 global citations but 42 local citations, whereas Bell et al. (2018) have 161 global citations and 15 local citations (see Table 7). This indicates that even though an article has wide scholarly influence, it may not be as central in a given network of research. Moreover, co-citation analysis looks at instances where two or

Table 7. Country-Wise Publications

S. No.	Country	Documents	Citations
1	United States	71	3,457
2	China	58	947
3	United Kingdom	30	842
4	Germany	17	1,299
5	Spain	15	140
6	Australia	13	299
7	South Korea	12	91
8	France	11	295
9	Hong Kong	11	351
10	India	9	42

Note. The computation of documents is different because if two authors write a paper from two different countries, then the same paper is counted in both countries.

Table 8. Top Five Globally and Locally Cited Articles

Authors	Title	Local	Global	Total Citations
Saghiri S., Wilding R., Mena C., Bourlakis M.	"Toward a Three-Dimensional Framework for Omnichannel"	42	118	160
Gao F., Su X.	"Online and Offline Information for Omnichannel Retailing"	33	111	144
Hübner A., Wollenburg J., Holzapfel A.	"Retail Logistics in the Transition from Multi-Channel to Omnichannel"	33	126	159
Gao F., Su X.	"Omnichannel Retail Operations with Buy-Online-and-Pick-Up-in-Store"	32	204	236
Hübner A., Holzapfel A., Kuhn H.	"Distribution Systems in Omnichannel Retailing"	27	82	109

more articles are cited together in the references of a third article, forming a bibliographic link (Hjørland, 2013). For example, if Articles B and C are cited by Article D, they are co-cited, showing thematic relevance. Thus, this approach assists in mapping research interlinks and forming dominant schools of thought. In other cases, two, three, or more articles may often be cited together, showing strong interlinks (see Table 9). To filter this process, the Apriori technique is used to find out how frequently sets of articles are co-cited, further strengthening the scholarly influence network analysis.

Table 9. List of Articles Cited Together

S. No.	Name of the Articles	Articles Cited Together
1	Avery, J., Steenburgh, T. J., Deighton, J., & Caravella, M. (2012). Adding bricks to clicks: Predicting the patterns of cross-channel elasticities over time. <i>Journal of Marketing</i> , 76(3), 96–111. Ansari, A., Mela, C. F., & Neslin, S. A. (2008). Customer channel migration. <i>Journal of Marketing Research</i> , 45(1), 60–76.	2
2	Avery, J., Steenburgh, T. J., Deighton, J., & Caravella, M. (2012). Adding bricks to clicks: Predicting the patterns of cross-channel elasticities over time. <i>Journal of Marketing</i> , 76(3), 96–111. Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., & Verhoef, P. C. (2006). Challenges and opportunities in multichannel customer management. <i>Journal of Service Research</i> , 9(2), 95–112. Ansari, A., Mela, C. F., & Neslin, S. A. (2008). Customer channel migration. <i>Journal of Marketing Research</i> , 45(1), 60–76.	3
3	Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., & Verhoef, P. C. (2006). Challenges and opportunities in multichannel customer management. <i>Journal of Service Research</i> , 9(2), 95–112. Rapp, A., Baker, T. L., Bachrach, D. G., Ogilvie, J., & Beitelspacher, L. S. (2015). Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance. <i>Journal of Retailing</i> , 91(2), 358–369. Ansari, A., Mela, C. F., & Neslin, S. A. (2008). Customer channel migration. <i>Journal of Marketing Research</i> , 45(1), 60–76. Konus, U., Verhoef, P. C., & Neslin, S. A. (2008). Multichannel shopper segments and their covariates. <i>Journal of Retailing</i> , 84(4), 398–413.	4

Verhoef, P. C., Neslin, S. A., & Vroomen, B. (2007). Multichannel customer management: Understanding the research-shopper phenomenon. *International Journal of Research in Marketing*, 24(2), 129–148.

Neslin, S. A., & Shankar, V. (2009). Key issues in multichannel customer management: current knowledge and future directions. *Journal of Interactive Marketing*, 23(1), 70–81.

