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# I Can See Clearly Now: A Bibliometric Exploration of Digital Platforms in Supply Chain Management

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## Abstract

*Digital platforms (DPs) represent a challenging research object with a considerable number of academic publications. Due to the high relevance of DPs in science and practice, the aim of this study is to analyze the status quo of research on the relationship between DPs and supply chain management (SCM), and to derive a research agenda. Through a bibliometric analysis in key SCM journals, 60 articles were examined and evaluated using content and co-occurrence analysis. Based on this sample, eight different main research clusters were identified and a research agenda was derived for each cluster. Our study paves the way for future research on DPs and SCM, as well as providing support for managers to strengthen relevant knowledge regarding the implementation of DPs in practice.*

**Keywords:** digital platform, literature review, co-occurrence analysis, research agenda, research gap.

## 1. Introduction

Digital platforms (DPs) have attracted considerable scholarly attention, as both value creation and market competition increasingly take place at the platform level (Rietveld & Schilling, 2021; Kretschmer et al., 2022). Also, DPs and platform-related business models are an integral part of today's most successful companies, significantly enhancing value creation and customer value (Fitzgerald et al., 2014; Van Alstyne et al., 2016; Goertler et al., 2023a). Given the increasing importance of DPs, both research and management efforts should focus on value creation and related supply chain (SC) activities around DPs to generate and enhance participant value (De Reuver et al., 2018; Van Alstyne et al., 2016). In line with Parker et al. (2016), we understand a DP as an entity that enables valuable interactions between producers and consumers, provides an

open infrastructure, sets governance conditions, and aims to connect users for the exchange of goods, services, or social currencies, and promotes value creation for all participants. We further argue that the traditional procedure of a systematic literature review (SLR) is only partially adequate for analyzing larger bodies of literature and, in particular, interrelationships (Ali & Gölgeci, 2019). In contrast, bibliometric analysis can provide rich information about research areas, and visualization of the data can add value to understanding the subject of interest (Wang et al., 2017; He et al., 2022). These bibliometric techniques are often used to understand network structures and identify research clusters within a scientific field (Fahimnia et al., 2015).

The purpose of our study is to provide an overview of the research on DPs, especially the relationship between DPs and supply chain management (SCM). In other words, we intend to analyze the status quo of research on DPs and SCM and to identify main research topics. The authors follow Christopher's (2016) definition of SCM, which emphasizes managing relationships between suppliers and customers to deliver superior customer value. This is related to the fundamental characteristic of DPs, which is to support value creation by bringing together both customer needs and supplier offerings (Van Alstyne et al., 2016). Our findings contribute to the understanding of digital transformation (Fitzgerald et al., 2014) of SCM with a focus on DPs (Ivanov et al., 2022). However, the interdisciplinary nature of platform research poses challenges for scholars (De Reuver et al., 2018; Rietveld & Schilling, 2021) and thus encourages work on specific interrelationships, such as DPs and SCM. The research questions (RQs) of this study are:

RQ1. *What is the status quo of research on DPs in SCM?*

RQ2. *What are clusters of research on DPs in SCM and potential avenues for further research?*

## 2. Conceptual Background

Platforms are not unfamiliar per se (Van Alstyne et al., 2016; Rietveld & Schilling, 2021), but in recent decades the need for ownership of resources, such as physical infrastructure and assets, has been drastically reduced by information and communication technologies (ICTs; Van Alstyne et al., 2016; Vaska et al., 2021). These ICTs enable several benefits in terms of the design and scalability of DPs; the advancement of data collection, analysis, and evaluation; and simplified access for stakeholders, which collectively increase the value of the platform for all participating actors (Van Alstyne et al., 2016). Competition is no longer focused on the ownership of resources and assets (Van Alstyne et al., 2016), but rather on the attractiveness of generative activities associated with a platform (De Reuver et al., 2018). Thus, the generation and accessibility of interactions between two or more participants is a key role of the platform (Parker et al., 2016; Liu et al., 2021a). DPs do not create content, but they provide the necessary infrastructure on which products (Liu et al., 2021a) or data-driven services (Zhu & Furr, 2016) are subsequently transferred between participants.

