Received: 25 October 2022 | Revised: 14 March 2023 | Accepted: 11 May 2023

DOI: 10.1002/cb.2186

REVIEW

WILEY

Developing trends in showrooming, webrooming, and omnichannel shopping behaviors: Performance analysis, conceptual mapping, and future directions

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Abstract

In an omnichannel era, businesses and marketers need insights into the dynamics of customer shopping behaviors, particularly the interplay between omnichannel, showrooming, and webrooming behaviors. This study investigates the evolution and trends of the research and channel shopping behaviors (RCSB) domain, spanning from 1998 to 2022, including the Covid-19 era. The study performed a bibliometric review of 500 papers in the Scopus database. The performance analysis reveals an annual growth rate of nearly 16%, with average citations per document of 44, indicating sustained and growing research interest. Science mapping revealed five distinct cluster themes, including showrooming and webrooming in multi- and omni-channel contexts; consumer behavior in online retail and shopping; customer satisfaction and trust in multi-channel retailing; mobile commerce in a multi-channel environment; and the interplay between online shopping, channel choice, and supply chain management. Furthermore, topics, such as showrooming, e-commerce, retailing, and omnichannel retailing, remain popular before and during the pandemic, as seen in the thematic evolution. Our examination of the thematic maps revealed various topics that gained significance during the pandemic, such as multichannel, channel choice, customer experience, social commerce, purchase behavior, and covid-19. Among these, the thematic maps indicate that customer experience, channel choice, multichannel, and covid-19 are emerging and basic topics. These topics can steer research directions in the RCSB domain toward examining customer experiences using digital innovations, e-commerce (including mobile and social commerce), and omnichannel strategy and management.

1 | INTRODUCTION

New digital technologies, including mobile devices, digital channels, and social media platforms, have transformed retail business models from multi-channel to omnichannel retailing (Rigby, 2011). Innovations and disruptions have also transformed consumer shopping behaviors (Verhoef et al., 2015). The era of omnichannel retailing allows the integration of traditional and digital channels, potentially

providing a seamless shopping experience for customers (Brynjolfsson et al., 2013; Mishra et al., 2021). Omnichannel retailing has become a new norm in retail (Cheah et al., 2022; Chopra, 2016). However, it has been difficult for marketing decision-makers, particularly retailers, to adapt to dynamic and complex markets. The Covid-19 pandemic added to the difficulty and presented a defining moment in retail (Chatterjee et al., 2021). It disrupted traditional retail in three significant ways: (1) shifting the consumer journey from physical stores to e-commerce and online channels (Youn et al., 2021); (2) stockpiling and shopping channel preference (Papagiannidis et al., 2022); and (3) reducing shopping frequency (Delasay et al., 2021). While physical stores have not been supplanted, changes in shopping behaviors are considered likely to persist long-term, post-pandemic (Sugiat, 2021). In particular, two opposite yet complementary research shopping behaviors have been reinforced: showrooming (search in-store, buy online) and webrooming (search online, buy in-store). These approaches described how consumers use multiple channels simultaneously across the purchase journey bringing added value to their shopping experience. This paper reviews the concept of research shopping, in particular, two research shopping behaviors: showrooming and webrooming, to find how these behaviors conflated with channel shopping behaviors across multi-, cross-, and omnichannel; and identify how these behaviors progressed before and during the pandemic.

A comprehensive review is needed to help reconcile and scaffold our understanding of the research domains (Kraus et al., 2022). While shopping behavior has a long history of research, the literature is fragmented. Despite increasing interest, the research and channel shopping behaviors have yet to be subjected altogether to a comprehensive bibliometric review. Past reviews are broad and general, offering only one or two aspects of these shopping behaviors. For example, Sahu et al. (2021) examined the determinants of webrooming and showrooming behaviors. While Wolf and Steul-Fischer (2022) focused on investigating the factors of consumers' channel choice in an omnichannel context, they called for a more comprehensive and multi-faceted understanding of the behavior. Mahadevan and Joshi (2022) and Salvietti et al. (2022) used bibliometric approaches, but their papers focused mainly on the omnichannel retailing phenomenon. Other reviews were limited to pre-pandemic outputs (Lopes et al., 2021; Mishra et al., 2021). New knowledge and scientific progress result from recombining and improving earlier findings (Marx et al., 2014). Thus, this study will further that need by examining the research domain pre- and pandemic periods.

A literature review as a standalone study can help advance the body of knowledge because it not only reports the state of the research field but also reveals the knowledge gaps and the future direction in the field (Lim, Kumar, & Ali, 2022a). It allows researchers to enhance their understanding of the work undertaken in a research field and enables them to identify knowledge gaps and future research directions (Kraus et al., 2022). It can also uncover different perspectives, schools of thought, ideas, and trends (Aria et al., 2020). Bibliometric research is a systematic literature review involving quantitative and statistical techniques applied to bibliographic data generated by scientific databases (Mukherjee et al., 2022). A bibliometric review will help us gain a holistic and multi-faceted understanding of the research and channel shopping behaviors (RCSB) domain.

Therefore, we aim to provide an overarching review of the network of publications on showrooming, webrooming, and multi-, cross-, and omnichannel shopping behaviors; provide conceptual perspectives of research and channel shopping behaviors before and during the pandemic; and suggest research directions in showrooming, webrooming, and omnichannel shopping behavior to inform scholars and practitioners in the field. Therefore, our research objectives are as follows:

- RO1. To explore the publication trends in the RCSB domain;
- RO2. To highlight important journals, authors, publications, and trend topics in the RCSB domain;
- RO3. To uncover the conceptual knowledge structure that characterizes the RCSB domain using co-word analysis, thematic mapping, and evolution of the network of publications before and during the Covid-19 period; and
- RO4. To discover research gaps and offer directions for future research in showrooming, webrooming, and omnichannel shopping behaviors post-pandemic.

To address the research objectives, we performed a bibliometric analysis on 500 papers following the SPAR-4 SLR protocol (Paul et al., 2021). We performed performance analysis and science mapping using statistical techniques and a visualization tool (i.e., Bibilioshiny). This study provides five (5) main contributions to the research shopping behavior and omnichannel literature. First, the performance analysis results provide an overview of the current knowledge in the RCSB domain. Second, the keyword co-occurrence analysis reveals knowledge clusters in the domain. Third, the thematic maps illustrate the conceptual networks describing the research field. Fourth, thematic evolution tracks the progression of knowledge in the research domain. Fifth, future research directions suggest potential pathways to advance the RCSB domain.

Section 1 specifies the aim and scope of the study. Section 2 provides related concepts and review papers on omnichannel and research shopping behaviors and bibliometric analysis. Section 3 describes the methodology involving the bibliometric analysis and visualization techniques used. Section 4 details the performance analysis results and discussions. Section 5 shows the science mapping results and discussions. Section 6 provides the conclusion, including the theoretical contribution, future directions, and limitations.

2 | CONCEPTUAL BACKGROUND AND RELATED WORK

2.1 | Channel and research shopping behaviors concepts

Research shopping describes the consumer's search and purchase decision to switch from one channel to another (Verhoef et al., 2007). It is also called the "research shopper phenomenon" (Verhoef

et al., 2007, p. 129). Research shopping includes showrooming (search in-store, buy online) and webrooming (search online, buy in-store) (Flavián et al., 2020). Neslin and Shankar (2009) identified two types of research shoppers, those who search and purchase from multiple sites (competitive research shoppers) and those who search and buy from the same company (loyal research shoppers). From a consumer's perspective, combining offline and online channels reduces uncertainty and increases their confidence in purchasing (Flavián et al., 2016).

Consumers who manifest a showrooming behavior search for product information in a physical store and then purchase the product online from the same retailer (Schneider & Zielke, 2020; Verhoef et al., 2007). The term "showrooming" was coined in 2010 after the Columbia Business School Center published a report describing Best Buy as a showroom for Amazon (ECN, 2018). In pseudo-showrooming, a customer inspects a product at a retailer's physical store but purchases a different product online from the same retailer (Gu & Tayi, 2017). Showrooming can offer benefits such as monetary savings (Gensler et al., 2017), enjoyment (Rajkumar et al., 2020), leveraging of salesperson's knowledge (Rapp et al., 2015), reduced uncertainty owing to physical touch and feel (Arora et al., 2017), and social interaction (Kang, 2018), which can result to an online shopping intention (Johnson & Ramirez, 2020). While showrooming is beneficial for consumers, it may be disadvantageous for retailers. Showrooming produces negative impacts because of the presence of channel switching and free-riding behaviors (Fernández et al., 2018; Van Nguyen et al., 2022), the downgrading of the retail environment to merely a means of product display (Fernández et al., 2018), disengagement of the sales staff through questions of self-efficacy and performance (Rapp et al., 2015), reduced sales efforts (Basak et al., 2020), and negative impact to a store's profits (Mehra et al., 2018).

In webrooming, also known as Research Online Purchase Offline (ROPO), consumers search for product information in an online channel and then purchase the product in a brick-and-mortar store (Flavián et al., 2016). Webrooming supports Buy Online, Pickup in store (BOPIS or BOPS, also known as Online-to-offline (O2O)) retail, whereby consumers search, purchase, and pay via websites and mobile apps and collect their orders in designated physical stores (Cai & Lo, 2020). Variants have emerged, for example, "click-and-collect," whereby shoppers purchase products online and pick-up in store later. Webroomers are more satisfied and confident shoppers (Flavián et al., 2019). They are consumers who engage in a long-term purchase journey and focus more on product attributes (Fernández et al., 2018). Webrooming is particularly predominant among millennial customers (Sopadjieva et al., 2017). In competitive webrooming, customers search for information online but purchase the product in a physical store of a competing seller (Manss et al., 2020). From a firm's perspective, competitive webrooming can negatively impact the perceived product performance and purchase intention (Chung et al., 2021) and online retailers' profits (Arora & Sahney, 2017).

Understanding consumers' reasons for choosing and switching channels helps formulate a better multichannel retailing strategy (Yu et al., 2011). Likewise, integrating offline and online channels can improve business performance (Neslin et al., 2006). In multichannel retailing, a customer cannot trigger channel interaction, and the retailer does not control channel integration (Beck & Rygl, 2015). Cross-channel retailing, on the other hand, a customer can trigger partial interaction, and the retailer can control partial channel integration (Beck & Rygl, 2015). In omnichannel retailing, a customer triggers the whole interaction of the channels, and the retailer maintains complete control of the channel integration (Beck & Rygl, 2015).

Omnichannel consumers are sophisticated shoppers interacting with multiple channels and actively engaging in showrooming and webrooming behaviors (Flavián et al., 2020). While on their omnichannel purchase journey, retailers create an integrated and seamless experience across each touchpoint that leads them to conversion. For instance, a showroomer seeking new running shoes might try on various models at a retail store, check reviews using their mobile phones, then buy the shoes on their online store at the best price. Another instance, a webroomer might research new shoes from different online outlets (e.g., find good deals, compare prices, check reviews) before going to a brick-and-mortar store for final product evaluation and purchase. Acquisition and retention of omnichannel consumers are critical to a firm's success (Manser Payne et al., 2017). However, companies continue to face challenges in attracting competitive research shoppers and retaining loyal research shoppers (Neslin & Shankar, 2009).

2.2 | Omnichannel, showrooming, and webrooming review research

The proliferation of digital channels has changed consumer behaviors and the customer journey. It also presented challenges and opportunities for businesses and marketers to improve their strategies and practices, including e-commerce, mobile commerce, social media marketing, and omnichannel strategy. Three papers reviewed and analyzed the omnichannel field. First, Mishra et al. (2021) reviewed 131 articles and provided a comprehensive literature review about omnichannel retailing. They suggested several avenues for future research, including theory-driven research, cross-cultural studies, and qualitative studies about consumer decision-making. Second, Salvietti et al. (2022) used a mixed-method approach in analyzing 314 papers to identify various insights from omnichannel research. They identified four clusters of studies: consumer behavior, strategic management, channel management issues, and channel integration. They suggested future research should focus on omnichannel journeys, omnichannel customer experience, omnichannel transition issues (single channel to omnichannel), the human factor in omnichannel (firm and customers' training for effective omnichannel interaction), and augmented and omnichannel environments. Third, Mahadevan and Joshi (2022) analyzed 195 articles and performed a bibliometric review of omnichannel retailing. Their report outlined several avenues for future research that links omnichannel retailing to logistics, distribution, and consumer behavior.