Ansari, A., Mela, C. F., & Neslin, S. A. (2008). Customer channel migration. *Journal of Marketing Research*, 45(1), 60–76.

Neslin, S. A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M. L., Thomas, J. S., & Verhoef, P. C. (2006). Challenges and opportunities in multichannel customer management. *Journal of Service Research*, 9(2), 95–112.

Konuş, U., Verhoef, P. C., & Neslin, S. A. (2008). Multichannel shopper segments and their covariates. *Journal of Retailing*, 84(4), 398–413.

Clustering

Researchers utilize bibliographic coupling to identify relationships between papers based on shared references, a concept first introduced by Kessler (1963). Modern software like VOSviewer aids in visualizing these relationships by clustering papers that cite common sources. In this study, VOSviewer was employed to identify clusters through bibliographic coupling, initially detecting seven clusters. However, to refine the analysis, a minimum citation threshold of 25 was applied, resulting in a final selection of 66 papers across five clusters. Figure 3 presents the bibliographic coupling map generated using a co-occurrence matrix that measures the similarity of papers based on keywords, concepts, and citations (van Eck & Waltman, 2011). Each cluster is color-

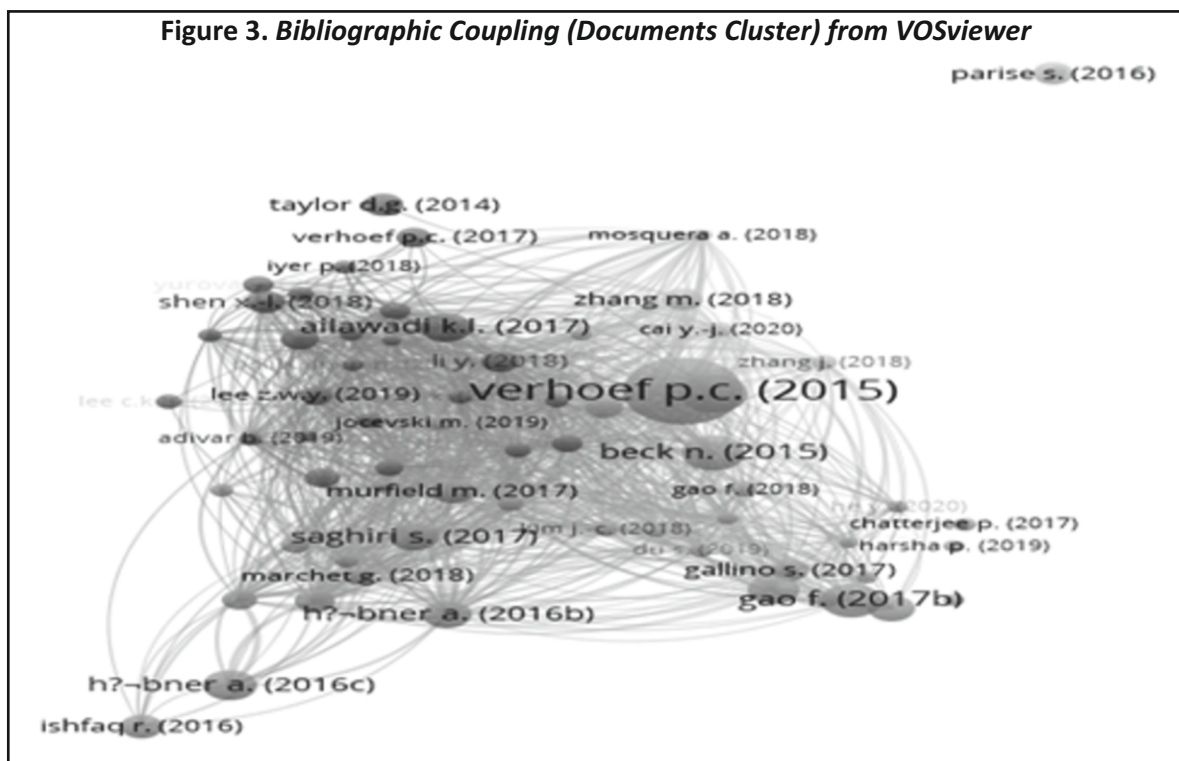


Table 10. List of Clusters with Themes

Cluster No.	No. of Articles Without Setting Citations	No. of Articles for Content Analysis When Citation > 25	Themes of Each Cluster
1	87	25	Channel Integration/ Retail returns/Repurchase intention of customer
2	66	19	Evolution of omnichannel
3	54	13	Supply chain management/Warehouse operations/Transportation/Procurement
4	19	6	Augmented reality
5	11	3	Digitalization
6	2	---	---
7	2	---	---
Total	241	66	

Note. The top five clusters are taken further for content analysis as there were no clusters formed after setting the minimum citation.