While SCM was originally described as the management of relationships with suppliers and customers with the aim of achieving superior customer value at lower cost for the entire SC (Christopher, 1998, 2016), current perceptions are moving away from a static view to a concept that takes into account the volatility that surrounds us in today's business environments (Christopher & Holweg, 2017; Richey et al., 2022). The importance of ICTs also has a strong impact on SCM (Choi et al., 2022; Ivanov et al., 2021; Goertler et al., 2023b). The digitalization of SCM through ICTs enables information sharing and collaboration using DPs, which in turn leads to increased reliability, agility, and effectiveness (Attaran, 2020; Khan et al., 2021), which is essential in today's complex and uncertain environment (Lee, 2021). DPs play a critical role in this context (Pan et al., 2021), as they bring together all operational processes (e.g., sourcing, logistics, or sales), SC flows (e.g., physical, information, and financial), and SC actors (e.g., suppliers, producers, or customers) on the platform (Attaran, 2020; Ivanov et al., 2022). This requires a shift in SCM thinking (Richey et al., 2022; Wieland, 2021) toward dynamic, platform-based management of relationships within value systems with the appropriate range of resilience to create superior customer value at a defensible cost to the entire business ecosystem in the face of volatile, complex, and ambiguous environments.

## 3. Methodology

First, the authors applied a SLR to ensure a comprehensive search for relevant publications and to generate reliable knowledge, following the SLR recommendations of Denyer & Tranfield (2009). Second, we conducted a co-occurrence analysis using VOSviewer (Ali & Gölgeci, 2019) to objectively analyze relevant articles and identify research clusters. Bibliometric research emphasizes the analysis of networks such as documents, keywords, authors, or journals (Waltman et al., 2010). It can evaluate the relationships between citations, co-citations, and keywords (He et al., 2022), and can therefore be helpful in identifying research clusters (Fahimnia et al., 2015; Wang et al., 2017). These techniques can also be used to determine the main areas of research within a particular scientific field, how they are related or interconnected, and how these areas of research have evolved over time (Waltman et al., 2010).

We focused the SLR on identifying research articles on DPs in SCM and searched the Web of Science and EBSCO databases for articles with the search string *platform\* OR \*sided?market\** in the title, abstract, and/or keywords. We searched for platforms in general in order not to exclude relevant articles and to obtain a broad and reliable sample. As our aim is to identify current research topics, we focused on articles published in the last five years (2018 to 2022; Nitsche et al., 2021; Bellucci et al., 2021). To ensure the SCM focus, we considered Fabbe-Costes & Jahre (2008), Gligor et al. (2018), Kaufmann & Gaeckler (2015), and Min et al. (2019) by including ten journals (see Figure 1) to create a relevant sample. Applying this procedure in 2022, we initially identified 219 publications. After excluding duplicates from the initial sample, we scanned titles and abstracts (screening #1), followed by a full-text evaluation (screening #2). All authors completed these screenings with the criterion that the platform in focus must have a clear link to digitalization. This process resulted in a final sample of 60 articles, which are listed in the online appendix (supplementary table 2). Figure 1 provides an overview of the screening process.

Problem Formulation					
Research questions	(1) What is the status quo of research on DPs in SCM? (2) What are clusters of research on DPs in SCM and potential avenues for further research?				
Locating Publications, Screening of Search Results & Article Selection					
Search string	platform* OR *sided?market*				
	ABS	Number of articles after initial search	Number of articles after screening #1	Number of articles after screening #2	
Academic journals	<i>Int. Journal of Logistics Management</i>	1	17	5	4
	<i>Int. Journal of Logistics: Research and Applications</i>	1	24	16	11
	<i>Int. Journal of Operations and Production Management</i>	4	11	8	7
	<i>Int. Journal of Physical Distribution and Logistics Management</i>	2	8	2	2
	<i>Journal of Business Logistics</i>	3	3	2	1
	<i>Journal of Operations Management</i>	4*	8	3	1
	<i>Journal of Supply Chain Management</i>	4	1	0	0
	<i>Management Science</i>	4*	109	38	21
	<i>Manufacturing and Service Operations Management</i>	3	32	15	11
	<i>Supply Chain Management: An International Journal</i>	3	6	3	2
Total number of articles selected		219	92	60	

