

Digital Transformation and Business Innovation: A Bibliometric Review and Strategic Research Agenda

Kajal Sejwani^{1,*}  and Ruchi Jain¹ 



¹IIS (deemed to be) University, Jaipur – 302020, Rajasthan (India)

*Corresponding Author Email: kajalsejwani067@gmail.com

Abstract: In this paper, we present a bibliometric analysis of research conducted between 2015-2022 regarding digital transformation (DT) and business innovation (BI) that has addressed sustainability and ESG-related themes. We utilized bibliographic information from the Scopus database utilizing the Title-Abstract-Keywords (TITLE-ABS-KEY) search query for ‘digital transformation’ AND ‘business innovation’. Using the PRISMA Guidelines for conducting systematic reviews, we conducted a review of 168 peer-reviewed journal articles that were identified during the search process. Analyses of keyword co-occurrences and citation performance were completed using VOSviewer via full counting with a minimum occurrence of 5. The analysis identified four primary clusters of literature related to DT & organizational change, industry 4.0 and competitiveness, technological innovation and implementation, and artificial intelligence driven sustainability. Temporal visualizations indicate increased scholarly interest in ESG and sustainability topics post-2019. The Business Model Theory is the interpretive lens utilized to analyze how the aforementioned clusters reflect how Digitally Enabled Firms (DEFs) create, deliver, and capture value through the mapped clusters of literature. We provide a replicable overview of the domain providing insights regarding how researchers can build upon our findings to develop a research agenda focused on sustainability governance, capability development, and cross region validation.

Keywords: Digital transformation, Business innovation, Bibliometric review, ESG, Business model theory

1. Introduction

The increasing pressure for companies to combine their need to make money with the requirements of being environmentally and socially responsible has created an increased demand for DT. It is defined as the implementation of new digital technology strategically across a company to fundamentally change the way the company operates. It has been widely discussed in the literature as one of the most important factors in helping companies achieve sustainability (Vial, 2019; Reis et al., 2018). For example, large data analytic tools, AI, blockchain, and the IoT are examples of technologies that have transformed the way companies section their supply chains and processes to account for sustainability (Bai et al., 2020; Sahoo et al., 2023).

With the shift from ESG concerns being viewed as peripheral to being central to the operations of every company, digital technology has become an essential resource for organizations to address the increased expectations of their stakeholders and comply with the rapidly changing regulatory frameworks (Feroz et al., 2021). The advantages of DT extend beyond providing companies with access to better data on their business practices. Digital technologies also provide companies with more transparency and efficiency in their operations, which supports

opportunities for innovation in how they design sustainable products; create new circular economy models; and optimize their resource use (Lopez et al., 2019). In addition, there are many studies that find companies that incorporate digital sustainability into their business models are more resilient, flexible, and competitively positioned to provide long-term growth (El-Kassar & Singh, 2019).

Although interest is increasing, we see that most of the reviews on the nexus between DT and BI are missing key views. Pierli et al. (2022) focus on operational and supply chain efficiencies and Feroz et al. (2021) look at S as a peripheral view rather than an organizational lens. There have been few instances where researchers have developed a system of mapping that is reproducible by science and can show a relationship between digital technology and themes related to ESG and how they relate through Business Model Logic. There is no publicly available mapping within the literature that allows for an easy understanding of how the field is defining the relationship of DT, innovation process and sustainable value mechanisms.

The purpose of this study is to provide a bibliometric mapping of thematic research on the relationship of DT and BI. The specific aims of this study include: (i) to identify dominant keyword clusters within the literature; (ii) to investigate trends in the number of publications, and publish from leading sources; (iii) to assess the presence of themes related to sustainability and ESG within each cluster; and (iv) to interpret the results with Business Model Theory (BMT), in order to develop an agenda for future research.

This study presents a focused bibliometric mapping based on a set of parameters that have been clearly defined and can be reproduced. Unlike prior narrative reviews, it visualizes how sustainability and ESG themes are positioned within the broader DT discourse. BMT is used solely as a post-analysis interpretive lens, allowing the findings to be discussed in terms of value creation, delivery, and capture without imposing a priori theoretical constraints.