coded, displaying the connected papers and their respective citation counts. Table 10 provides further details on the distribution: Cluster 1 contains 25 papers, Cluster 2 has 19, Cluster 3 includes 13, Cluster 4 has 6, and Cluster 5 consists of 3 papers. Applying a citation threshold is a common approach in bibliometric analysis, ensuring a focus on influential research (Hota et al., 2020). This study's threshold helped streamline the clusters, providing a clearer understanding of key research themes and their interconnections within omnichannel retailing.

Detailed Cluster Analysis

This study employs VOSviewer software to identify and analyze research clusters within omnichannel retailing. Each cluster is examined based on its shared themes, with highly cited articles offering further insights into co-occurring topics (Xu et al., 2018). While the first three clusters contain at least 10 highly cited articles, the remaining two are smaller and were analyzed in full to ensure comprehensive coverage. Despite variations in cluster sizes, this approach maintains the study's focus on omnichannel retailing while uncovering distinct sub-themes.

Cluster 1 explores retail returns, customer repurchase intentions influenced by positive word-of-mouth, and reverse logistics. Cluster 2 takes a conceptual approach, examining the theoretical evolution of omnichannel strategies. Cluster 3 centers on supply chain management, addressing warehouse operations, transportation, and procurement. Cluster 4 investigates the role of augmented reality (AR) in omnichannel retailing, while Cluster 5 focuses on digitalization and its impact on retailers. A summary of top-cited articles for each cluster is provided in Table 11.

Table 11. List of Top-Cited Articles in Each Cluster

Cluster One	Citations	Journal
Ailawadi & Farris (2017)	175	<i>International Journal of Production Economics</i>
Shen et al. (2018)	110	<i>Journal of Retailing and Consumer Services</i>
Taylor, D. G. (2014)	100	<i>Journal of Retailing</i>
Li, Y. (2018)	93	<i>Journal of Interactive Marketing</i>