Figure 1: SCM journals and screening process

We utilized VOSviewer as a tool due to its conclusive visualization capabilities for bibliometric networks (Ali & Gölgeci, 2019; Waltman, 2010) and conducted a co-occurrence analysis, which examines connections and similarities between keywords (Ali & Gölgeci, 2019; Waltman, 2010). The software clusters related keywords by considering the co-occurrences and Euclidean distance calculation, resulting in a comprehensive overview of clusters representing our unit of analysis. Based on the total number of selected articles, we performed an objective analysis to conduct network analyses algorithmically (Ali & Gölgeci, 2019). For the sake of clarity, we excluded some keywords from the analysis. The VOSviewer software has the ability to set thresholds for the minimum number of occurrences of a keyword. To ensure the meaningfulness of the keywords, we reviewed all keywords that appeared at least twice in the 60 articles.

## 4. Results

### 4.1. Descriptive Analysis

The distribution of articles over the years 2018 to 2022 is as follows: 4 articles in 2018, 10 in 2019, 11 in 2020, 28 in 2021, and 7 in 2022. The distribution clearly indicates an increasing research focus on DPs in SCM. In particular, 2021 shows a significant increase in publications compared to 2018 to 2020. The sum of publications in 2021 and 2022 (35) is even larger than the number of publications from 2018 to

2020 (25). This highlights the growing research interest and importance of platform research in SCM.

In terms of journal-wise publications, Figure 1 shows that most of the articles have been published in *Management Science* (35%), followed by the *International Journal of Logistics: Research and Applications* (18.3%), *Manufacturing and Service Operations Management* (18.3%), and the *International Journal of Operations and Production Management* (11.7%).

### 4.2. Thematic Analysis

Using VOSviewer, we performed a co-occurrence analysis with a keyword occurrence of two, which resulted in eight clusters. Figure 2 shows an overview of the clusters (see online appendix for higher resolution). In addition, supplementary table 1 (see online appendix) provides an overview of the clusters, keywords, and frequencies. By analyzing this cluster map, we created the following clusters: cluster 1 (purple) mainly points out blockchain and information technology; cluster 2 (orange) focuses on big data; cluster 3 (blue) addresses the impact of platforms on SC topics; cluster 4 (green) uncovers design and networks; cluster 5 (yellow) identifies platforms and models; cluster 6 (brown) focuses on sharing economy related topics; cluster 7 (red) addresses competition; and cluster 8 (light blue) explains matching markets and sales related insights. The articles mentioned within each cluster have a strong thematic connection to the cluster focus and thus represent the essential articles for each cluster.