Other review papers also examined consumer behaviors in omnichannel contexts or environments. For instance, Sahu et al. (2021)

reviewed 240 research papers and explored omnichannel shoppers' webrooming and showrooming behaviors. They recommended having more studies that deal with strategic approaches in managing showrooming and webrooming behaviors, examining the factors explaining these behaviors, identifying enabling technologies for omnichannel retailing, and building exceptional customer experience in omnichannel environments. In another instance, Wolf and Steul-Fischer (2022) reviewed 128 papers and produced a research agenda focusing on channel choice. We acknowledged the contribution of the extant review papers to the omnichannel and research shopping behaviors domains.

2.3 | Bibliometric analysis and related work

A systematic literature review is best suited for niche research involving a few tens and low hundreds of papers (Donthu et al., 2021). As a downside, the outcome review may only partially represent existing knowledge because it only offers a limited selection of publications (Linnenluecke et al., 2020). On the other hand, a bibliometric review can provide a broad perspective portraying the landscape and evolution of the research and channel shopping behaviors over time and allows scholars to find research gaps and trends. The relationship between current research and past literature is vital in generating new knowledge (Marx et al., 2014). Bibliometrics is often used in library and information science; hence, it is closely associated with informetrics (Qiu et al., 2017) and scientometrics (Garfield, 2009).

Bibliometrics is considered a systematic literature review that leverages machine learning and big data analytics (Kraus et al., 2022). It applies mathematical and statistical methods to analyze large volumes of data, trace the evolution of knowledge, and provide a comprehensive review of the state-of-the-art of a specific research field or topic (Aria & Cuccurullo, 2017). It applies performance analysis (or descriptive statistics) on bibliographic data and reports published quantitative (e.g., number of articles) and qualitative measures (e.g., local citations, global citations) (Cobo et al., 2011; Donthu et al., 2021). It also performs science mapping (or cluster analysis) to report how knowledge areas, documents, or authors are interconnected (Small, 1999) (e.g., keyword co-occurrence analysis). It can identify the conceptual structure (Cobo et al., 2011) and the development of a particular research field (Zhang et al., 2021). Since science mapping is a complex process, visualization techniques are commonly used to identify impactful areas in informing the research agenda (Linnenluecke, 2017). Visualization software tools (e.g., VoSViewer, CiteSpace, Biblioshiny, Pajek) are commonly used to perform these techniques effectively (Aria & Cuccurullo, 2017). This study used Biblioshiny, a free web-based front-end application of the Bibliometrix open-source software package (Aria & Cuccurullo, 2017).

We used bibliometric analysis because of its strengths over traditional literature review approaches. First, it minimizes research bias because it uses software tools rather than subjective judgments of researchers, thus, contributing to the quantitative rigor in evaluating the literature (Zupic & Čater, 2015). Second, it allows analysis of an extensive collection of materials, providing a broad view, allowing researchers to trace the evolution of trends over time, and infer research gaps and innovations (Liu et al., 2019). However, several issues arise regarding the potential contribution of bibliometric research for theory advancement. For example, some bibliometric papers primarily focused on quantitative measures that failed to meet the level of contributions in the field (Bergstrom et al., 2008). Bibliometric research must go beyond descriptive measures and offer novel theoretical insights (Post et al., 2020). However, Mukherjee et al. (2022) argue that visual images and diagrams produced by bibliometric studies can aid in theory advancement. Moreover, they formulated a framework identifying five (5) ways for which bibliometric analysis can contribute to advance a field; these are (1) discovering knowledge clusters, (2) illustrating the nomological networks describing the research field, (3) mapping the social knowledge structure, (4) tracking evolutionary nuances, and (5) finding crucial knowledge gaps to formulate research directions. We used the framework (except for point 3) to present the contributions of our study.

Nonetheless, bibliometric analysis is an established research method that is gaining popularity in business and management research, such as omnichannel marketing (Lopes et al., 2021), logistics and supply chain (Akbari & Do, 2021), green supply chain management (Fahimnia et al., 2015), tourism management (Michael Hall, 2011), and social entrepreneurship (Rey-Martí et al., 2016). Moreover, several marketing and consumer behavior studies have used Biblioshiny for bibliometric analysis, including food and beverage marketing (Sharma & Silal, 2023), product marketing (Kamila & Jasrotia, 2023), customer engagement in the context of international marketing (Srivastava & Sivaramakrishnan, 2022), omnichannel retailing (Mahadevan & Joshi, 2022), big data analytics in manufacturing (Sahoo, 2021), and influencer marketing (Abhishek & Srivastava, 2021; Tanwar et al., 2022).

3 | METHODOLOGY

This study adopted the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4 SLR), which consists of three (3) stages, namely assembling, arranging, and assessing (Paul et al., 2021). The systematic review protocol, commonly used in business research, can handle a large corpus of publications (Kumar et al., 2022). Figure 1 shows the review procedure using the SPAR-4 SLR protocol aligned with the structure of this paper.

3.1 | Assembling

The first process is the review's assembling stage consists of identification and acquisition. For identification, this review aims to reveal the publication trends (RO1), highlight essential journals, authors, publications, and trend topics (RO2), uncover the conceptual knowledge structure of the domain (RO3), and reveal research gaps and offer strategic research directions in the RCSB domain (RO4). This review will examine journal publications that are indexed in Scopus.

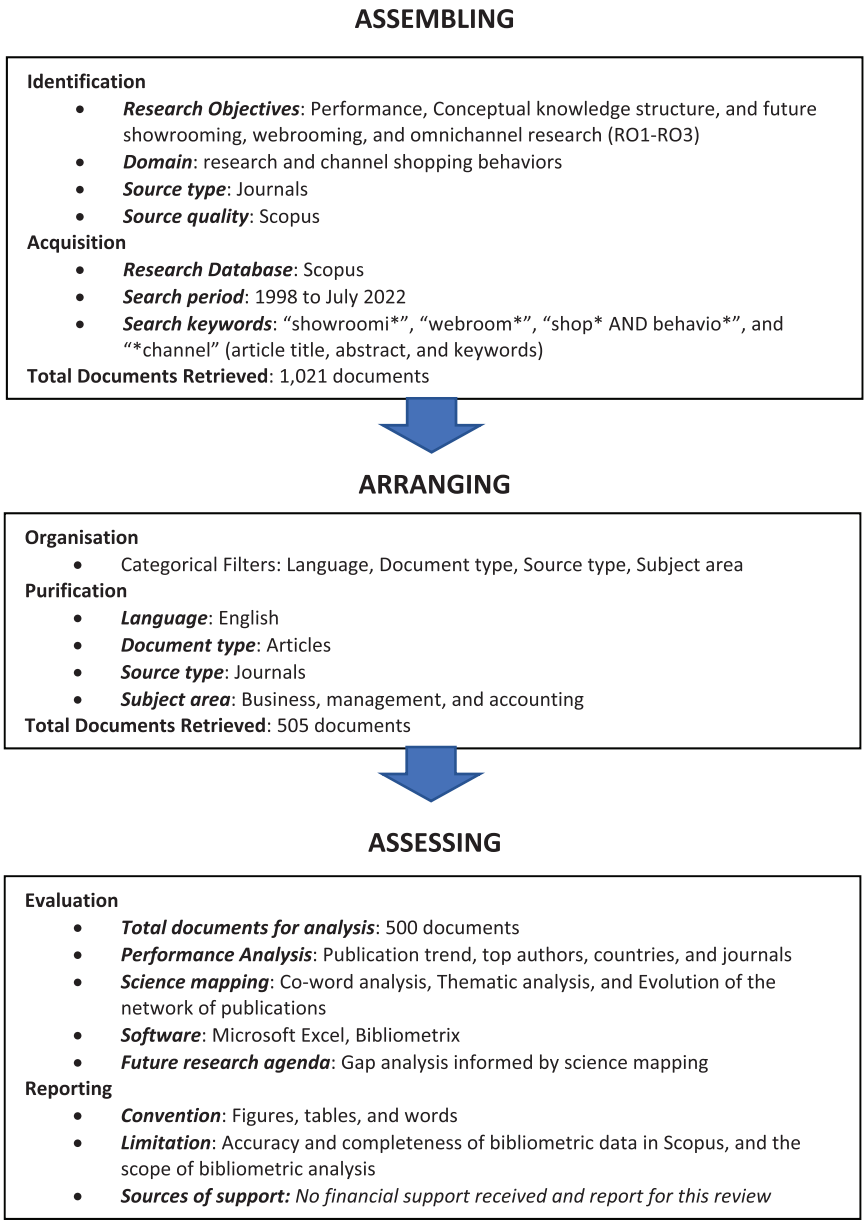

FIGURE 1 Review procedure of this study using the SPAR-4-SLR protocol (Paul et al., 2021).

For acquisition, we followed the suggestion of Webster and Watson (2002) to something other than vendor-specific research databases because it limits the literature search. Instead, we used a quality research database to gather the research papers needed for a useful review. We selected Elsevier's Scopus database because it has comprehensive content that contains 1.7 billion cited references, 7000+ publishers, and 10%–15% more citations than its nearest rival research database (Scopus, 2022). It has more coverage and more than 60% overlap of documents with the WoS (Salami et al., 2020). Also, Scopus has the power to access 70% more sources than other research databases (Brzezinski, 2015).

Following Howe et al. (2014) suggestion, we conducted a pilot literature search to refine search keywords. We undertook a preliminary exploration of studies related to research shopping behaviors, particularly showrooming and webrooming, by examining each paper's title, abstract, and keywords to inform our keyword selection. The advanced search process used Boolean operators (i.e., AND, OR) with care (Fink, 2014). We searched for papers having the following base terms, "showroomi*," "webroom*," "shop* AND behavio*," and "*channel," in the article title, abstract, and keywords. We decided not to use the search term "showroom*" as it will generate a large volume of studies that describes customers of physical stores or showrooms and involves single channel use. Nonetheless, relevant studies having a base form of "showroom" are included in the collection as they were also associated with other search terms used in the study. We also captured the variations in the terms (showrooming, webrooming, webroomer, shopping, shopper, behavior, behavior, omnichannel, omni-channel, crosschannel, cross-channel, multichannel, multi-channel, etc.) and their plural form (e.g., webroomers, shoppers, behaviors, behaviors) as long as they fall within the scope of the study (Cai & Lo, 2020). In effect, the search process identified publications discussing "showrooming in multi-channel," "webrooming in

cross-channel," "research shopping behavior in omnichannel," and the like.

The launching of the Internet in the late 1980s and the emergence of e-commerce in the early 1990s have led to the proliferation of online shopping sites (Gilbert, 2004), providing opportunities for consumers to manifest multichannel shopping behaviors. Thus, we considered the publications retrieved by the Scopus database from 1998 to July 2022. After keyword identification, a Scopus search was conducted last July 2022, yielding 1021 documents.

3.2 | Arranging

We applied categorical filters to show how the study's objectivity and rigor are set at the highest level and minimize researchers' bias. First, we excluded papers not written in English as language restriction does not result in bias (Morrison et al., 2012). Second, we excluded articles not subject to peer review to ensure trustworthiness, credibility, and contribution. Third, we narrowed the list to exclude papers not in the subject area of Business, Management, and Accounting to ensure relevance. This resulted in a shorter list of 505 documents. The collection was then exported as a CSV file for closer data inspection.

3.3 | Assessing

Aside from counting on the accuracy and completeness of Scopus' bibliometric data, we undertook steps to ensure the publication selection was appropriate and representative of the research domain (Woolley, 2000). First, we manually checked the complete dataset and evaluated publication by publication in Microsoft Excel. As a result, we deleted five (5) documents as they were not relevant to the study and ensured they were large enough for the bibliometric method to be statistically reliable (Ellegaard & Wallin, 2015). We also performed data corrections (i.e., inconsistencies in the data type, variations in the source title, duplication of some sources and document titles) as suggested to avoid errors and biases in the results (Zheng et al., 2022). The final collection of 500 documents was then imported into the Biblioshiny web app for bibliometric analysis.