Hure, E. (2017)	92	<i>International Journal of Physical Distribution and Logistics Management</i>
Verhoef et al. (2017)	83	<i>Journal of Retailing and Consumer Services</i>
Bernon et al. (2016)	80	<i>International Journal of Physical Distribution and Logistics Management</i>
Lee, Z. W. (2019)	76	<i>Industrial Marketing Management</i>
Yurova, Y. (2017)	64	<i>Journal of Retailing and Consumer Services</i>
Von Briel, F. (2018)	62	<i>Technological Forecasting and Social Change</i>
Cluster Two	Citations	Journal
Beck & Rygl (2015)	260	<i>Journal of Retailing and Consumer Services</i>
Bell et al. (2018)	176	<i>Management Science</i>
Chatterjee & Kumar (2017)	35	<i>Journal of Retailing and Consumer Services</i>
Du, S. (2019)	38	<i>International Journal of Production Economics</i>
Fisher, M. L. (2019)	33	<i>Journal of Marketing Research</i>
Gallino, S. (2017)	96	<i>Management Science</i>
Gao, F. (2017a)	144	<i>Manufacturing and Service Operations Management</i>
Gao, F. (2017b)	236	<i>Management Science</i>
Gao, F. (2018)	48	<i>Management Science</i>
Gu, Z. (2017)	53	<i>MIS Quarterly: Management Information Systems</i>
Cluster Three	Citations	Journal
Galipoglu, E. (2018)	49	<i>International Journal of Physical Distribution and Logistics Management</i>
Gawor, T. (2019)	39	<i>International Journal of Physical Distribution and Logistics Management</i>
Hübner et al. (2016)	109	<i>Business Research</i>
Hübner, A. (2016a)	159	<i>International Journal of Physical Distribution and Logistics Management</i>
Hübner, A. (2016b)	187	<i>International Journal of Retail and Distribution Management</i>
Ishfaq, R. (2016)	113	<i>International Journal of Physical Distribution and Logistics Management</i>
Lafkihi, M. (2019)	37	<i>Transportation Research Part E: Logistics and Transportation Review</i>
Marchet et al. (2018)	50	<i>International Journal of Physical Distribution and Logistics Management</i>
Murfield et al. (2017)	112	<i>International Journal of Physical Distribution and Logistics Management</i>
Saghiri et al. (2017)	160	<i>Journal of Business Research</i>
Cluster Four	Citations	Journal
Parise, S. (2016)	109	<i>Business Horizons</i>
Zhang, M. (2018)	104	<i>Electronic Commerce Research and Applications</i>
Zhang, J. (2018)	47	<i>Transportation Research Part E: Logistics and Transportation Review</i>
Cai & Lo (2020)	45	<i>International Journal of Production Economics</i>
Mosquera et al. (2018)	34	<i>Spanish Journal of Marketing - ESIC</i>
Berman, B. (2019)	26	<i>Business Horizons</i>
Cluster Five	Citations	Journal
Picot-Coupey, K. (2016)	92	<i>International Journal of Retail and Distribution Management</i>
Jocevski et al. (2019)	47	<i>International Journal of Retail and Distribution Management</i>
Frishammar et al. (2018)	28	<i>Decision Support Systems</i>

Certain journals emerge as dominant contributors within specific clusters. The *Journal of Retailing and Consumer Services* leads Cluster 1, focusing on channel integration and retail returns. *Management Science* dominates Cluster 2 with theoretical insights, while the *International Journal of Physical Distribution and Logistics Management* significantly contributes to supply chain research in Cluster 3. Meanwhile, *Business Horizons* and the *International Journal of Retail and Distribution Management* play key roles in Clusters 4 and 5, emphasizing AR and digitalization, respectively. Table 12 provides a detailed breakdown of journal contributions.

Content Analysis

The content analysis revealed several clusters of related articles. Using a minimum citation threshold of 25, 66 articles formed distinct groups. VOSviewer software facilitated the identification of five main clusters. Notably, articles published between 2020 and 2022 did not fall into any of these established clusters. This likely reflects their recent publication and relatively low citation counts, as shown in Table 13.

Cluster 1 : Channel Integration/Product Returns

Table 13 highlights the significance of channel integration in modern retail, a crucial factor in enhancing the customer experience in the digital era. As Shen et al. (2018) emphasize, consumers interact with retailers through multiple touchpoints, both online and offline. Initially, the fragmentation of data across channels posed challenges in delivering a seamless shopping journey. However, research indicates a shift from a multichannel model, where

Table 12. Top Contributing Journals of Each Cluster

Clusters	No. of Articles in Cluster	Main Journals Name of Journals	Total No. of Documents Published in the Top Two Journals
Cluster One	25	1. <i>Journal of Retailing and Consumer Services</i>	6
		2. <i>International Journal of Physical Distribution and Logistics Management</i>	3
Cluster Two	19	1. <i>Management Science</i>	4
		2. <i>International Journal of Production Economics</i>	3
Cluster Three	13	1. <i>International Journal of Physical Distribution and Logistics Management</i>	7
		2. <i>International Journal of Retail and Distribution Management</i>	2
Cluster Four	6	1. <i>Business Horizons</i>	2
Cluster Five	3	1. <i>International Journal of Retail and Distribution Management</i>	2