1.1 Theory Grounding the Study: Business Model Theory (BMT)

BMT emerged as an outgrowth of the pressures exerted by emergent organizations (e.g., Amazon, Spotify, eBay, Alibaba Express, AirBnB, and Netflix etc.) which are technology-oriented (Climent & Haftor, 2021). This was also driven by a lack of elucidation on technology influence in current strategic management or entrepreneurship theory (Teece, 2019), such as the Industry Based View (IBV) (Porter, 1985), Resource Based View (RBV) (Barney, 1991). Though, the business model notion has been perceived to be with a significant flaw of ambiguity (Ricciardi et al., 2016; Climent & Haftor, 2021), even though consensus were made to distinctly perceive it as concerning the generation of value architecture, increased delivery and capture mechanisms (Teece, 2010) for an organisation like the business organizations. The business model structure for a digital marketing company is designed to enable systemic characteristics aimed at a lasting DT (Foss & Saebi, 2017). This indicates that the organizational business model architecture is extremely important to deliver the desired value creation and delivery (Sohl et al., 2020). A sound business model architectural implementation ought to be capable of resulting in novelty (provision of something different and new compared to the players in the market space (Massa et al., 2017), complementarity (provision of additional services apart from the core one for sale (Ennen and Richter, 2010), efficiency (less use of resources and reduced efforts to conduct business (Zott & Amit, 2008), as well as lock-in (retaining the customers, partners and suppliers to the business model (Kulins et al., 2016).

1.2 Application of BMT in the Present Study

In the present study, BMT is employed solely as an interpretive lens to contextualize the bibliometric findings. The theory is not used to test hypotheses or to infer causal relationships; rather, it provides a conceptual vocabulary for understanding how the literature frames DT in terms of value creation, value delivery, and value capture.

The completion of the keyword mapping assisted with BMT to evaluate how distinct research streams define the role of technology within innovation through the firm's business model. The use of BMT allows for research on technology-based topic areas relating to broader questions regarding how firms are theorized to structure their activities, engage their stakeholders, and create ongoing, sustainable value.

The use of BMT provides an explanatory means by researching descriptive patterns observed in bibliometric analysis with available theories in strategic management; therefore, the BMT does not evaluate how effectively an organization performs through its utilization of technologies, but rather how the current body of knowledge addresses these issues.

2. Literature Review

2.1 Digital Transformation in Business Context

Digital transformation is the strategic adoption of digital technology to radically alter the paradigm of business models, processes and the way organizations deliver products and services (Vial, 2019). DT involves not only an enhancement of an organization's existing systems with the use of new technology but a fundamental rethinking of how organizations can utilize these technologies to create value for customers, stakeholders and society.

There are several types of enabling technologies that are contributing to the impact of DT on businesses including Artificial Intelligence (AI), Internet of Things (IoT), Blockchain Technology, Cloud Computing and Big Data Analytics (Bai et al., 2020). Each technology contributes to improving a different aspect of the organization. For instance, implementing AI can make certain tasks more efficient while also identifying patterns and behaviours that might indicate future actions taken by customers and other stakeholders. Using IoT devices allows organizations to collect data electronically in real time from physical assets. Using this data allows organizations to make informed decisions and effectively align resources.

In addition, by implementing Blockchain Technology, organizations can gain a significant advantage over their competitors through increased security and transparency within business-to-business (B2B) transactions. Organizations are using Cloud Computing as a means to increase their operational capacity in a fast-moving global economy while simultaneously providing them with Flexibility and Cost Savings. Additionally, organizations are leveraging the large sums of data being generated through Internet of Things (IoT) technology with Big Data Analytics to improve their business processes as well as their customer experience.

According to Reis et al. (2018), organizations use technology to support agility as well as enhancing customer interaction and developing operational efficiencies. Therefore, by using technology, companies are able to create new product offerings and remain competitive within an ever-changing environment. Companies that do not take advantage of DT will most likely find themselves left behind by their more technologically capable competitors in this rapidly evolving digital age. Above and beyond technology DT is a complete change in the organization including the organization's culture and Business Strategy (Kraus et al., 2022).

The cultural changes that occur with DT typically require that the organization restructure existing hierarchies, nurturing a more cooperative and agile working environment. To obtain the benefits of a successful DT, organizations are now beginning to recognize that success cannot be achieved unless all employees are engaged in the process of the transformation, creating an encouraging environment for innovation, experimentation and a willingness to change the way work is accomplished.