Bibliometrics introduces objectivity and rigor and minimizes researcher bias because it uses analytical tools using statistical techniques (Zupic & Čater, 2015). The performance analysis in Biblioshiny produces quantitative reports that include the main information, annual scientific production, most relevant journals, authors, and most locally cited documents. They are shown in figures and tables throughout this paper and discussed accordingly. Several metrics are used to measure sources-related performance, including the total publications (or articles), ABDC Journal Quality rank, and Scimago Journal rank. On the other hand, global citations (GC), local citations (LC), and LC/GC ratio are used to measure documents-related performance.

In science mapping, Biblioshiny provides a keyword co-occurrence network (or co-word network) to show terms that appear together in a document (Aria et al., 2020). Future research can be forecasted using a co-word analysis but must be used cautiously as some words are used in multiple contexts (Donthu et al., 2021). In this regard, we read each publication to ensure we understand each keyword's context. Biblioshiny also provides a thematic map and evolution based on the keyword co-occurrence network analysis and clustering (Cobo et al., 2011). It provides options to use the author's keywords, titles, abstracts, and citation indexes (e.g., KeyWord Plus) to uncover different themes in a specific research domain (Callon et al., 1991). Throughout the analysis, we used the author's keywords instead of Keyword Plus because the former can comprehensively represent an article's content (Zhang et al., 2016).

Regarding network metrics, Biblioshiny shows the centrality and density of each topic and plots them in a strategic diagram that is partitioned into four (4) quadrants (Aria et al., 2022). The Callon centrality (c) measures the degree of interaction of a network with other networks and indicates a theme's importance (Cobo et al., 2011). In contrast, Callon density (d) measures the internal strength of the network (Callon et al., 1991) and indicates a theme's development (Cobo et al., 2011). They are computed as follows:

$$c = 10 \times \sum e_{kh} \quad (1)$$

where k represents the keyword that belongs in a theme and h is a keyword belonging to other themes

$$d = 100\left(\sum e_{ij}/w\right) \quad (2)$$

where i and j are keywords that belong to the theme and w is the number of keywords in the theme.

Identifying groups of words for various topics is implemented using a community detection procedure (Fortunato, 2010). Once identified, these topics can be plotted into four (4) groups in a strategic diagram that visually maps a specific domain (Callon et al., 1991). The themes in quadrant 1 (or motor theme) indicate high centrality and high density and comprise the topics that are well-developed and important for the research domain (Aria et al., 2020). The themes in quadrant 2 (or basic theme) indicate high centrality and low density and consist of rudimentary topics that are significant and transversal to other areas of the research domain (Aria et al., 2020). The themes in quadrant 3 (or emerging/declining themes) indicate low centrality and low density comprising the peripheral topics that are underdeveloped and marginal for the research domain (Aria et al., 2020). The themes in quadrant 4 (or niche themes) indicate low centrality and high density encompassing the niche topics that are well-developed but marginal themes for the research domain (Aria et al., 2020).

This study used Biblioshiny for bibliometric analysis and visualization (Aria & Cuccurullo, 2017). The tool was chosen primarily for its user-friendly interface, ease of interpretation, and clarity in the presentation and visualization of the results. Also, the tool can read Web

of Science (WoS) and Scopus bibliographic data for quantitative analysis.

4 | PERFORMANCE ANALYSIS, FINDINGS, AND DISCUSSIONS

In this section, we first describe the bibliographic collection. Next, we present the publication trends (RO1), and top journals, publications, and authors (RO2) resulting from the performance analysis. We also presented the research domain's conceptual knowledge structure, uncovering the main themes and trends (Q3).

4.1 | Descriptive analysis of the bibliographic collection

Table 1 provides summary information relating to the data, document contents, authors, author collaborations, and document types.

Five hundred articles were produced spanning 25 years (1998–2022), with an annual growth rate of nearly 16%, reflecting increasing scholarly interest in the area. Work was highly cited, on average 44 times, totaling just over 27,000 overall. Collaboration levels are high. Papers typically are authored by 2–3 co-authors, while only 61 (5.6%) choose sole authorship. However, most work is located in specific countries, with only 23% being conducted by international scholars.

TABLE 1 Main information.

Description	Results
Main information about the data	
Timespan	1998:2022
Sources (Journals)	166
Documents	500
Annual growth rate %	15.38
Document average age	6.01
Average citations per doc	44.25
References	27,071
Document contents	
Keywords plus (ID)	671
Author's keywords (DE)	1493
Authors	
Authors	1092
Authors of single-authored docs	56
Authors collaboration	
Single-authored docs	61
Co-authors per doc	2.66
International co-authorships %	23
Document types	
Article	500

4.2 | Publication trends in the RCSB domain (RO1)

The growth of the volume of scientific literature indicates the growth of science (Bornmann et al., 2021). Figure 2 shows the annual scientific production in the RCSB domain.

Work has increased rapidly from 1998 to date (Figure 2). Reflecting the half-year data capture in 2022, 2021 reflects the highest total number of publications with 72 documents. Publication rates in Q3 and Q4 of 2022 totaled 62 documents, reflecting similarly high growth rates. The increasing level of scientific activity in the field indicates the sustained interest of scholars in the RCSB domain.

4.3 | Top journals in the RCSB domain (RO2)

Bibliometrics is applied to provide insights into the journals (Donthu et al., 2021). This section presents journals that have published studies in the RCSB domain. We chose two (2) journal ranking systems, namely Australian Business Deans Council (ABDC) and Scimago Journal Rank (SJR) because they cover different approaches in journal ranking. ABDC offers expert ratings using four (4) categories: A* (highest rank), A, B, and C (Abdc.edu.au, n.d.). SJR uses citation-based four-quartile ranking with Quartile 1 (Q1) as the highest rank, followed by Quartile 2 (Q2), Quartile 3 (Q3), and Quartile 4 (Q4), based on their impact factor (Internauka.org, 2021). Expert-based rankings employ rigorous peer reviews of members of a scientific community to determine the quality of the journal; in contrast, citation-based rankings collect the preference of the scientific community according to the citation behaviors (Vogel et al., 2017). Table 2 presents the most productive journals, including the number of articles published and their corresponding ranking in the (ABDC) and (SJR) journal lists.

Table 2 lists the top 25 productive journals in the domain based on the number of published articles in each journal. The Journal of Retailing and Consumer Services topped the list with 79 articles, followed by the International Journal of Retail & Distribution Management with 44 articles and the Journal of Business Research with 19 articles. Other journals in the list published four (4) articles or more. The journals are mainly categorized as A*, A, or B (except for ECRA, IJM, and JDS) in ABDC. Likewise, they are mostly Q1 or Q2 (except for IRRDCR, JMC, IJM, and JDS) in SJR. Most journals in the list are indexed in marketing and information systems, aligning with this study's research domain.

4.4 | Top authors in the RCSB domain (RO2)

This section presents the top 25 authors based on their productivity in the RCSB domain and illustrates the volume of their publications over time (Figure 3). Kim J and Park J are the most productive authors having nine (9) publications each. They are followed by Arora S, Frasquet M, and Sahney S with eight (8) publications each. Shankar A trails behind them with seven (7) publications. We also noticed that several scholars, including Kim J, Park J, Beatty SE, Choi J, Kumar V, Neslin, and Verhoef, have stayed productive for 10 years or more.

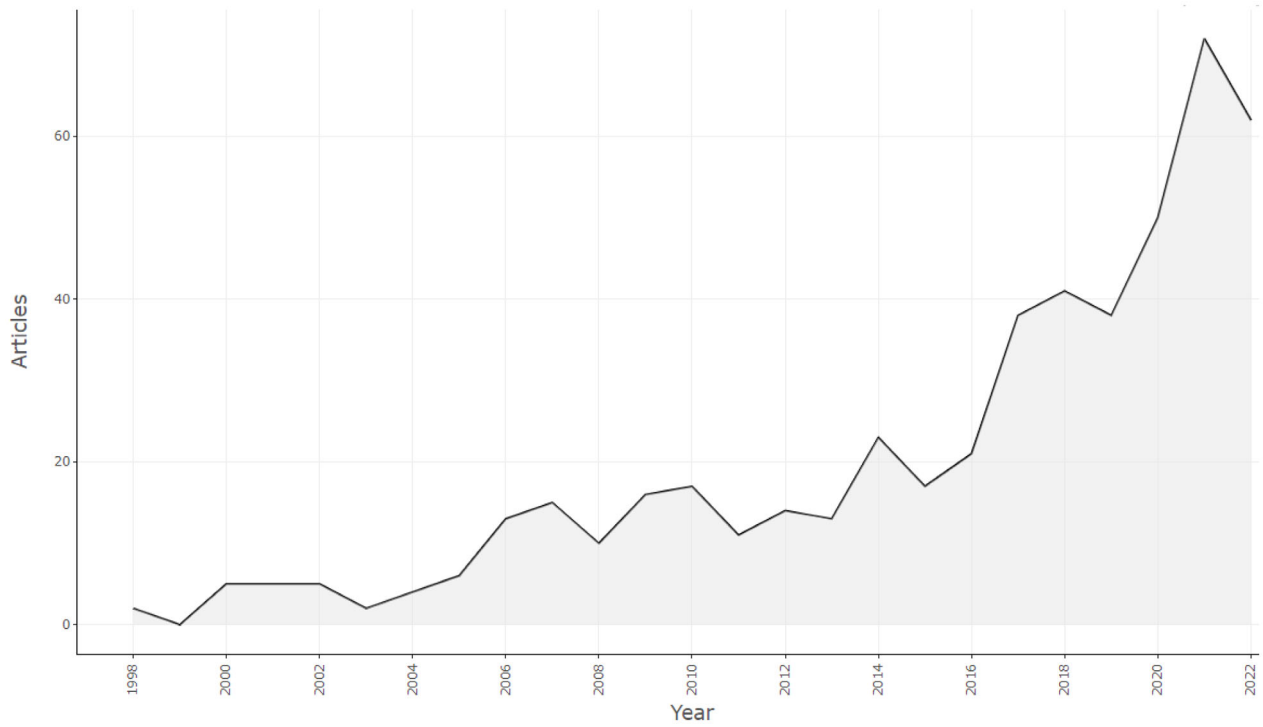

FIGURE 2 Annual Scientific Production in the RCSB domain.

Shankar, who became active in the field in 2020 only, produced the most articles ($n = 5$) in a year (2021). The top 25 authors have produced at least three (3) papers in the domain.

4.5 | Top publications in the RCSB domain (RO2)

This section presents the most local cited documents in the RCSB domain. Citations represent a particular paper's importance in advancing knowledge (Bornmann et al., 2010). GC measures the number of citations a particular document contains in the selected research database (i.e., Scopus); in contrast, LC measures the number of citations in the analyzed collection (Aria & Cuccurullo, 2017). Table 3 lists the top 25 most local cited documents with corresponding local citations (LC), global citations (GC), and the LC/GC ratio.

The top 3 most local cited documents are Verhoef et al. (2007) with 97 local citations, Verhoef et al. (2015) with 84 citations, and Konus et al. (2008) with 63 citations. Although Verhoef et al. (2015) have more global citations than Verhoef et al. (2007), the latter has more impact on the analyzed collection. We noticed that four documents (Gensler et al., 2017; Konus et al., 2008; Verhoef et al., 2007; Verhoef et al., 2015) involved the same author. Hence, we consider Peter Verhoef to be a relevant author in the domain.

4.6 | Trend topics in the RCSB domain (RO2)

Figure 4 shows the trend topics (based on authors' keywords) included in the RCSB domain. We harmonized similar terms to avoid duplication (e.g., multi-channel/multichannel, behavior/behavior, e-commerce/electronic commerce, etc.).