Table 13. Total Number of Articles Published in Each Cluster

Year	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
2014	1	–	–	–	–
2015	1	1	–	–	–
2016	1	–	4	1	1
2017	6	5	2	–	–
2018	10	4	5	3	1
2019	6	4	2	1	1
2020	–	2	–	1	–
Total	25	16	13	6	3

channels operate independently, to an omnichannel strategy that unifies these touchpoints, ensuring consistency across platforms. A key challenge in online shopping, as noted by Shen et al. (2018), is the tendency of customers to order multiple sizes and colors before making a final purchase decision, leading to increased return rates. Managing returns across multiple channels has traditionally been complex, yet omnichannel integration streamlines this process effectively (Bernon et al., 2016).

Table 13, Cluster 1, identifies 25 key studies focusing on channel integration, underscoring its importance in modern retail. As omnichannel strategies continue to evolve, they offer retailers improved mechanisms for managing inventory, returns, and customer engagement, ensuring a more cohesive shopping experience.

Cluster 2 : Evolution of the Concept of Omnichannel

Early efforts at integrating different communication channels were often unclear, with terms like “multichannel,” “cross-channel,” and “omnichannel” used interchangeably. To clarify these concepts, researchers like Beck and Rygl (2015) categorized them based on their level of integration. Researchers have shown their interest in understanding omnichannel tactics and studied the behavior of customers who shop online with the same retailers (Bell et al., 2018). Studies have been conducted to see the consumer willingness to make payments online or at omnichannel as well (Chatterjee & Kumar, 2017). The cluster in Table 13 shows the difference among multichannel, cross-channel, and omnichannel and the evolution of omnichannel as well.

Cluster 3 : Supply Chain Management/ Warehouse Operations/ Transportation/ Procurement

Table 13 depicts that retailers have observed that there is some problem with the traditional supply chain as it does not fit into omnichannel retailing, and they have to re-engineer it so that without compromising the existing model, the supply of goods can take place across channels (Hübner et al., 2016). Challenges are faced by many omnichannel retailers in the development of their management strategy which are discussed in this cluster (Marchet et al., 2018; Murfield et al., 2017). Logistics variables like delivery mode, picking the location, time slot, transport service, and return model are considered important in the logistics of omnichannel retailing (Murfield et al., 2017). Timeline is one factor that is very important in logistics, which ultimately satisfies the customers and makes them loyal to the retailer. In general, consumers look for product attributes and availability of the product, but omnichannel consumers are more concerned about time utility (Murfield et al., 2017).

Cluster 4 : Augmented Reality

Some issues are faced by consumers in accessing details of the product through the mobile phone because of screen size (Berman & Thelen, 2018). These issues are resolved with the help of artificial intelligence (AI) and AR, which have transformed the retail business model. These technologies have played an important part in omnichannel management (Cai & Lo, 2020). The technology-based approach of the omnichannel toward the customers creates purchase intentions. Virtual fitting rooms are AR-based technologies that provide a real feeling of use to the customers even without touching the products physically (Mosquera et al., 2018). The cluster in Table 13 shows that technology is very important for omnichannel.

Cluster 5 : Digitalization

In a sequence of Cluster 4 (e.g., Table 13), this cluster mentions the role of digitalization in omnichannel strategies. To fulfil customer needs, physical and digital aspects are combined in omnichannel strategies (Jocevski

et al., 2019). Some retailers have the advantage of digitalization, but some have failed; they are not able to synergize the concept of physical stores with digitalization (Frishammar et al., 2018).

Content Analysis of Articles Published in 2020, 2021, and 2022

Table 13 presents the total number of articles analyzed within each cluster. Notably, articles from 2021 and 2022 are not included, and those from 2020 are minimal. Since the study considers articles with 25 or more citations for clustering, recent publications from 2021 to 2022 fall outside this criterion. These articles have been analyzed separately to capture the latest trends and future directions.