The leadership team has an imperative role to play in leading the way of DT through fostering a culture that supports the adaptations of DT technology, allowing employees to become active participants in DT initiatives and to enable employees to make valuable contributions in the transformation process.

DT is a complex converging process of human and technology. In order for organizations to successfully navigate through DT, they will need to implement a holistic approach that aligns technology innovation with the values and objectives of their organization. Though DT can be challenging and requires extensive investments of time and resources, the DT process provides many opportunities for organizations to leverage digital technology solutions to increase growth, improve operational resiliency, and deliver unprecedented value to customers across a rapidly digitalizing globe.

2.2 Business Sustainability Practices

Business sustainability is the practice of operating a company in a manner that creates long-term economic, social, and environmental benefits to the organization and the communities it serves. Sustainability is typically measured by the Environmental, Social, and Governance (ESG) metrics of a company (El-Kassar & Singh 2019). The goal of sustainability is not only to maximize profits for a company, but also to reduce the negative effects on our planet and society while promoting greater equity for all stakeholders and creating a more sustainable future.

Some examples of sustainability practices within businesses include resource efficiency, circular economy models, green supply chain management, and socially responsible innovation (Lopez et al., 2019). Resource efficiency refers to the use of fewer resources to produce a product and to reduce waste through improved material utilization. The circular economy model encourages businesses to redesign the life cycles of their products by prioritising recycling and reuse to prolong the lifecycle of resources and to limit damage to the environment. Green supply chain management ensures that an organisation's procurement, production and logistics are in accordance with sustainable practices, thus benefitting both the environment and the entire supply chain. In contrast, socially responsible innovation refers to developing new products and services that address social issues, thereby supporting the wellbeing of communities and facilitating the creation of new markets.

Integrating sustainability into a corporation's strategy results in higher brand reputation, compliance with regulation, risk management and increased access to capital for those companies that embrace this practice (Feroz et al. 2021). Creating competitive advantage, by aligning with and gaining support from customers with the same environmental and social values has increased consumer awareness and created a more socially responsible market where consumers are looking for companies who support and adhere to the same values as they do. With stricter environmental regulation and policy now being put in place by governments

and regulatory agencies worldwide, businesses that embrace these changes now avoid future fines and lawsuits, which will provide them with protection for their business in the long run. Aside from protecting themselves by reducing environmental degradation, social unrest and supply chain disruptions, businesses that practice environmentally sustainable operations will have a more stable, resilient operation.

Lastly, investors are now looking more to companies that demonstrate a commitment to ESG practices and have consistently shown a positive relationship between the principle of sustainability within a business model and the long-term financial growth of the business. Therefore, businesses that are incorporating sustainability into their business model not only create a positive impact on society, but they are also able to position themselves for long-term financial success and profitability in a more socially responsible marketplace.

2.3 Intersection of Digital Transformation and Innovation

It is becoming widely recognized that DT and innovation are two key drivers of the achievement of the Sustainable Development Goals and overall Business Resiliency (Pierli et al. 2022). In the face of imminent environmental crises and the need for economic sustainability, the integration of digital technologies and sustainable practices has never before been more important. The literature has long asserted that digital technologies enable sustainable practices through open data sharing (for example: using blockchain to trace products through a supply chain), real time tracking of resources (using IoT to track assets in real-time), optimization of production (using ai to analyze production processes), and circular economy behaviours (Bai et al., 2020; Sahoo et al., 2023). Thus, through operational efficiencies and accountability to monitor their environmental impact and make decisions based on data that support their sustainability objectives, digital technologies have been shown to provide not only operational efficiencies but also support for the achievement of these corporate sustainability objectives. One example of this change is Blockchain technology that can change a supply chain's record of transactions to an immutable record enabling the tracking and validation of a product's journey from a raw material to the consumer.