The top five latest and most prominent topics (with frequency > 30) are showrooming (2018 to 2021), retailing (2008 to 2021), e-commerce (2011 to 2020), webrooming (2019 to 2021), and online shopping (2013 to 2020). As observed, Internet marketing has enjoyed popularity for an extended period (2002 to 2020). The topics, showrooming and webrooming, rose to prominence in 2018 and 2019, respectively. The topics of consumer behavior, internet marketing, and retailing have had sustainable popularity over the past decade. Likewise, topics that are increasing in popularity in this domain are covid-19 (starting 2021), omnichannel retailing (starting 2020), supply chain management (starting 2020), and channel integration (starting 2020). The succeeding sections discussed the context and dynamics of these terms in various studies included in the collection. The terms are repeatedly shown in the succeeding thematic maps and evolution diagram.

5 | SCIENCE MAPPING RESULTS AND DISCUSSIONS

5.1 | Keyword co-occurrence network of the RCSB domain (RO3)

Examining the relationships between terms and identifying underlying clusters of studies is essential. The term co-occurrence network using authors' keywords describes the content of the publications in the collection (Huang et al., 2020). The co-word network (Figure 5) uses

TABLE 2 Most productive journals.

Source title	#articles	ABDC journal quality 2019	Scimago journal rank 2019
Journal of Retailing and Consumer Services (JRCS)	79	A – Marketing	Q1 – Marketing
International Journal of Retail & Distribution Management (IJRDM)	44	A – Marketing	Q2 – Marketing
Journal of Business Research (JBR)	19	A – Marketing	Q1 – Marketing
International Review of Retail, Distribution and Consumer Research (IRRDCR)	16	B – Marketing	Q3 – Marketing
Journal of Fashion Marketing and Management (JFMM)	15	B – Marketing	Q2 – Marketing
Journal of Retailing (JOR)	13	A* – Marketing	Q1 – Marketing
Journal of Research in Interactive Marketing (JRIM)	10	B – Marketing	Q1 – Marketing
Journal of Interactive Marketing (JIM)	9	A – Marketing	Q1 – Marketing
Decision Support System (DSC)	8	A* – Information Systems	Q1 – Information Systems
Electronic Commerce Research and Applications (ECRA)	8	C – Information Systems	Q1 – Marketing
Management Science (MSc)	8	A*– Management	Q1 – Strategy and Management
Journal of Internet Commerce (JIC)	7	B – Management	Q2 – Management of Technology and Innovation
Asia Pacific Journal of Marketing and Logistics (APJML)	6	A – Marketing	Q2 – Marketing
Marketing Intelligence & Planning (MIP)	6	A – Marketing	Q2 – Marketing
British Food Journal (BFJ)	5	B – Marketing	Q2 – Business, Management and Accounting
International Journal of Consumer Studies (IJCS)	5	A – Marketing	Q2 – Marketing
International Journal of Research in Marketing (IJRM)	5	A*– Marketing	Q1 – Marketing
Journal of Marketing Channels (JMC)	5	B – Marketing	Q3 – Marketing
Marketing Science (MS)	5	A*– Marketing	Q1 – Marketing
European Journal of Marketing (EJM)	4	A*– Marketing	Q1 – Marketing
Indian Journal of Marketing (IJM)	4	—	Q3 – Marketing
International Journal of Electronic Commerce (IJEC)	4	A – Information System	Q1 – Business and International Management
Journal of Consumer Marketing (JCM)	4	A – Marketing	Q2 – Marketing
Journal of Distribution Science (JDS)	4	—	Q4 – Marketing
Journal of Product & Brand Management (JPBM)	4	A – Marketing	Q2 – Marketing

Walktrap as the community detection/clustering algorithm. The selected algorithm can identify more communities compared to others (Lee et al., 2020; Smith et al., 2020), perform fast processing when used in small networks (Smith et al., 2020), and is efficient in computing the community structure of a given network (Pons & Latapy, 2006). We have also chosen association for normalizing the term co-occurrences (van Eck & Waltman, 2009). Moreover, we set the number of nodes to 50 to identify a substantial number of terms. The circle label is the representative term in the cluster, and the circle size indicates the most used term. Biblioshiny highlighted five (5) color-coded clusters of studies with 26 terms (or keywords) indicating varied research topics.

We assume "showrooming" is the most popular term keyword in the collection (Figure 4). Other notable keywords in the network (bigger circles) are "webrooming," "e-commerce," "online shopping," and "retailing". Lin et al. (2022) assume that the keywords represent the core research foci in the collection. Since there are no isolated clusters, then all terms are interrelated.

5.1.1 | Cluster 1: Showrooming and webrooming in multi- and omni-channel contexts (red color)

The first cluster contains 11 keywords, namely "omnichannel retailing," "showrooming," "webrooming," "multichannel shopping," "customer experience," "pricing," "perceived value," "research shopping," "channel switching," "competition," and "cross-channel behavior". Many scholars in the field have examined both showrooming and webrooming phenomena across different or (combination of) channels and contexts. To counter showrooming or channel-switching behavior, several scholars have suggested strategies for brick-and-mortar retailers, such as pricing and in-store service strategies (Schneider & Zielke, 2021; Wang & Wang, 2022),

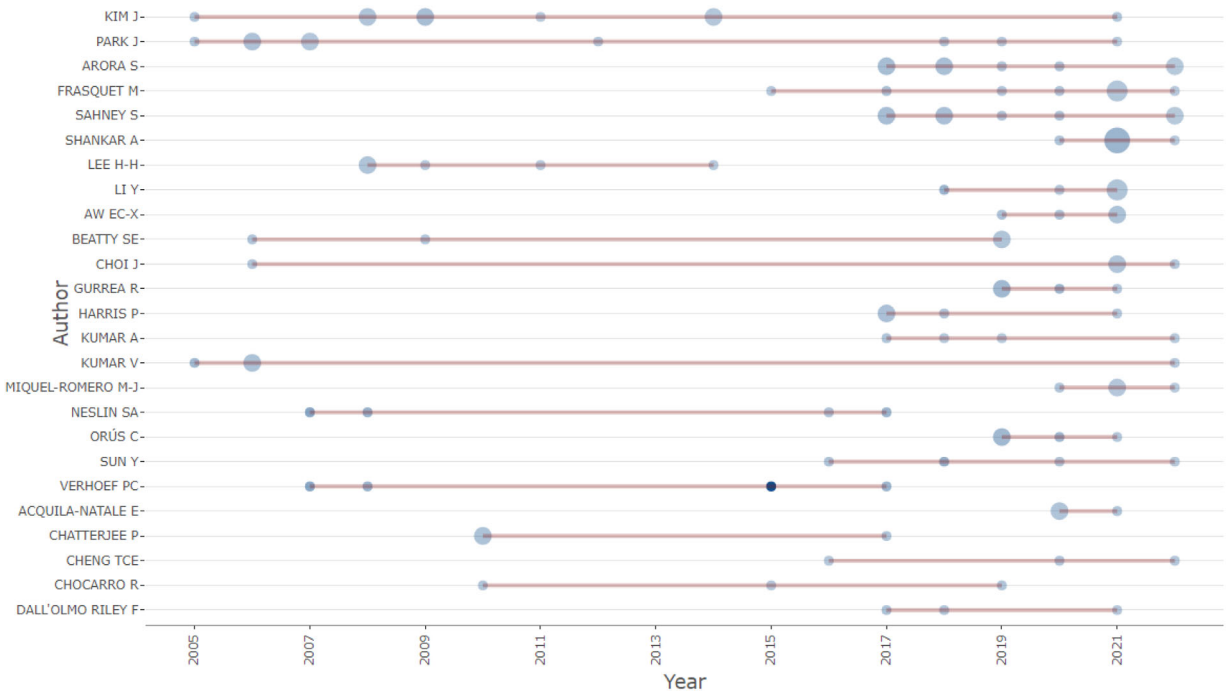

FIGURE 3 Research Production in the RCSB domain (2005–2022) (*Source*: bigger circles indicate more publications).

offering exclusivity through store brands (Mehra et al., 2018), and operational strategies for competitiveness (Jiao & Hu, 2020), among others. Other scholars have also examined the determinants of webrooming behavior including customer experience (Schiessl et al., 2023), motivation (Aw, 2019), and other factors (i.e., consumer, channel, situational) (Eugene Cheng-Xi Aw et al., 2021). Research about showrooming and webrooming in multi- and omni-channel contexts is crucial because it sheds light on changes in customer behavior and the retail industry and provides insights into how retailers can effectively navigate these changes to meet customers' needs and remain competitive.

5.1.2 | Cluster 2: Consumer behavior in online retail and shopping (blue color)

The second cluster contains five (5) keywords, namely "consumer behavior," "retailing," "shopping," "internet marketing," and "click and collect". Consumer behaviors in offline and online retail have attracted the interest of scholars in the field over the years. For instance, Kim and Lee (2008) examined product search and purchase behaviors in various retail channels, whereas, Wilson-Jeanselme and Reynolds (2006) examined customer expectations of online grocery shopping. We have seen a dramatic increase in online shopping during the Covid-19 pandemic, and so is the number of studies that examined the shifts or changes in consumer behavior (Alaimo et al., 2022; Kempen & Tobias-Mamina, 2022; Ngoh & Groening, 2022; Showrav et al., 2021). With the promise of convenience and value to consumers, the click-and-collect model in online grocery shopping has captured the interest of scholars in the field (Jara et al., 2018; Vyt et al., 2022). Its usefulness was exhibited during the Covid-19 pandemic period when shoppers prefer contactless channels to avoid unnecessary interactions and follow social distancing protocols (Wang et al., 2021). By understanding the factors influencing customer behavior, retailers can create a positive customer experience, personalized product recommendations, and effective marketing campaigns.

5.1.3 | Cluster 3: Customer satisfaction and trust in multi-channel retailing (green color)

The third cluster contains three (3) keywords, namely "multichannel retailing," "customer satisfaction," and "trust". Understanding customer satisfaction and trust in multichannel retailing is crucial for several reasons. First, high customer satisfaction can influence the intention to purchase products online (Alaimo et al., 2022). Second, trust is essential in developing long-term relationships with consumers in multichannel retailing (Verhoef et al., 2007). In mobile marketing, Singh and Jang (2022) find that customers' satisfaction levels were the highest when using a mobile phone for purchase. Overall, customer satisfaction and trust in multichannel retailing research help scholars understand the relationship between customer satisfaction and trust and retail environments.

5.1.4 | Cluster 4: Mobile commerce in a multi-channel environment (purple color)

The fourth cluster contains two (2) keywords, namely "m-commerce" and "multichannel". As mobile commerce becomes a critical channel for omnichannel strategy and retail success, many scholars in the field

TABLE 3 Most locally cited documents.