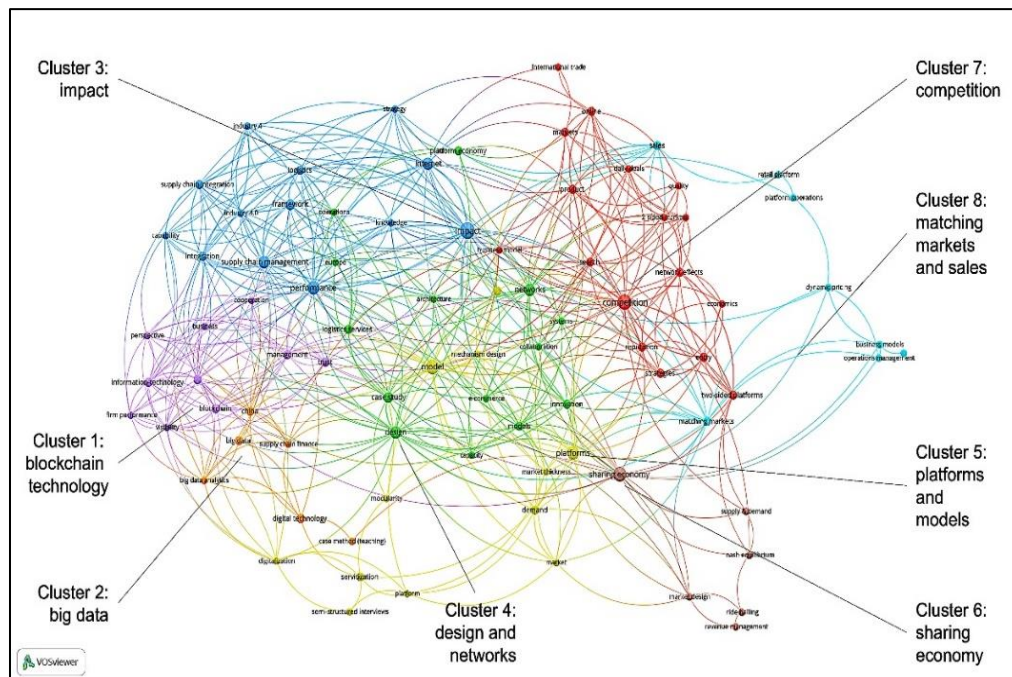


Figure 2: Co-occurrence analysis

**4.2.1. Cluster 1: blockchain technology.** Research on blockchain technology in the context of SCM is the focus of cluster 1, with a total of 11 articles.

A brief review of the articles revealed that the impact of blockchain technology on platforms and SCs is the main focus of analysis in this cluster. Brookbanks & Perry (2022) analyze the positive impact of a blockchain platform on trust, Kurpjuweit et al. (2021) show the implications of blockchain for the visibility and digitalization of SCs in the context of the design of a blockchain-based additive manufacturing platform, and Ning & Yuan (2021) demonstrate that the introduction of blockchain affects the design and reconfiguration of the SC financial platform.

**4.2.2. Cluster 2: big data.** The co-occurrence analysis revealed a focus on big data. Big data refers to data that accumulates in large quantity and variety. Looking at VOSviewer, 10 articles belong to this cluster.

Analysis of the articles revealed that three studies in particular have a direct focus on big data. Song et al. (2021) examine the value of big data analytics in DP for SC financial customization. Shou et al. (2020) investigate resources and capabilities for the operational strategy of platform-based companies in the context of big data, while Handfield et al. (2019) address the relevance of big data for the advancement of procurement analytics. In terms of cluster focus, keyword co-occurrence analysis also shows that China embodies a meaningful context for big data and platform research (Lyu et al., 2019; Song et al., 2021; Xue et al., 2022). The keyword digital technology stands out, but also research on big data and SC finance platforms (Song et al., 2021), big data integration in omnichannel flows (Saghiri & Mirzabeiki, 2021), and understanding and significance of big data and DPs for servitization (El-oranta et al., 2021).

**4.2.3. Cluster 3: impact.** Research on the impact of platforms, related aspects, and technologies on the SC is displayed in cluster 3. This relatively large cluster comprises 20 articles.

Most of the articles (9) in this cluster consider the impact of DP-related aspects and technologies in a SC context. Bhargava (2022) studies platform design choices and creator participation in relation to ecosystem supply. Li & Netessine (2020) study the impact of market thickness on matching rates, while Li et al. (2021) consider the impact of environmental concerns on profit-maximizing pricing decisions in a platform business environment. Liu et al. (2021b) study the factors influencing the efficiency of intelligent logistics chains. Shen & Sun (2021) review the strengthening of resilience in the SC network during COVID-19 in relation to DPs. Taboada & Shee (2020) study the impact

of 5G technology on SCs, while de Vass et al. (2021) examine the impact of Internet of Things (IoT) on SCs in a DP context. Xue et al. (2020) analyze the sustainable engagement of DPs in SCs. Finally, Zhang et al. (2020) explore promotional strategies for DPs in the retail industry.

**4.2.4. Cluster 4: design and networks.** The analysis shows a focus on design- and network-related topics. Considering VOSviewer, the cluster covers 19 articles.