This new method of establishing an open relationship among customers will potentially create a lower risk of fraudulent and questionable practices that erode trust. The emergence of the Internet of Things (IoT) has also aided the tracking of resources as they are being utilized in 'real time', giving corporations the ability to identify areas where there is a waste of resources and to therefore reduce their costs. Past research has indicated that AI-based analytical systems allow companies to maximize their production efficiencies by decreasing the amount of energy used and the number of resources depleted in the process of manufacturing products while also creating a greater amount of product, and hence, making more profit. However, adequate governance frameworks are required to avoid unintended consequences, such as an increase in the amount of energy consumed due to poor governance and increased amounts of electronic waste (Reis et al., 2018).

Digital technology continues to proliferate throughout the world and has raised concerns that the same technology being used to promote sustainability may lead to environmental destruction if it is not properly governed. For example, the consumed energy of a data center and the production of electronic devices may indicate a significant level of carbon emissions if renewable energy sources are not being used. Furthermore, as the speed of technological

advancements continues to exponentially increase, so will the amount of electronic waste, which will become increasingly difficult to recycle/dispose of. It will be necessary for organizations to implement a comprehensive governance framework that will incorporate sustainability principles into their DT strategies. The idea of sustainability as it relates to DT encompasses more than just the investment in digital technologies that are environmentally friendly, but also creating an organisational culture that supports and promotes sustainability by encouraging all employees to implement environmentally friendly practices on a day-to-day basis. For example, cooperation among stakeholders (such as government agencies, businesses and non-profit organisations) is vital in creating innovation platforms that encourage responsible innovation in response to the challenges created by DT.

The convergence between DT and sustainability will provide an unprecedented opportunity to catalyse positive change and support the achievement of Sustainable Development Goals (SDGs) if stakeholders remain focused on the threats and challenges. A collaborative and holistic approach to sustainability will enable the effective use of digital technologies to build a strong, sustainable infrastructure for both the environment and the economy for generations to come.

2.4 Short-Term Efficiency, Dynamic Capabilities, and Long-Term Advantage

The literature differentiates between the short-term impact of DT on organisational efficiency and the long-term impact on competitive advantage by virtue of the development of organisational capabilities. Short-term benefits of DT typically are associated with process automation, cost reductions and real-time optimisations, while long-term benefits typically are associated with the growth of organisational learning and routines, and greater agility to respond to change.

Over time, as more scholars view DT as a set of dynamic capabilities for firms that include their capacities to detect opportunities, capture technological options, and reorganise resources (Teece, 2019), the degree of these firms' sustainability-oriented digital initiatives can be seen as continuously growing rather than isolated activities.

The use of path dependency also helps to explain why different firms' investments in similar digital technologies result in different outcomes for sustainability. Firms' historical investments in technology, their data structures, and their corporate governance structures create constraints on their options for developing future capabilities and their strategic decisions relating to future opportunities. As a result, firms' long-term competitive advantage has been described in the academic literature as being cumulative and context-specific as opposed to an automatic consequence of adopting a particular digital technology.

The distinctions made by above research suggest that while digital technology can provide immediate operational efficiencies, developing long-term benefits for sustainable development requires developing integrative capabilities, cross-functional coordination and a commitment to a long-term strategic plan. More recently, research on DT has characterised DT as the building of a new capability that gradually aligns the firm's technological capabilities and ESG-related objectives with the establishment of resilient business models. Additionally, the above arguments are representative of the perspectives found in prior research literature and will provide a conceptual framework for interpreting the patterns of bibliometric data identified in the present review of the literature.

2.5 Gaps Derived from Literature Review

From previous studies, three potential gaps have been identified. First, ESG and sustainability are emerging as areas of research, although they are still a small subset of the larger body of research in DT. Second, while many studies focus on the technological aspects of DT (i.e., its implementation), fewer studies examine how organizations develop the necessary capabilities and governance structures. Finally, there have been many conceptual studies but very few empirical studies examining DT and BI across different regions and sectors. All three gaps will provide direction for our research agenda for this project.

3. Research Methodology

The authors used a bibliometric technique to analyze trends and thematic development in the research literature surrounding DT and BI (Goksu, 2021). The bibliometric analysis allows the authors to conduct an in-depth analysis of a large amount of published literature and create a visual representation of the relationships between keywords and topics (Donthu et al., 2021). The data analyzed was extracted from the Scopus database, as it offers the largest amount of peer-reviewed journal publications within the business and management disciplines. The sample size of the dataset was restricted to the period of 2015 through 2022 so that it would illustrate the latest advancements in both DT and BI.