Author(S)	Article title	Local citations	Global citations	LC/GC ratio (%)
(Verhoef et al., 2007)	Multichannel customer management: Understanding the research-shopper phenomenon	97	567	17.11
(Verhoef et al., 2015)	From Multi-Channel Retailing to Omni-Channel Retailing: Introduction to the Special Issue on Multi-Channel Retailing	84	1072	7.84
(Konus et al., 2008)	Multichannel Shopper Segments and Their Covariates	63	346	18.21
(Rapp et al., 2015)	Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance	60	207	28.99
(Balasubramanian, Raghunathan, & Mahajan, 2005)	Consumers in a multichannel environment: Product utility, process utility, and channel choice	53	270	19.63
(Heitz-Spahn, 2013)	Cross-channel free-riding consumer behavior in a multichannel environment: An investigation of shopping motives, socio-demographics and product categories	35	130	26.92
(Gensler et al., 2017)	The Showrooming Phenomenon: It is More than Just about Price	35	137	25.55
(Schröder & Zaharia, 2008)	Linking multi-channel customer behavior with shopping motives: An empirical investigation of a German retailer	30	125	24
(Kang, 2018)	Showrooming, Webrooming, and User-Generated Content Creation in the Omnichannel Era	30	58	51.72
(Brynjolfsson & Smith, 2000)	Frictionless Commerce? A Comparison of Internet and Conventional Retailers	28	1393	2.01
(Kumar & Venkatesan, 2005)	Who are the multichannel shoppers and how do they perform?: Correlates of multichannel shopping behavior	28	296	9.46
(Balakrishnan, Sundaresan, & Zhang, 2014)	Browse-and-Switch: Retail-Online Competition under Value Uncertainty	26	144	18.06
(Daunt & Harris, 2017)	Consumer showrooming: Value co-destruction	26	70	37.14
(Jing, 2018)	Showrooming and Webrooming: Information Externalities Between Online and Offline Sellers	25	87	28.74
(Flavián et al., 2020)	Combining channels to make smart purchases: The role of webrooming and showrooming	24	71	33.80
(Dholakia, Zhao, & Dholakia, 2005)	Multichannel retailing: A case study of early experiences	20	136	14.71
(Fernández et al., 2018)	Webroomers versus showroomers: Are they the same?	20	40	50
(Pantano & Viassone, 2015)	Engaging consumers on new integrated multichannel retail settings: Challenges for retailers	18	137	13.14
(Flavián et al., 2019)	Feeling Confident and Smart with Webrooming: Understanding the Consumer's Path to Satisfaction	18	52	34.62
(Wolny & Charoensuksai, 2014)	Mapping customer journeys in multichannel decision-making	18	81	22.22
(Wang, Malthouse, & Krishnamurthi, 2015)	On the Go: How Mobile Shopping Affects Customer Purchase Behavior	17	308	5.52
(Mcgoldrick & Collins, 2007)	Multichannel retailing: profiling the multichannel shopper	16	83	19.28
(Shen et al., 2018)	Channel integration quality, perceived fluency and omnichannel service usage: The moderating roles of internal and external usage experience	15	145	10.34
(Santos & Gonçalves, 2019)	Multichannel consumer behaviors in the mobile environment: Using fsQCA and discriminant analysis to understand webrooming motivations	15	32	46.88
(De Keyser, Schepers, & Konuş, 2015)	Multichannel customer segmentation: Does the after-sales channel matter? A replication and extension	15	78	19.23

have investigated factors that predict m-commerce adoption (Ghazali et al., 2018), motivations (Parker & Wang, 2016), and engagement (Shekhar Singh & Srivastava, 2019). Likewise, Chi (2018) examined how brand equity and website quality influence the perceived usefulness and perceived ease-of-use to predict consumers' intention to use apparel mobile commerce. There have been constant shifts in shopping behavior due to continuous technological innovations and the proliferation of digital channels. Hence, scholars like Wagner et al.

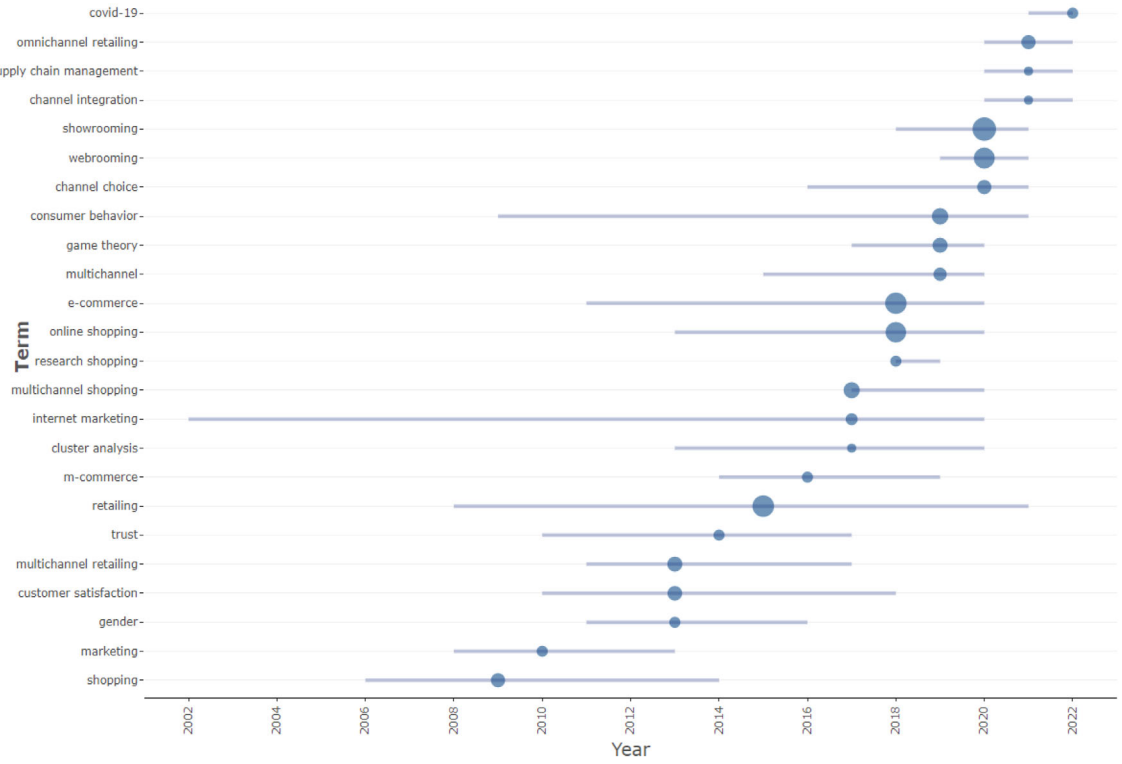

FIGURE 4 Trend topics in the RCSB domain.

(2013) investigated the channel synergies and complementarity between m-commerce and multichannel e-commerce and their effects on consumer behavior.

5.1.5 | Cluster 5: The synergies of online shopping, channel choice, and supply chain management (orange color)

The fifth cluster contains five (5) keywords, namely "e-commerce," "online shopping," "game theory," "channel choice," and "supply chain management". Online shopping, a form of e-commerce, has made it convenient for shoppers to purchase items anytime and anywhere using digital channels and platforms. Hence, many studies in the field examined factors influencing channel choice behaviors in multichannel retailing and shopping (Cervellon et al., 2015; Choi & Park, 2006; Xu-Priour et al., 2012; Yu et al., 2011) and multiple channel supply chain management (Foo et al., 2020; Hu et al., 2020) using the game theory approach (Perlman, 2021).

5.2 | Thematic evolution of the RCSB domain (RO3)

To track the evolution of this research domain, we partitioned the overall period into three (3) time slices: the first period (TS1), the second period (TS2), and the third period (TS3) as shown in Figure 6. While time is usually apportioned equally, we divide the time according to the purpose of the study (Cobo et al., 2011). The first period covers 10 years (1998–2008), capturing studies from the early years of the Internet and e-commerce, where customers engage in channel shopping behaviors. This was also the period when multichannel retailing started. The second period covers 11 years (2009–2020), comprising research and channel shopping behavior studies published before the pandemic and the period when the omnichannel concept first appeared (Rigby, 2011). We intentionally set the third period (2021-July 2022) to identify topic trends in the domain during the pandemic. The succeeding paragraphs describe the five (5) main streams of studies comprising the collection's bulk of keywords.

5.2.1 | Pre-pandemic studies (TS1 and TS2 periods)

The TS1 and TS2 periods jointly characterize studies before the pandemic. These studies are described by six (6) streams discussed in the succeeding paragraphs.

The first stream (S1 in Figure 6) describes early studies that mainly examined the online shopping motives of multichannel customers (Bosnjak et al., 2007; Schröder & Zaharia, 2008). Studies on shopping motives evolved into luxury goods topics in TS2, for which some studies investigated shopping motives for specific product categories, including luxury goods (Kim & Lee, 2011; Sanguanpiyapan & Jasper, 2010). We noticed no stream of studies about luxury goods going forward to TS3.

The second stream (S2 in Figure 6) depicts studies about online shopping, where a large portion diverged into e-commerce studies

FIGURE 5 Keyword co-occurrence network of the RCSB domain.

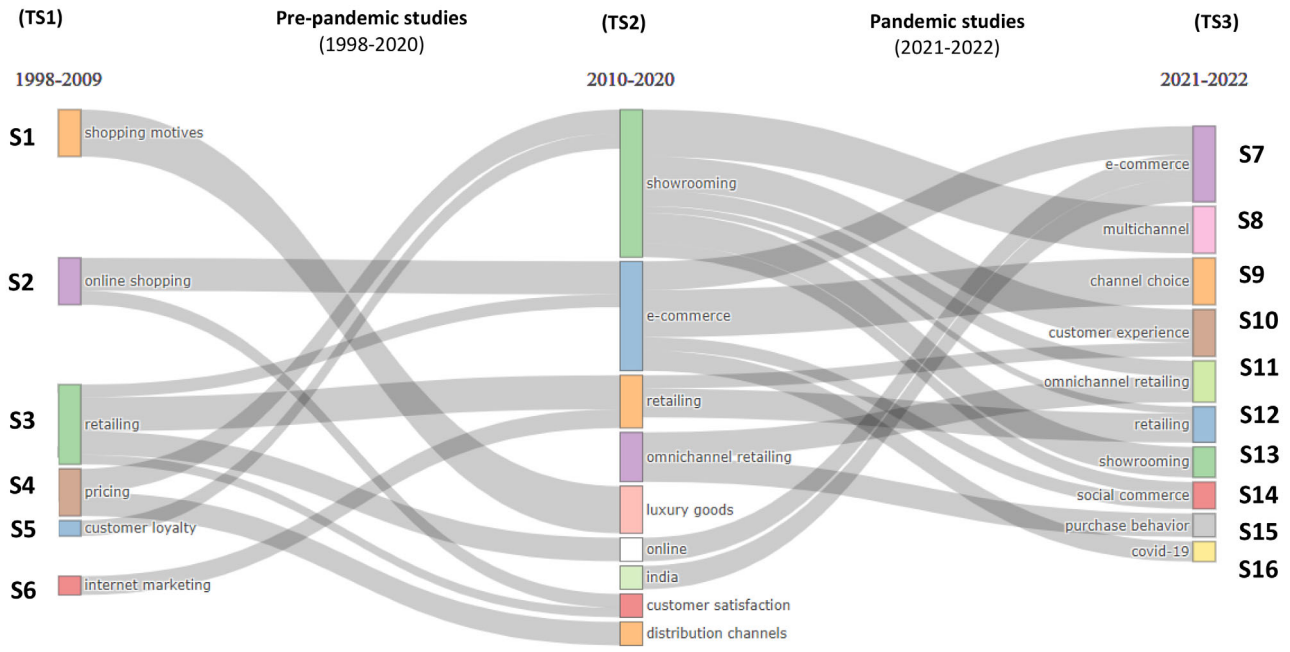

FIGURE 6 Thematic evolution of the RCSB domain (1998–2022).

while the rest into customer satisfaction studies in TS2. Researchers have explored various aspects of online shopping, including its antecedents (Madlberger, 2006), online channel preferences (Devaraj et al., 2006), and search and purchase behavior (Kim & Lee, 2008). Over the years, online shopping research has expanded to include various types of online shopping, such as e-commerce, mobile commerce, and social commerce, due to the increasing importance of e-commerce in business and the advances in digital technologies. TS2 comprises a large volume of e-commerce studies (illustrated in the basic theme quadrant of Figures 8 and 9) that examined various contexts of online shopping and e-commerce including consumer journey (Hu & Tracogna, 2020; Wolny & Charoensuksai, 2014), motivation in mobile commerce (Parker & Wang, 2016; Yang & Kim, 2012), mobile payment (de Kerviler et al., 2016), and purchase intention

FIGURE 7 Time Slice 1 (Years 1998–2009).