Li et al. (2019) discuss the design of crowd logistics platforms for value creation, whereas Kanoria & Saban (2021) study the design of partner search on matching-oriented platforms. Xu et al. (2022) explore the creation of a collaborative logistics network in the context of the platform economy. Finally, Ning & Yuan (2021) show that the use of blockchain technology influences the design and reconfiguration of SC finance platforms, and Kurpjuweit et al. (2021) demonstrate the impact of blockchain on SC visibility and digitalization in the design context of a manufacturing platform. Closely related to design topics, articles on network issues stand out. He et al. (2020) address joint distribution in a DP and SC context. Li & Zhu (2021) study strategies for DP competition in the online daily deals market. Van Kalsbeek et al. (2021) examine controlling and enabling practices for managing supply partners in online service triads. Finally, Shen & Sun (2021) investigate the strengthening of resilience in the SC network during COVID-19 in relation to DPs.

**4.2.5. Cluster 5: platforms and models.** Cluster 5 expounds 12 keywords from a total of 20 articles mainly relating to platforms and models themselves.

This cluster covers a broad area of platform research. For example, papers range from issues of platform incentives and credibility (Barach et al., 2020) to the study of matching supply and demand on peer-to-peer platforms (Cullen & Farronato, 2021). Moreover, Foerderer et al. (2020) address inter-firm exchange and innovation in platform ecosystems, while Gu & Zhu (2021) focus on trust and disintermediation. Thus, this cluster provides a more general coverage of platform and market related issues.

**4.2.6. Cluster 6: sharing economy.** The sixth cluster displays keywords related to the sharing economy, supported by the themes of market design and supply and demand. Sharing economy describes business models that use DPs to match suppliers with corresponding buyers (Benjafer & Hu, 2020).

With respect to the literature in this cluster, research focuses on business model-related issues, such as value creation and pricing issues that platforms must address (Besbes et al., 2021; Hu et al., 2022; Li et al., 2019).

Calmon et al. (2021) study revenue management with repeated customer interactions, and Kanoria & Saban (2021) observe the search for partners in the platform business. Another important paper in this cluster comes from He et al. (2020), who identify key technologies for developing a service platform.

**4.2.7. Cluster 7: competition.** Cluster 7 explores competitive platform research. In total, it consists of 20 articles and can be considered the largest of all clusters.

The respective literature deals with competition between platforms and its impact on the market (Bakos & Halaburda, 2020; Bernstein et al., 2021; Li & Zhu, 2021). For example, Bernstein et al. (2021) study competition between two-sided platforms under demand and supply shortage effects. Further, Barach et al. (2020) study the role of DP incentives and their credibility with customers. In addition, the study by Halaburda et al. (2018) proposes a strategy for successful competition in the platform business.

**4.2.8. Cluster 8: matching markets and sales.** Cluster 8 emphasizes the research direction of matching markets and sales. In the related literature, matching markets are characterized by a high degree of heterogeneity in the preferences of multiple market participants, which poses difficulties in their management (Kanoria & Seban, 2021; Li & Netessine, 2020). A total of 10 articles deal with this topic.

Research in this cluster focuses on sales-related issues involving retail platforms and distribution channels (Liu et al., 2021c; Zhang et al., 2020; Zhong et al., 2022). In this context, Zhang et al. (2020) explore the impact of price promotions on retail platforms. Further, Liu et al. (2021c) illustrate how information can and should be effectively exchanged between agents in a market, while Kanoria & Saban (2021) analyze the search for partners on matching platforms.

## 5. Opportunities for Future Research and Conclusion

### 5.1 Opportunities for Future Research

Although our thematic analysis demonstrates extensive research on DPs in the context of SCM, we see opportunities for further research to advance the understanding of DPs. Considering our eight clusters, the following subsections present research opportunities, which were derived from our thematic analysis and the implications of the papers in our final sample. In addition to the information in the text, a detailed table can be found in the online appendix (supplementary table

2), which includes the research questions as well as all future research implications of the 60 articles analyzed.