In the last two years, studies have increasingly centered on the omnichannel practice of Buy Online, Pick Up In-Store (BOPS)—a practice used by most global retailers. Performance, effort, social influence, facilitation, personalization, and task-technology fit have significant effects on BOPS adoption (Kim et al., 2022). Retailers also use BOPS to provide value-added services for greater customer convenience. Coupons are also a powerful driver of price differentiation, with omnichannel retailers strategically crafting them to drive buying behavior. Coupons with different face values can enact more effective promotions than coupons with uniform values (Li et al., 2021; Li et al., 2022). Another emerging practice is to Test In-Store, Buy Online (TSBO), where retailers showcase some products in-store but sell others online. This practice enables balance in costs of display and profitability in the supply chain (Jena & Meena, 2022). Customer experience in omnichannel journeys is another area of study. Studies investigate seamless shopping journeys and channel-switching motivation—usually driven by price, quality, product variety, and channel service quality (Chang & Li, 2022; Van Nguyen et al., 2022). In addition, consistency and connectivity are also significant drivers of positive and negative customer experiences (Gasparin et al., 2022). Studies also show that cognitive and affective experiences are influenced by channel integration, enhancing omnichannel adoption (Gao, Fan et al., 2021). Beyond customer behavior, omnichannel practices enhance customer loyalty through relationship programs based on service configuration, quality assurance, and interaction consistency (Gao & Huang, 2021). Warehouse automation has also been a significant driver of sales, enhancing operational efficiency and enabling omnichannel success (Tagashira, 2022). Overall, existing research mainly focuses on BOPS, TSBO, customer experience, and technological innovation with reference to omnichannel retailing. Retailers constantly transform by investing in automation, streamlining supply chain functions, and adopting new omnichannel paradigms; more research opportunities are available in this ever-evolving field.

Discussion and Future Research Directions

This study employs a Systematic Literature Review (SLR), bibliometric analysis, and content analysis to explore research trends in omnichannel retailing. These methodologies provide valuable insights into publication patterns by year, publisher, author, and journal while also identifying emerging themes and future research directions. Out of 252 analyzed articles, 66 met the threshold of 25 or more citations and were included in the cluster analysis. More recent publications from 2021 and 2022, having lower citation counts, were separately examined through content analysis to capture evolving research trends.

Over the past eight years, omnichannel retailing research has grown significantly, expanding from just three publications to 60 within a year. The *Journal of Retailing and Consumer Services* leads with 33 publications, while Elsevier and Emerald emerge as dominant publishers, contributing 56 and 50 articles, respectively. Prominent researchers such as Hübner A. and He Y. have consistently produced influential work. Among the most cited publications, *From Multi-Channel Retailing to Omni-Channel Retailing* has accumulated 918 citations, while Peter C. Verhoef stands as the most cited author, with 1,002 citations. Geographically, the USA leads in omnichannel research with 71 publications and 3,457 citations, underscoring its strong influence in the field.

The citation and clustering analysis further categorizes research into five key clusters based on articles with 25 or more citations. Cluster 1 (25 articles) focuses on channel integration, product returns, and the transition from multichannel to omnichannel retailing. Cluster 2 (19 articles) examines the evolution of the omnichannel concept and shifting consumer preferences. Cluster 3 (13 articles) delves into supply chain management, warehouse operations, logistics, and return models. Cluster 4 (6 articles) highlights the role of technology, particularly AI and AR, in enhancing omnichannel experiences. Lastly, Cluster 5 (3 articles) investigates the impact of digitalization on omnichannel strategy development.

Future research directions have been identified by analyzing recent studies from 2020 to 2022, particularly focusing on customer behavior, experiences, and intentions in omnichannel retailing. Many studies have adopted a cross-sectional approach for data collection; however, researchers suggest employing a longitudinal approach to track evolving consumer behavior over time (Chang & Li, 2022; Gao, Li et al., 2021; Kim et al., 2022; Lazaris et al., 2022). Another limitation involves the location-specific nature of many studies, restricting the generalizability of findings. Researchers recommend expanding sample sizes across different countries and business contexts to improve external validity (Miquel-Romero et al., 2020; Tagashira, 2022). For instance, studies conducted in China's food supermarket sector may not apply to other retail formats, such as department stores and convenience stores, highlighting a gap for future research (Gao & Huang, 2021). Similarly, Van Nguyen et al. (2022) examined consumer experiences in electronics retailing and suggested exploring other product categories.