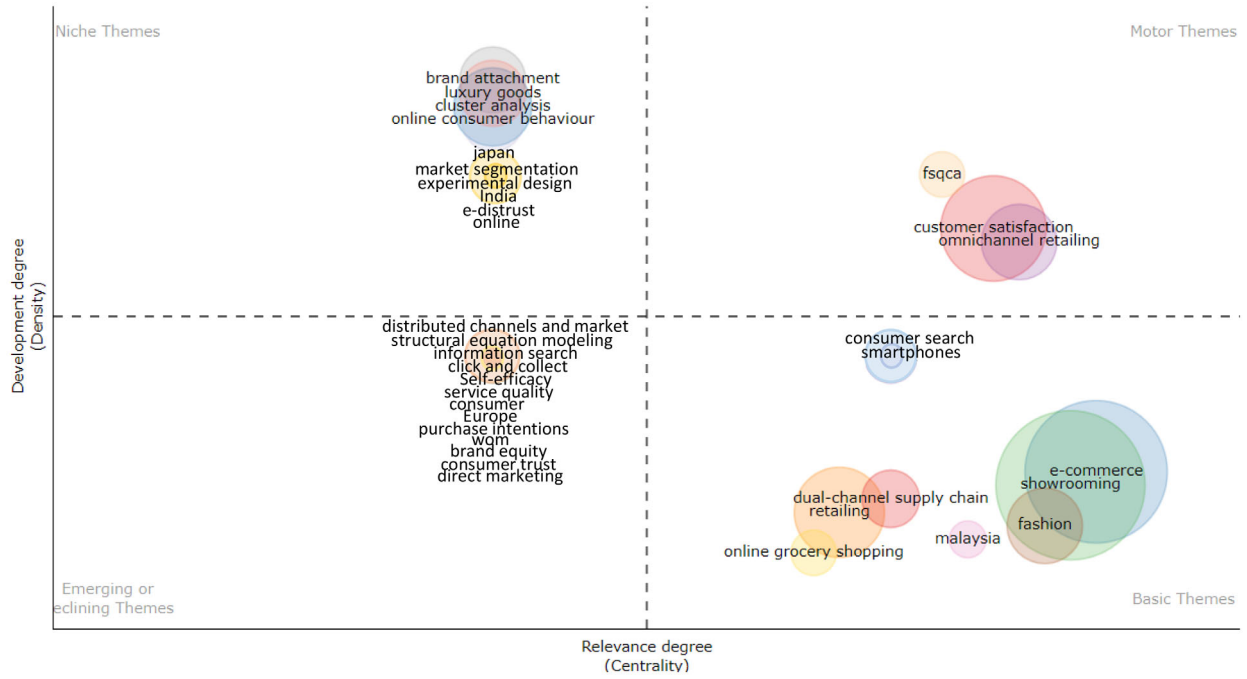

FIGURE 8 Time Slice 2 (Years 2010–2020).

(Badrinarayanan et al., 2012; Kuo et al., 2013), among others. On the other hand, several studies have explored the relationship between customer satisfaction and online shopping. For example, San-Martin and López-Catalán (2013) investigated mobile shoppers' satisfaction antecedents. They found that trust, involvement, and innovativeness positively impact customer satisfaction. Customer satisfaction research has produced studies with insights into how customers perceive the online shopping experience. For instance, Endo et al. (2012) examined product selection and customer service, which drive e-satisfaction in the purchasing experience. We also noticed no stream of studies about customer satisfaction going forward to TS3.

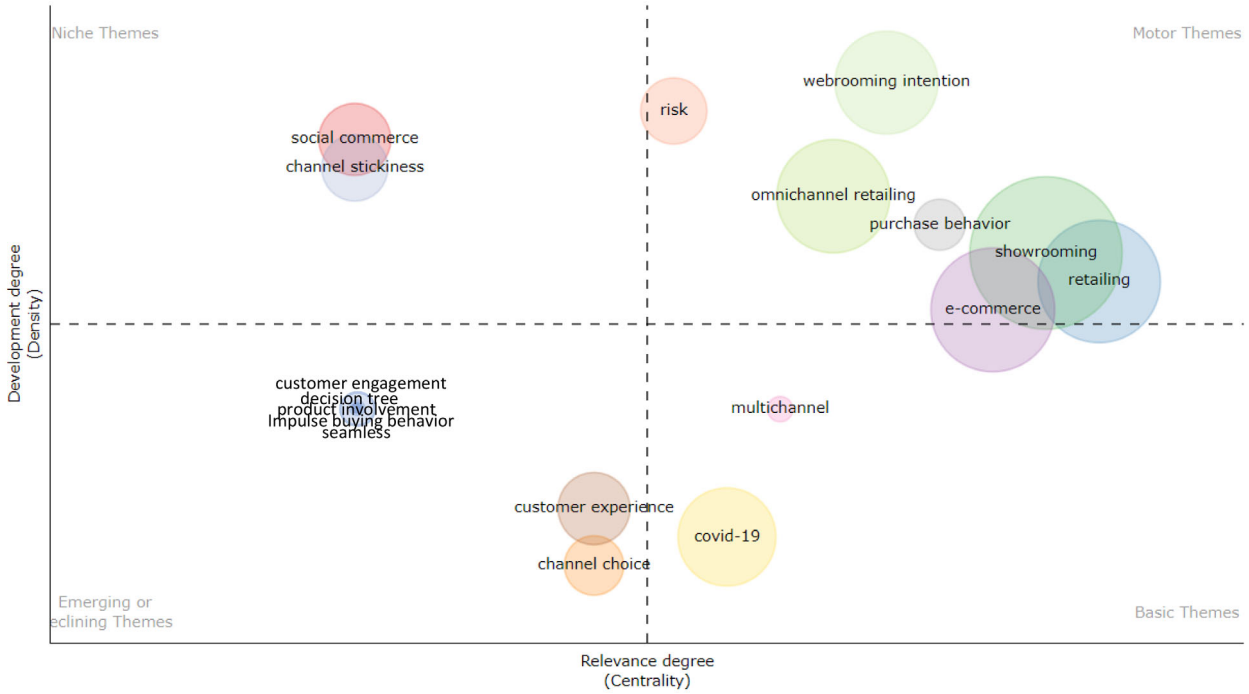

FIGURE 9 Time Slice 3 (2021–2022).

The third stream (S3 in Figure 6) illustrates studies on retailing that diverged into three (3) other sub-streams: e-commerce (discussed in S2), online (discussed in S1), and customer satisfaction (discussed in S2). We noted that retailing remains to be a topic of interest in TS2. Retailing studies in TS1 examined different aspects of retailing including online grocery retailing (Morganosky & Cude, 2000; Wilson-Jeanselme & Reynolds, 2006) and retailing in different contexts (Choi & Park, 2006; McKechnie et al., 2006). On the other hand, retailing studies in TS2 discussed challenges in customer engagement (Pantano & Viassone, 2015), pricing (Gensler et al., 2017), and channel switching and free-riding behavior of consumers (Chou et al., 2016) in different multichannel environments, among others.

In the fourth stream (S4 in Figure 6), pricing was a hot topic in TS1; however, it was later integrated into showrooming studies and distribution channels in TS2. Early studies focused on pricing for niche positioning (Jarvis & Goodman, 2005), sales promotions in multichannel shopping (Oh & Kwon, 2009), and price dispersion in offline and online shopping channels (Biswas & Burman, 2009). The prevalence of showrooming is partly due to the lower price that online store offers, which brought significant implications for brick-and-mortar retailers. As a result, there have been several studies about pricing and showrooming. In TS2, one study that has investigated the relationship among price, quality, and value based on shopping channel attributes is by Yu et al. (2011). They found that consumer perceptions of channel quality and price indirectly influence channel usage intention. Another study by Raj et al. (2020) examined how to combat showrooming by proposing an analytical model for setting a unilateral pricing policy among brick-and-mortar retailers. With the increasing availability of information online, consumers now have access to more information about products and their distribution channels. As a result, consumers are more like to consider factors, such as convenience, delivery options, and the reliability of distribution channels when making purchase decisions. One example of this can be seen in the study of (Chu et al., 2010), who found that households are more brand-and size-loyal but less price sensitive online than offline.

The fifth stream (S5 in Figure 6) depicts an interest in customer loyalty studies in TS1, which later merged with showrooming studies (discussed in S4) in TS2. The rise of e-commerce had a significant impact on customer loyalty. One significant study is (Verhoef et al., 2007) paper which explored the impact of showrooming on customer satisfaction and loyalty. The study finds that while showrooming can lead to low customer satisfaction, it may not necessarily lead to reduced customer loyalty. Instead, the study suggests that companies must improve the overall customer experience to maintain customer loyalty.

The sixth stream (S6 in Figure 6) indicates research studies about internet marketing in TS1 that evolved to include a focus on retailing (discussed in S3) in TS2, reflecting the increasing importance of online channels in the retail industry. The TS1 period marks the start of internet marketing that promise lower search costs for products and product-related information (Lynch & Ariely, 2000) and transaction costs (Liang & Huang, 1998). With the increasing importance of online channels in retailing, research studies have begun to explore the impact of internet marketing on retailing as a whole. One example is the study of Pantano and Viassone (2015), who explored new integrated multichannel retail settings. The study notes the implications for retailers who need to engage customers and avoid cross-channel free-riding behaviors.

5.2.2 | Pandemic studies (TS3 period)

The Covid-19 pandemic significantly impacted consumer behavior, especially in the context of omnichannel customers, showroomers, and webroomers. The TS3 period describes studies during the pandemic. These studies are described with an addition of 10 streams discussed in the succeeding paragraphs.

The seventh stream (S7 in Figure 6) illustrates many studies about e-commerce that converged from studies about online and India in TS2. While the pandemic has accelerated the adoption of e-commerce, showrooming, webrooming, and omnichannel studies are research areas that have interested researchers for several years. These studies include exploring the drivers of consumer adoption of e-commerce (Zerbini et al., 2022), investigating online experiences shaping webrooming behavior (Schiessl et al., 2023), and examining the cross-shopping behavior, specifically showrooming and webrooming in a developing nation context (Roy et al., 2022).

The eighth stream (S8 in Figure 6) shows studies about multichannel from showrooming studies. Multichannel studies have become more prevalent during the pandemic period. For example, Kondo and Okubo (2022) found that different channels have varying levels of importance for different product categories and that the behavior of multi-channel consumers can vary significantly depending on the specific products they are purchasing. In another study, Sridhar et al. (2022) explored the impact of different marketing channels on consumer behavior in a multichannel environment. They find that personalized mass media is the most influential in driving online (offline) purchases. Furthermore, studies in TS3 include channel integration services (Swoboda & Winters, 2021), offline and online promotions in omnichannel targeting (Lee et al., 2021), and omnichannel strategy in the consumer value chain (Mohapatra & Das, 2021).

The ninth stream (S9 in Figure 6) shows studies about channel choice evolving from e-commerce studies in TS2. Studies on channel choice examined consumers' channel choice and decision-making in a multichannel environment (Marcucci et al., 2021; Mukherjee & Chatterjee, 2021). The study of Marcucci et al. (2021) investigated various purchase characteristics when choosing the purchase channel and found that the essential characteristic for consumers is the product price. Likewise, Mukherjee & Chatterjee et al. (2021) analyzed webrooming and showrooming as a multi-stage consumer decision process and identified several factors influencing them, including product type, price, and availability.

The tenth stream (S10 in Figure 6) shows studies about customer experience from showrooming and retailing studies in TS2. As the retail industry evolves, researchers and practitioners have increasingly recognized the importance of customer experience in shaping purchase behavior. One key driver of this convergence has been the rise of technology-enabled omnichannel customer experience in stores (Alexander & Kent, 2022), with consumers seeking personalized and engaging brand interactions. For example, the use of immersive mobile and ubiquitous media components to offer phygital luxury experiences (Lawry, 2022) and behavioral analytics for monitoring in-store journeys (Alexander & Kent, 2022; Angel, 2021). The pandemic has also accelerated the convergence, which has forced many retailers to re-examine customer journeys and adopt omnichannel strategies (Kannan & Kulkarni, 2022).

The eleventh stream (S11 in Figure 6) shows a continuous interest in studies about omnichannel retailing and for which a significant percentage of these studies originated from showrooming studies. Omnichannel retailing is a relatively new but rapidly evolving field of study (Mishra et al., 2021). Omnichannel retailing studies in TS3 focused on consumer behavior, consumer journey, and brand experience. Some papers investigated the effectiveness of different channel integration services on consumers (Swoboda & Winters, 2021), while others explored the competitive dimension of omnichannel retailing (Akturk & Ketzenberg, 2022). Several papers examined the impact of service quality and satisfaction on customer loyalty in mobile commerce (Omar et al., 2021) and the purchase journey and personalities of mobile-assisted showroomers (Fiestas & Tuzovic, 2021). Overall, these studies highlight the importance of omnichannel strategies for retailers and the need to understand consumer behavior in an increasingly digital retail environment.