**5.1.1. Cluster 1: blockchain technology.** The analysis shows that blockchain studies in the context of DPs and SCM form a relatively small research cluster compared to the frequency of related terms (supplementary table 1). Current research focuses primarily on the positive impact of blockchain technology on platforms and SCM. To advance knowledge in this area, it is important to shift attention to the adoption of blockchain technology. Specifically, investigating which actor, either internal or external to an SC network, should implement and manage blockchain-based DPs, taking into account the power dynamics among SC actors, would provide valuable insights into the adoption process. In addition, exploring the research implications for the governance of blockchain-based DPs in SCs can help initiate and manage such a DP over time, considering that different actors within an SC may have different objectives. Another important aspect is data sharing, where future research should explore how to motivate SC actors to share sensitive data through blockchain technology and the resulting implications for data sovereignty. Finally, scholars can explore and recommend appropriate blockchain archetypes (open vs. closed) for DPs in specific industries, as SC characteristics may differ across sectors. Therefore, conducting case study research with different industry use cases can provide valuable insights.

**5.1.2. Cluster 2: big data.** The thematic analysis highlights the presence of research on big data in DPs and SCM. Similar to cluster 1, cluster 2 consists of a small number of articles (10) covering various topics, including the importance of big data for SC operations and data integration. However, big data and data management remain critical issues in the field of DPs and SCM that require further investigation. In particular, future studies should explore the interconnection of different data sources within a SC to facilitate the realization of DPs and provide rich data for SCM. In addition, it is essential that future research addresses big data security issues for both individual actors and the SC as a whole. For example, scholars could examine the allocation of responsibility for data security among actors, whether it should reside with each individual actor, a defined SC community, or a neutral third party. Related to data security is the question of motivational strategies for sharing large amounts of data or sensitive data relevant to value creation activities. Given the significance of initiatives such as GAIA-X or Catena-X, this question is of great importance.

**5.1.3. Cluster 3: impact.** Another cluster of research examines the influence of platforms and existing technologies on SCs and comprises a substantial number of articles (20), making it one of the largest clusters. Three main themes emerge: profit-maximizing pricing decisions and promotional strategies, the influence of digital technologies (e.g., 5G, IoT) on SCs, and a significant focus on sustainability. Relevant questions may revolve around the relationship between prices and platform search and matching rates, or how different customer segments across the SC respond to different dynamic pricing policies and promotion strategies based on their varying levels of price sensitivity. Once information on customer price sensitivity and willingness to purchase is available, DP operators can make informed operational pricing decisions. Research on the adoption of digital technologies by SC actors can further explore non-technical barriers and identify necessary changes, transformations, and governance activities. In addition, it is valuable to address the security concerns associated with these technologies and examine their impact on SCM and SC cybersecurity under different circumstances. Furthermore, with respect to sustainability, future research could address whether demographic factors, such as age or education, influence consumers' perceptions of platform sustainability practices, leading to strategic considerations. Moreover, the support and impact of DPs on the implementation of circular SCM should be investigated. Considering diverse industries and their regulations, scholars can analyze the technologies and product characteristics necessary to facilitate effective circular SCs.

**5.1.4. Cluster 4: design and networks.** The fourth cluster of our thematic analysis illustrates the relevance of design and network related issues. With 19 articles, this is also a larger cluster. Recent studies have focused on platform design. Network-related SC issues such as distribution and the pursuit of high resilience are also important. We propose research aimed at developing approaches to account for interactions among platform actors of an SC, with the goal of facilitating real-time decisions and adaptation of the SC in a volatile business environment. Another aspect is the study of platform design and its impact on the networking efforts of related SC actors. Here, different scaled DPs with different degrees of disruptive potential and specific architectures can be explored in terms of their impact on a SC network and how the different actors of a network should react appropriately. Furthermore, the study of platform competition becomes an important way for managers to predict optimal contingent price and wage strategies. Regarding the development and improvement of DPs, research should consider co-creation with consumers in a SC. Studies in this area could reveal

best practices and potential benefits of open innovation in platform companies. Relevant knowledge is directly linked to the success and usability of platforms.