The PRISMA Approach was used as a framework for this article data selection. The original literature search yielded 243 total records. After removing 27 duplicate records, 216 articles were examined and screened by title and abstract, finding 34 conference papers, book chapters, and editorials were not included, due to the nature of their content. Consequently, these documents did not meet the criteria of containing content related to both BI and DT. Following the full-text evaluation, the total number of documents remaining for inclusion in the review was reduced to 168 peer-reviewed journal articles.

The analysis of these articles will consist of a bibliometric analysis using VOSviewer, employing full-counting method with a minimum keyword occurrence threshold of 5. There were two analytical techniques applied to the bibliometric data: citation performance analysis to identify the top-cited journals and their publication patterns, as well as keyword co-occurrence mapping to identify thematic clusters. Additionally, BMT was utilized as a framework for interpreting how the identified themes align with the various logics of value creation, value delivery, and value capture, respectively. The study does not make any claims regarding causality; rather, its focus is a descriptive mapping and conceptual interpretation of the bibliometric data generated in VOSviewer by means of network visualizations and thematic maps.

4. Overview of Digital Transformation

The analyses in this part have been created from the final results of retrieving the 168 articles from Scopus that covered the period from 2015 to 2022. These articles were processed through VOSviewer using the full counting method and a minimum keyword threshold of 5. The reason that Scopus was used was because of its wide range of peer-reviewed literature in business, management, and sustainability research as well as its extensive citation index capabilities that allow for integration with bibliometric software programs. The dataset was constructed with the search criteria TITLE-ABS-KEY (digital transformation) AND TITLE-ABS-KEY (business innovation) to highlight the topic of DT in relation to sustainability. Network

visualizations and thematic maps were produced in VOSviewer to identify dominant research clusters, influential publications, and relationships among key concepts.

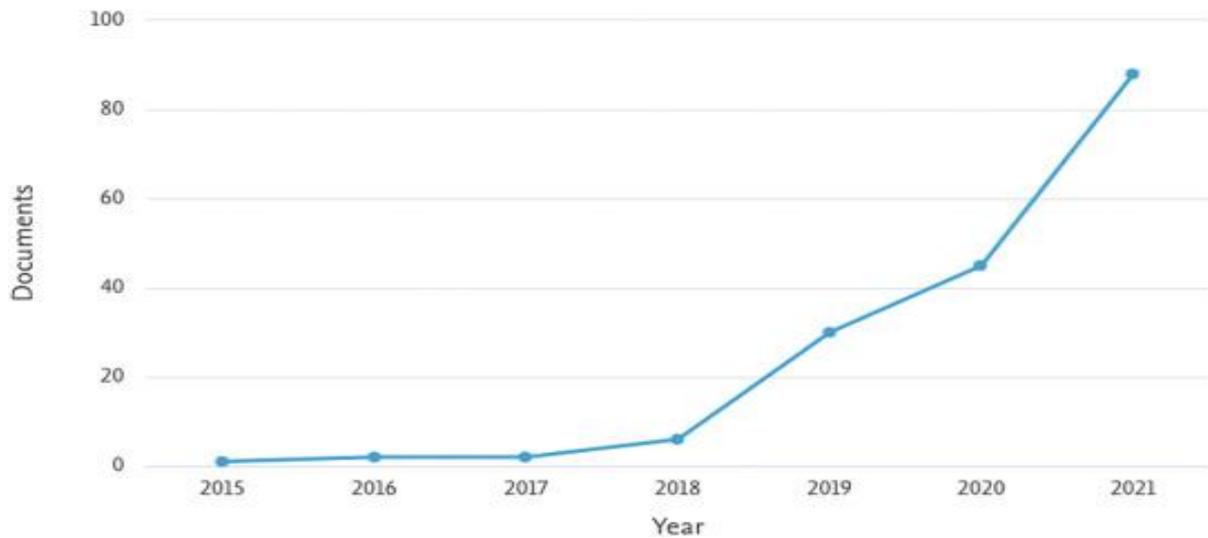


Figure 1: Increasing scientific interest in digital transformation.