The twelfth stream (S12 in Figure 6) shows a continuous interest in retailing studies, for which a small percentage of retailing studies in TS3 came from showrooming studies. The collection of retailing studies in TS3 examines various aspects of the retail industry. Liu et al. (2022) examined the optimal pricing and quality decisions for a supply chain. Vyt et al. (2022) investigated the impact of convenience on click-and-collect in a retail setting. Lim, Xie, & Haruvy (2022b) explored the impact of mobile app adoption on physical and online retail channels. These studies include insights into the complex and evolving nature of the retail industry, highlighting the importance of pricing decisions, convenience, and mobile app adoption.

The thirteenth stream (S13 in Figure 6) shows a continuous interest in showrooming studies. These studies explored various aspects of omnichannel retailing, particularly the showrooming and webrooming phenomenon. One study examined the impact of channel integration on consumers' channel preferences, with a particular focus on the effects of showrooming and webrooming behaviors (Shakir Goraya et al., 2022). Decision-making style was found to influence multichannel shopping behavior (Harris et al., 2021), while the role of pricing in combating showrooming behavior was examined in another (Chai et al., 2021). Other studies examined the drivers of showrooming behavior (Arora et al., 2022), including the influence of product attributes (Guo et al., 2021), online engagement (Shankar, Yadav, et al., 2021), and mobile dependency (Chimborazo-Azogue et al., 2022). Location-based retail apps and their effect on perceived value and consumer response were also investigated (Kim, 2021).

The fourteenth stream (S14 in Figure 6) shows studies about social commerce that stemmed from showrooming and e-commerce studies. These topics converged into social commerce because social media platforms have become a significant factor in the shopping experience, allowing consumers to search for and purchase products through social channels. Social commerce studies in TS3 examined the factors influencing consumers' trust and purchase intention in social commerce (Martínez-López et al., 2021), including the effects of live

streaming (Chandrruangphen et al., 2022). Likewise, Khan et al. (2022) identified the reasons for social commerce advertising avoidance and shopping cart abandonment. By continuing to investigate factors influencing consumer behavior in social commerce, businesses and marketers can better understand how to engage with consumers online to improve engagement, shopping experience, and conversion.

The fifteenth stream (S15 in Figure 6) shows studies about purchase behavior originating from omnichannel retailing studies in TS2. These two topics are interrelated because omnichannel retailing integrates multiple channels of sales and marketing, which can impact consumer purchase behavior in various ways. Purchase behavior studies in TS3 examined the impact of different situational variables on retail grocery operations and consumers' purchasing behavior. Delasay et al. (2021) produced an analytical model demonstrating consumers' purchase behaviors during the pandemic. They described how curbside pickup could lower store traffic and increase profit. Likewise, Kvalsvik (2022) focused on situational factors influencing older adults' online grocery shopping behavior. These studies highlight the importance of understanding situational variables in understanding consumer behavior, particularly in the context of the Covid-19 pandemic and older adults' shopping behavior.

The sixteenth stream (S16 in Figure 6) shows that e-commerce studies evolved into covid-19 studies due to the significant impact of the pandemic on the retail industry, including the acceleration of e-commerce adoption and changes in consumer behavior. Researchers have investigated various aspects of the pandemic's impact on shopping and consumption behavior, including channel switching (Youn et al., 2021), pickup and delivery preferences (Wang et al., 2021), and level of satisfaction for online shopping (Alaimo et al., 2022).

5.2.3 | Thematic mapping of research studies in TS1 (early developmental period in the RCSB domain)

A longitudinal thematic map analysis can identify topics that merge or split into several themes (Aria & Cuccurullo, 2017). Figures 7–9 show the thematic maps plotted on a bi-dimensional matrix of centrality and density. The maps show the necessary and relevant themes of the RCSB domain. Each bubble in the matrix represents a term in the cluster with the highest occurrence value, where its size is proportionate to the number of term occurrences (Aria & Cuccurullo, 2017). We set the number of words to 250 and the minimum cluster frequency (per thousand documents) to 6. The cluster label was set to 1 to minimize text overlaps in the graph.

The first time slice (TS1) (Figure 7), which spans 12 years (1998–2009), covers 83 papers. This subperiod contains ten (10) clusters: "internet marketing," "customer loyalty," "retailing," "online shopping," "shopping motives," "pricing," "purchasing," "perception," "teleshopping," "demographics," and "consumer psychology". This subperiod involves studies that can be traced back to early research and channel shopping behaviors during the 1990s to early 2000. The most cited publication in this period is (Brynjolfsson & Smith, 2000) paper (with 1393 citations) that compares the pricing behaviors of online and conventional retailers.

As revealed in the thematic evolution, one of the research streams (S4) illustrated pricing as a critical topic in the first subperiod. Here, we illustrate that pricing is a well-developed motor topic in the domain. During this subperiod, several studies examined the different aspects of pricing. Biswas and Burman (2009) examined the effects of price dispersion on consumers' search intention across offline and online channels, while Oh and Kwon (2009) explored sales promotions for multichannel shopping. On the other hand, Gupta et al. (2004) suggested pricing strategies based on consumers' risk profiles.

Internet marketing lies at the center of the strategic diagram. It is assumed to be of marginal importance and relevance to the domain. During this period, internet marketing studies examined the reasons for customer engagement in online shopping and marketing. For instance, Liang and Huang (1998) weighed the product types suitable to market online and why customers choose a channel for purchase. In another instance, Lynch and Ariely (2000) analyzed how search cost affects competition on price, quality, and distribution of wine online. Other topics, which lie in the center-left of the quadrant, are marginally developed and less critical to the domain. These are shopping motives (discussed in S1), purchasing, perception, and teleshopping topics. Conversely, topics in the center-right are marginally developed but important to the domain. They are demographics and consumer psychology topics. In a nutshell, these marginal topics are less important or non-informative to the domain of interest. Thus, we will not provide further discussions.

The largest cluster of studies on the basic theme examined the overlapping clusters of retailing and online shopping as shown in research streams S2 and S3. Early studies in the online shopping cluster focus on the consumer attitude, intention, adoption, and drivers towards online shopping, including consumers' response to online grocery shopping (Morganosky & Cude, 2000), internet users' adoption of web retailing (Fenech & O'Cass, 2001), and consumer attitudes and preferences with online shopping (Inks & Mayo, 2002). Highly-cited studies in online shopping include topics about multichannel consumer behavior (Nicholson et al., 2002), multichannel shopper profiling (Mcgoldrick & Collins, 2007), behavioral differences between offline and online shoppers (Andrews & Currim, 2004), and attitude towards websites, and online channel preference (Devaraj et al., 2006). On the other hand, highly cited studies in retailing include topics about dual-channel supply chain design (Chiang et al., 2003), multi-channel customer management (Verhoef et al., 2007), and multichannel shopper segments (Konus et al., 2008). Figure 7 also illustrates that several studies on the niche theme investigated customer loyalty in multichannel retailing (discussed in S5).

5.2.4 | Thematic mapping of research studies in TS2 (modern developments in the RCSB domain in the pre-pandemic period)

The second time slice (TS2) spans 11 years (2010–2020) (Figure 8). It covers 283 papers which is 3.5 × more than in the previous period,

TS1. This subperiod contains 36 clusters: "customer satisfaction," "e-commerce,", "showrooming," "omnichannel retailing," "retailing," "fashion," "japan," "brand attachment," "structural equation modeling," "information search," "click and collect," "Malaysia," "market segmentation," "online grocery shopping," "smartphone," "experimental design," "cluster analysis," "India," "self-efficacy," "service quality," "dual-channel supply chain," "fsqca," "distribution channels," "e-distrust," "consumer search," "consumers," "Europe," "online consumer behavior," "luxury goods," "distribution channels and markets," "online," "purchase intentions," "wom," "brand equity," "consumer trust," and "direct marketing". The most cited publication in this period is (Verhoef et al., 2015) (with 1072 citations) paper which discusses the shift from multi-channel retailing to omnichannel retailing.

As observed, there are numerous overlapping clusters in this period. In the motor theme, omnichannel retailing and customer satisfaction clusters (discussed in S2), which are fully developed and important domain topics, overlap. Studies belonging to the omnichannel retailing cluster examined omnichannel retail operations (Gao & Su, 2017), omnichannel customer journey (Barwitz & Maas, 2018), omnichannel shopping behaviors of social-local-mobile (so-lo-mo) customers (Kang, 2019), and many others. Likewise, the fsqca cluster is also considered a motor topic. Significantly, the fuzzy-set QCA method was used by Miquel-Romero et al. (2020) to explain the post-purchase complaint behavior of omnichannel shoppers.

The basic theme consists of several overlapping and non-overlapping clusters. The most enormous overlapping clusters involve e-commerce (discussed in S2), showrooming (discussed in S4), and fashion topics. Fashion is a basic topic for this period since numerous studies have examined e-commerce and showrooming in fashion contexts (Cho & Workman, 2011; Reid et al., 2016). Other significant overlapping clusters involve dual-channel supply chains, online grocery shopping, and retailing (discussed in S3). Retailing continues to be a basic topic in this period. Dual-channel supply chain cluster includes studies that examine the pricing, service effort, coordination, and cooperative strategies in a dual-channel supply chain (Li et al., 2019; Liu et al., 2020; Ranjan & Jha, 2019). On the other hand, the online grocery shopping cluster comprises studies focusing mainly on consumer adoption of online grocery channels (Frank & Peschel, 2020; Lee et al., 2015). Other basic topics include Malaysia and overlapping topics of consumer search and smartphones.

The emerging theme, which consists of emerging or declining topics, are overlapping topics about distributed channels and market topics (discussed in S4), structural equation modeling, information search, click and collect, self-efficacy, service quality, consumer, Europe, purchase intentions, wom, brand equity, consumer trust, and direct marketing. Moreover, the niche theme consists of well-developed topics less critical for the domain of interest. The overlapping small clusters are brand attachment, luxury goods, cluster analysis, online consumer behavior, japan, market segmentation, experimental design, India, e-distrust, and online.

5.2.5 | Thematic mapping of research studies in TS3 (latest development in the RCSB domain during the pandemic period)

The third time slice (TS3) (Figure 9), which spans approximately 2 years (2021–2022), covers 134 papers published during the Covid-19 period. We noticed that the number of articles in this subperiod is nearly half the size in TS2, considering that it only covers 1.5 years. This means there has been a significant increase in publications in this domain during the pandemic. The subperiod contains 18 clusters: "social commerce," "retailing," "showrooming," "e-commerce," "channel choice," "customer experience," "multichannel," "purchase behavior," "customer engagement," "risk," "channel stickiness," "decision tree," "omnichannel retailing," "covid-19," "product involvement," "impulse buying behavior," "seamless," and "webrooming intention". The most cited publication in this period is (Shankar & Jain, 2021) paper (with 32 citations) that examined the factors influencing the webrooming intention of luxury consumers.