Additionally, Gasparin et al. (2022) and Jindal et al. (2021) noted that much of the existing research focuses on the competitive dynamics between Amazon and Walmart, emphasizing the need for broader studies involving other omnichannel retailers. Another research gap concerns showroom display strategies, where studies have predominantly analyzed retailers displaying a single manufacturer's products. Future studies should explore scenarios where multiple manufacturers' products are showcased (Jena & Meena, 2022). Beyond these areas, future research should examine the role of technology in shaping both the functional and emotional aspects of the shopping experience. Furthermore, the influence of mobile apps, live streaming, and face-to-face interactions on consumer behavior warrants further investigation (Liu et al., 2022; Mimoun et al., 2022).

Limitations and Conclusion

This study employed VOSviewer software for descriptive and bibliometric analysis, while the Apriori algorithm was used for co-citation analysis. However, future research, as discussed above, could explore alternative methods and software to broaden analytical perspectives. Although a comprehensive set of keywords was utilized, expanding the keyword selection in future studies may uncover additional insights. The study focused on identifying highly cited papers, key journals, influential authors, research clusters, and emerging research directions. Specifically, VOSviewer was used to classify five distinct clusters within omnichannel retailing: channel integration, the evolution of the omnichannel concept, supply chain management (including warehouse operations, transportation, and procurement), AR, and digitalization. By examining recent trends within these clusters, mainly between 2002 and 2021, this study offers valuable insights into research patterns and future directions. Ultimately, it provides a foundation for scholars and practitioners looking to enhance omnichannel strategies and explore emerging areas in retail innovation.

Managerial Implications

This research provides valuable management insights for omnichannel retailing, equipping retail managers and decision-makers with strategies to enhance their omnichannel operations. Omnichannel retailing provides

seamless channel integration and maintains uniformity in pricing, availability of products, and quality services across all the touchpoints. Progression from multichannel to omnichannel has several challenges and requires cautious strategic planning that includes both technological and organizational advancements.

Understanding customer choices is important from the point of view of delivering a customized shopping experience. Data-driven strategies provide a personalized experience to the customer, which ultimately enhances engagement, satisfaction, and loyalty. Integration of AR, virtual reality (VR), machine learning (ML), and AI creates interactive shopping experiences for customers and also provides innovative marketing methods to retailers. Efficient supply chain management is another cornerstone of omnichannel success. Managers must optimize procurement, transportation, and warehousing operations to ensure timely and cost-effective deliveries. Additionally, product returns remain a critical challenge; implementing robust return policies and streamlined processes is essential to maintaining customer trust and satisfaction.

Finally, digital transformation plays a crucial role in omnichannel retailing. Retailers must invest in digital platforms, automation, and data analytics to enhance customer engagement, optimize operations, and drive informed decision-making. Staying ahead in omnichannel commerce requires a proactive approach to technology adoption and continuous learning to remain competitive in an evolving retail landscape.

Authors' Contribution

Dr. Ruchika Rastogi conceived the idea and designed the VOSviewer framework, incorporating both qualitative and quantitative approaches. Dr. Shantanu Saha extracted high-impact research papers, filtered them based on relevant keywords, and conducted thematic coding aligned with the study objectives. Dr. Ruchika Rastogi verified the analytical methods and supervised the study. Data extraction and processing were carried out collaboratively, with contributions from both researchers. The VOSviewer, including citation mapping and trend identification, was performed using specialized software tools. Dr. Ruchika Rastogi conducted the numerical computations using VOSviewer. Dr. Ruchika Rastogi drafted the manuscript in consultation with Dr. Shantanu Saha.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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