**5.1.5. Cluster 5: platforms and models.** Cluster 5 is one of the largest in terms of the frequency of related terms. As our analysis shows, recent articles in this cluster deal with platform issues and microeconomic issues from a more general perspective. The main themes are DP incentives and credibility, exchange and innovation in DP ecosystems, and disintermediation. The main drivers of these studies are issues of DP credibility, complementary innovation, disintermediation, and supply and demand. Researchers can increasingly address how DPs can use their governance power to strengthen trust among actors within a SC. When DPs use their market shaping power for their own purposes and not for those of the actors, this trust is easily jeopardized, which in turn leads to adaptation problems. Due to the direct links to DPs, another area of research is the emerging loss of importance of intermediaries for SCM and the evaluation of different strategies with which platforms can counteract this. Especially for managing complex SCs in today's volatile business environments, it will be crucial to keep such actors involved, such as third or fourth party logistics providers. In this context, scholars can focus on the development of new SCM approaches, taking into account DPs for the management of SC activities and value creation under increasing disruptions.

**5.1.6. Cluster 6: sharing economy.** Like clusters 1 and 2, cluster 6 is rather small, with 12 articles. The focus of these articles is on business models and value creation, customer interactions, and key technologies for service platforms. In the context of the sharing economy and SCM, different priorities may be addressed in future work. Although initial work has already yielded results on relevant technologies for a service platform, the effective implementation of such a platform with all the necessary SCM actors is still a challenge for companies. In addition, the development of these technologies needs to be closely examined and evaluated with respect to the specific industry. Furthermore, future research efforts should focus on appropriate and targeted business models. At this point, there is enormous potential in how environmental sustainability and circularity can be realized in SCs, especially in the context of the sharing economy. This will also make a positive contribution to promoting the realization of sustainability goals in global value systems towards stakeholders. The efficient and circular use of resources is particularly central to the idea of a sharing economy, but it is also crucial for platform business

models in an SCM context, as customers are increasingly demanding sustainable business practices.

**5.1.7. Cluster 7: competition.** Cluster 7, consisting of 20 articles, is the largest in our analysis and covers various topics related to platform competition. Within this cluster, researchers focus particularly on issues of competition among DPs, in addition to DP incentives and credibility. Future studies could focus on several different areas. An important approach is to address issues related to the strategic orientation of a platform for SCM. In this context, market entry and scaling strategies for effective SCM relative to competitors play a crucial role. Furthermore, multihoming (the parallel use of multiple DPs on one of the user sides) becomes necessary when platforms (e.g., a procurement platform and a visibility platform for SCM) are incompatible, but benefits can be derived from both. Since there are several competing DPs in the market, it is not uncommon for SC actors to multihome. Thus, the strategic orientation of a DP and its functionalities in an increasingly volatile and complex environment represents essential aspects for future research approaches.

**5.1.8. Cluster 8: matching markets and sales.** The last cluster of our analysis contains 10 articles and focuses on matching and trading platforms as well as information exchange between market participants. Often, the assumptions made in the models developed pave the way for future research. Likewise, these models can be extended to include additional parameters and specific characteristics. Since a specific population of actors has been analyzed for the existing studies, the question of generalizability arises. For example, these results can be verified in other geographical regions or specific industry contexts, as these usually pose different challenges for SCM. In addition, an efficient and trustworthy information exchange between actors is particularly relevant for SCM based on DPs. Researchers could develop approaches for trustworthy information exchange, incentives for information exchange, and the necessary governance structures. Such insights could support the networking and collaboration of a platform-based SCM, as this depends crucially on the openness and willingness of all participants in a SC to collaborate and network.

## 5.2. Discussion and Conclusion

The purpose of our study is to analyze the status quo of DPs and SCM, in order to identify main research topics and possible implications for future research. Against the backdrop of a changing perspective on SCM (Christopher & Holweg, 2017; Richey et al., 2022; Wieland, 2021), our findings provide scholars

with further insights into digital transformation (Fitzgerald et al., 2014), especially with a focus on SCM and DPs. Our results show that research on DPs and SCM covers several topics, including blockchain technology, big data, impact, design and networks, platforms and models, the sharing economy, competition, and matching markets and sales.