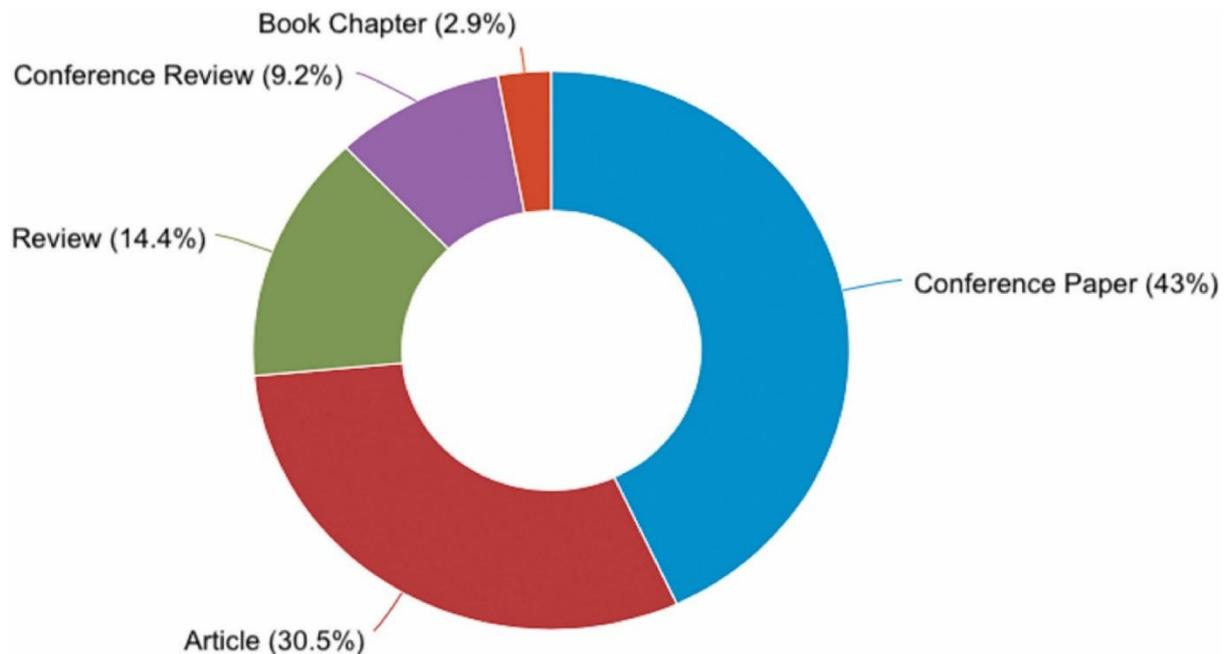


Figure 2: Types of documents concerned with digital transformation.

Figure 1 illustrates the increasing scientific interest in DT, particularly from 2018 forward. This is likely due to the maturity of the subject, which allows for the analysis of the available literature with some applicability. Specifically, we are able to observe that published works have focused primarily on business model strategies, digital business the adoption of disruptive technologies, sustainability, human capital, and smart cities.

Subsequently, Figure 2 illustrates the kinds of documents concerned with DT. The publication in conference proceedings is a sign that DT is stimulating the interest of researchers within the ambit of consideration of ideas and quest for sound knowledge on the topic. When it comes to article publication, we observe that the demand of high-rank indexed Journals is high because 45% of articles are Q1 Journals and 31% are Q2 Journals.

4.2 Visualisation of Keyword Clustering of Selected Articles by the Main Keyword ‘Business Innovation’

Due to the low number of scientific articles in the sample created by the keyword ‘business innovation’, the cluster (Figure 4) consists only of those keywords that were applied in at least five scientific articles in 2015-2022. Therefore, Figure 4 lists the nine most frequent keywords by the number of scientific articles with the term ‘business innovation’ in relative and natural terms. According to this Table, there is a fluctuation of the number of scientific articles year by year in relative and natural terms.

Analyzing the whole period of time from 2015 to 2022, it is possible to say that scientific interest has fallen in the keywords ‘innovation’ (-16.7%) and ‘developing countries’ (-50.0%), whereas the words ‘business innovation’ (+160.0%), ‘firm’ (+700.0%), ‘innovation research’ (+300.0%), ‘small business’ (+300.0%) and ‘managers’ (+200.0%) rose, showing a rise in interest within these themes. This indicates a rise in interest in the study of business innovation, business operations, innovation research and small business management. The rise in interest in these themes can be attributed to alterations in the economic and business landscape, market demand and the growing role of innovation creation. Shifts in the interests of researchers could indicate a change in existing issues, business and economic growth, and the influence of external factors on the subject fields.