Figure 9 shows clear overlaps among the three (3) clusters in the motor theme, namely showrooming (discussed in S4), retailing (discussed in S3), and e-commerce (discussed in S2). Retailing, e-commerce, and showrooming have transitioned from basic to motor topics in this subperiod. Recent publications in these clusters include predicting channel preferences (Acquila-Natale & Iglesias-Pradas, 2021; Goraya et al., Shakir Goraya et al., 2022), determining multichannel shoppers (Jo et al., 2020), and (optimal) pricing decisions in showrooming behavior and online retailing (Li et al., 2021; Liu et al., 2022). This period also leads to other well-developed and isolated topics, including webrooming intention, omnichannel retailing (discussed in S4), purchase behavior, and risk. Studies in the webrooming intention cluster examined underlying factors that influence the webrooming intention (Shankar, 2021; Shankar & Jain, 2021) and how this intention is manifested in various customer segments such as Gen X and Indian luxury consumers (Jain & Shankar, 2022; Shankar & Jain, 2022). Most of the studies in the purchase behavior cluster examined situational factors affecting purchase behavior (Cao et al., 2022; Kvalsvik, 2022) and the impact of the pandemic on retail grocery operations (Delasay et al., 2021). Likewise, studies in the risk cluster generally examined the effect of showrooming and webrooming behaviors and risk towards online or omnichannel shopping (Johnson & Ramirez, 2020; Truong, 2021). Chatterjee et al. (2021) provided consumers' perspectives on risks involving data privacy and security of omnichannel shopping during the pandemic. Furthermore, we found two studies on the motor theme that applied the research and channel shopping behaviors research in the context of the Covid-19 pandemic (Chatterjee et al., 2021; Delasay et al., 2021).

As expected, important and transversal topics related to multichannel use and the Covid-19 pandemic developed during this period. Two isolated clusters belong to the basic theme, namely covid-19 and multichannel. We noticed that the Covid-19 cluster is isolated from the showrooming, webrooming intention, and omnichannel retailing

clusters. This means that most Covid-19 studies are not or are loosely connected to the research and channel shopping behaviors research. Nonetheless, we found few Covid19-related studies that examined channel-switching behavior during the pandemic (Ngoh & Groening, 2022; Youn et al., 2021), the level of satisfaction for online food shopping (Alaimo et al., 2022), and the use of contactless channels for shopping (Wang et al., 2021). Meanwhile, only a few studies comprised the multichannel cluster. For instance, (Kondo & Okubo, 2022) paper about the segmentation of multichannel purchases to understand multichannel consumer behavior.

Two recognizable clusters are present in the emerging theme; these are the customer experience and channel choice clusters. Other clusters small and overlapping clusters are customer engagement, decision tree, product involvement, impulse buying behavior, and seamless. Some studies on the emerging theme described the impact of service integration and technology-enabled touchpoints on customer experience (Alexander & Kent, 2022; Quach et al., 2022) and channel choice in multiple channel environments (Marcucci et al., 2021). Other clusters also include Covid-19 studies; for instance, (Shankar, Gupta, et al., 2021) suggested omnichannel retail strategies to manage a global retail crisis.

This period also includes recent publications with niche topics such as social commerce and channel stickiness. Social commerce is categorized as a niche topic, fully developed but less critical for the domain. This is because studies on this cluster focused mainly on its advertising and live-streaming effects on shopping intention (Chandrruangphen et al., 2022; Khan et al., 2022; Martínez-López et al., 2021). We believe that social commerce studies should also be examined in the contexts of showrooming, webrooming, and channel shopping behaviors. Niemann (2023) described how social commerce is a value driver for a company that positively impacts its brand equity, sales, and customer interaction. They further described how it affects buying behavior and customer journey. Retailers should consider having a social commerce strategy aiming to serve the needs of showroomers and webroomers. Moreover, Kim et al. (2021) and a few studies investigated channel stickiness in a shopping journey.

Overall, the focus of studies in TS1 was on online shopping and retailing. Likewise, this period attracted the interest of scholars regarding pricing issues that confront offline retailers as a significant number of consumers prefer the touch-and-feel of products in a physical store but desire the price advantage of buying products online. The TS2 period essentially contains studies about customer satisfaction in omnichannel retailing and showrooming behaviors involving e-commerce platforms, particularly in the fashion industry. It also includes many studies examining dual-channel supply chains in retailing. The TS3 pandemic period shows how showrooming and e-commerce topics evolved from basic to motor topics in combination with retailing topics. Likewise, the omnichannel retailing topic remains a motor topic, as does the webrooming intention topic. However, these topics are not conflated.

6 | CONCLUSION

6.1 | Theoretical contribution

This study implemented a bibliometric analysis to provide a comprehensive picture of the conceptual knowledge structure and development of the research and channel shopping behavior domain. We analyzed and uncovered critical insights from the collection of related studies that can be of interest and value to the scientific community. We use various quantitative and statistical techniques to conduct the performance and conceptual knowledge structure analyses. As a result, we were able to offer future strategic directions to new researchers who want to know what aspects of shopping behaviors research can be further explored.

The performance analysis results show that this research domain is increasing with an annual growth rate of nearly 16%, with an average number of citations per document of 44, indicating growing and sustained research interest. The journal with the most publications in the domain is the Journal of Retailing and Consumer Services. Kim J and Park J are the most productive authors, with nine publications each. The key publications are (Verhoef et al., 2007) paper about multichannel customer management and (Verhoef et al., 2015) paper about the shift to omni-channel retailing. The trend topics in the domain include showrooming, retailing, e-commerce, webrooming, and online shopping.

This research provides a framework of knowledge in the RCSB domain that will facilitate future scientific communication and information retrieval processes (Mukherjee et al., 2022). Science mapping, implemented using co-word network analysis, revealed five (5) distinct cluster themes: showrooming and webrooming in multi- and omnichannel contexts; consumer behavior in online retail and shopping; customer satisfaction and trust in multi-channel retailing; mobile commerce in a multi-channel environment; and the synergies of online shopping, channel choice, and supply chain management. The connections among the keywords in the RCSB domain create a conceptual knowledge structure that highlights important themes within each cluster. This structure can serve as a resource for future scholars, who can use the keywords and clusters to explore their research interests.

Another notable contribution of this research is an illustration of how themes within the research domain have evolved. The thematic maps illustrate niche, emerging, basic, and motor topics during three (3) subperiods. The first subperiod (1998–2009) comprises studies tracing early research and channel shopping behaviors. Basic and motor topics during this subperiod include pricing, consumer psychology, retailing, and online shopping. The second subperiod (2010–2020) involves studies describing modern developments in the research and channel shopping behaviors domain in the pre-pandemic period. Prominent basic and motor topics during this subperiod include customer satisfaction, omnichannel retailing, e-commerce, and showrooming. The third subperiod (2021–2022) covers studies on the latest developments in the domain during the pandemic. Emerging and basic topics, which can be developed into motor topics, include customer experience, multichannel, channel choice, and covid-19.

Moreover, the thematic evolution is characterized by six (6) streams of pre-pandemic and 10 streams of pandemic studies. The pre-pandemic studies are related to shopping motives evolving into luxury goods; online shopping studies combining with e-commerce and customer satisfaction; retailing studies merging with e-commerce, online, and customer satisfaction studies; pricing combining with showrooming and distribution channels; customer loyalty studies advancing into showrooming studies; and internet marketing studies progressing into retailing studies. Likewise, pandemic studies are related to e-commerce that converged with studies about online and India; multichannel evolved into showrooming; channel choice developed from e-commerce; customer experience emerged from showrooming and retailing; omnichannel retailing partly developed from showrooming; retailing partly emerged from showrooming; showrooming; social commerce converged from showrooming and e-commerce; purchase behavior emerged from omnichannel retailing; and covid-19 developed from e-commerce.

6.2 | Future directions (RO4)

The trajectory of topics in a research domain shapes the topical evolution of the domain (Massimoo Aria et al., 2022). The thematic evolution showed that topics, such as showrooming, e-commerce, retailing, and omnichannel retailing, remained popular before, and during the pandemic. Our examination of the thematic maps also showed various topics that gained significance during the pandemic, such as multichannel, channel choice, customer experience, social commerce, purchase behavior, and covid-19. Among these, the thematic maps indicate that customer experience, channel choice, multichannel, and covid-19 are emerging and basic topics. These topics can steer research directions in the RCSB domain.

With omnichannel retailing, showroomers and webroomers can benefit from simultaneously using multiple channels during their information-seeking and purchasing journey. Hence, businesses and marketers increasingly focus on omnichannel strategies to provide a seamless and integrated shopping experience across various touchpoints. The research interest in customer experience and multi- and omni-channel topics is expected to remain significant in the coming years as businesses continue to invest in these areas to meet the changing consumer needs and expectations.

Going forward, scholars can examine the effects of integrated and digital services on the research shopping experiences of omnichannel showroomers and webroomers. Customers are now open to using innovative technologies, including digital traces in physical store environments, to enhance their experiential shopping value (Blom et al., 2017). Businesses can offer convenient and immersive shopping experiences by providing immersive in-store experiences (e.g., AR, VR) (Lawry, 2022), proximity marketing (e.g., RFID) (Larson & Ferrin, 2021), in-store analytics (Angel, 2021), and likes. Several studies suggest tracking in-store customer experience and monitoring in-store journeys (Alexander & Kent, 2022; Angel, 2021). Thus, studies investigating the effect of integrated and digital services in omnichannel retail to effectively manage showrooming and webrooming behaviors would be most beneficial in developing new knowledge and advancing the selected domain.

Moreover, scholars can also explore consumers' channel choice decision-making. As new e-commerce opportunities emerge from mobile and social platforms, businesses must understand channel preferences well to provide a consistent and unified shopping experience. They can examine the customer experience across e-commerce, m-commerce, and social commerce touchpoints. This can help businesses tailor effective marketing strategies that engage omnichannel consumers at different touchpoints and provide them with a seamless customer experience using integrated channels (e.g., e-commerce website, social media, mobile app) to support their search and purchase journey. Furthermore, researchers can also examine factors influencing channel choice. For example, Marcucci et al. (2021) examined the effect of a zero pricing strategy for pickup and delivery and the environmental impact on customers' channel choices.

Lastly, businesses should also have a robust omnichannel integration, strategy, and management that incorporates flexibility and adaptability to respond to unpredictable disruptions, such as those brought about by the Covid-19 pandemic (Chatterjee et al., 2021). Several studies suggest that future studies examine contactless delivery channels (e.g., home delivery, automated parcel lockers) (Gao & Su, 2017; Rossolov, 2021; Wang et al., 2021). These strategies ensure a safe and positive experience for customers, at the same time, maximize potential benefits for the business. Future scholars can examine the impact and complex trade-offs of these strategies on the supply chain and logistics of retail operations.

Overall, the post-pandemic retail era is an era of omnichannel retailing, showrooming, and webrooming focused on customer experiences using digital innovations, e-commerce (including mobile and social commerce), and omnichannel strategy and management. The future direction in the RSCB domain is likely to be shaped by ongoing changes in consumer behavior post-pandemic (Sugiat, 2021) and the retail industry as a whole, as well as advances in technology and data analysis.

6.3 | Limitations

Despite the importance of our findings to the research and channel shopping behavior domain, this study contains several limitations. First, this study only used the Scopus research database and papers indexed in Scopus. Future studies can incorporate papers from other databases such as WoS, Google Scholar, EBSCO, and so forth. Second, future studies can deepen their analysis using other software, like VOSviewer, Pajek, CiteSpace, CRExplorer, and so forth. Third, because we restrict the document type to articles only, future research papers can also include books, book chapters, and conference papers to explore further some publications we may have missed. Fourth, further development of this research domain can benefit from examining the collection's intellectual and social knowledge network structures. This would allow researchers a comprehensive understanding of the

research and channel shopping behaviors and give added perspectives to practitioners for better management of showrooming, webrooming, and omnichannel shopping behaviors. Not with standing these limitations, we were able to provide helpful information and critical insights into state of the art in research and channel shopping behaviors that can be used for the advancement of this research domain.

ACKNOWLEDGMENTS

We thank Vicki Little for providing valuable comments on the manuscript. Open access publishing facilitated by RMIT University, as part of the Wiley - RMIT University agreement via the Council of Australian University Librarians.

FUNDING INFORMATION

This research received no specific grant from any funding agency.

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare concerning this article's research, authorship, and publication.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS APPROVAL STATEMENT

Ethics approval was not required for this study.

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How to cite this article: Halibas, A. S., Van Nguyen, A. T., Akbari, M., Akram, U., & Hoang, M. D. T. (2023). Developing trends in showrooming, webrooming, and omnichannel shopping behaviors: Performance analysis, conceptual mapping, and future directions. *Journal of Consumer Behaviour*, 1–28. https://doi.org/10.1002/cb.2186