Nevertheless, this study has limitations. First, the authors defined a time frame for the SLR. Second, the authors considered a predefined set of SCM journals to focus this study on SCM. Including more or different journals would give different results. Third, the authors used a specific search string and selected databases to identify relevant literature. Fourth, the co-occurrence analysis depends on the algorithms, so the authors tried to make their study as transparent as possible.

It's important to recognize that clusters 1 to 8 are results derived from the bibliometric analysis approach. The grouping within these clusters is based on the keywords used by the author(s) in the articles deemed relevant. The aim for the cluster titles was to stay as close as possible to the keywords contained in each cluster. A clustering approach that is content-driven and allows for the integration of results into a broader context would yield distinctive results. Clusters characterized by related content could be organized as follows: (1) Positive value of emerging technologies, (2) concerns and drawbacks of emerging technologies, (3) challenges associated with big data, (4) network effects and the sharing economy, (5) design-driven solutions, and (6) competitive dynamics. These clusters are intended to better reflect the thematic cohesion within the data.

However, we also identified opportunities for further research to deepen the understanding of DPs in SCM. In other words, we see research opportunities in the implementation and governance of blockchain-based DPs in complex SCs with multiple stakeholders. In addition, trustworthy data sharing and information exchange are essential for DPs in SCM. Approaches to motivate SC actors to share data, link different data sources, facilitate data sovereignty, and ensure SC cybersecurity can advance the adoption of DPs in SCM. Likewise, scholars can examine non-technical barriers among SC actors and the necessary governance activities to facilitate the use of digital technologies for platforms. Furthermore, scholars can explore the support of DPs and related technologies for realizing effective circular SCM. Given the volatile business environment with increasing disruptions, platform approaches for simplified interactions, real-time decision making, and flexible SC structures could provide valuable insights for SC resilience.

The results provide practitioners, especially SC managers, with an overview of the current research on

DPs and SCM. This helps to efficiently identify the relevant knowledge to facilitate the implementation and management of DPs in practice. For both managers and providers of DPs, the findings highlight information technology-related issues for DPs, including in particular blockchain and big data, design-related issues for modeling and implementing a DP, and strategic issues for defining and aligning platform strategy and related business model considerations. In addition, our opportunities for further research represent issues that practitioners should consider in their activities and discussions with SC partners for implementing DPs in SCM. For example, issues related to trusted information exchange, data sovereignty and governance, and SC cybersecurity constitute important questions in the context of GAIA-X or Catena-X initiatives. With the help of the synthesized results, scientists and practitioners can see which topics have already been addressed in the context of DPs and SCM, and which subjects can be addressed in the future. Essentially, there are research opportunities in the implementation and governance of blockchain-based DPs within complex SCs. This includes exploring the optimal number of actors to lead the implementation and oversee the lifecycle of the platform (e.g., Anderson et al., 2022). In addition, ensuring trustworthy data sharing and information exchange is critical for DPs in SCM. Strategies to motivate SC actors to share data, integrate different data sources, preserve data ownership, and enhance SCM cybersecurity can promote DP adoption across hierarchical levels within supply chains. In addition, researchers can study non-technical barriers among actors and the governance measures needed to facilitate the use of digital technologies for these platforms. Researchers could also explore the support of DPs and related technologies for the realization of circular or regenerative SCs (e.g. Pagell & Shevchenko, 2014). That is, the matching of supply and demand for optimal resource use among entities could be analyzed. Given the volatile business environment with increasing disruptions, researchers could uncover important platform features or value propositions that support, for example, simplified interactions, real-time decision-making, or flexible SC structures. In this way, related findings could help to advance our understanding of resilience and responsiveness.

## 6. Online Appendix

The online appendix is available at: <https://figshare.com/s/d6d07fd083e2817bc146>

## 7. Acknowledgements

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