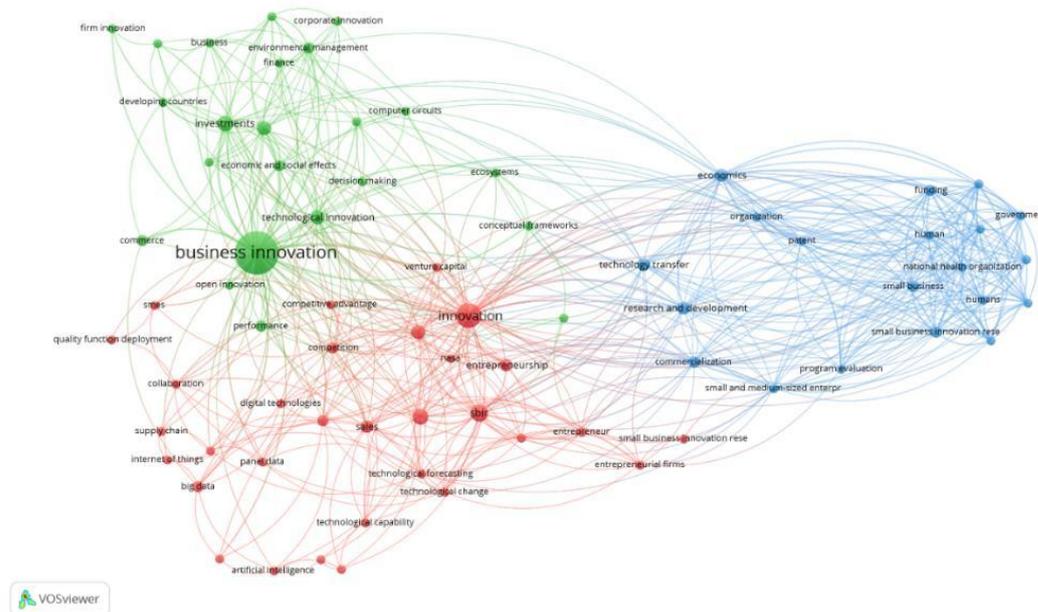


Figure 4: Visualisation of keyword clustering by ‘business innovation’. *Source: Compiled by the authors using VOSviewer*

5. Discussion

The co-occurrence mapping of keywords indicated four central themes in the modelling of DT and BI. The predominance of the first cluster around DT and organisation change firmly establishes that the current literature is primarily oriented towards technology. The second cluster associated with Industry 4.0 and competitive advantage strongly emphasizes efficiency in production systems and optimising the efficiency of production processes. The third cluster addresses technologically innovative capability or adopting and utilising technology as a

productive capability and therefore can continue to stimulate academic interest due to ongoing issues of adoption/usage of technology and infrastructure. The fourth cluster highlighted an association between robot process automation and corporate sustainability/Ethics in Governance (ESG), which shows that the concepts of environment and governance are emerging gradually into discussions of DT.

The temporal distribution of keywords indicates that sustainability has gained prominence since 2019, indicating a developing change in research focus. However, there is clear fragmentation in the literature around technology oriented and governance-oriented streams, with few theoretical bridges established between them. Thus, the literature has not yet adequately articulated the ways in which digital technology creates a broader social value and engendering an environmental form of value.

Outside the central core of technology, we see the use of language that reflects interest in areas beyond the Technical Centre of Industry 4.0, such as the role of Sustainable Development Goals (SDGs) and ESG (Environmental, Social and Governance) practices within a Business Model. In contrast to the large volume of literature on the efficiency themes and keywords, these clusters suggest an imbalance between Implementation/Performance issues, on one hand, and Stakeholder Impact/Responsible Innovation (RI) issues, on the other, in terms of significance or importance relative to one another. It is therefore suggested by way of the Bibliometric Analysis that there needs to be an integrated approach to digital capabilities, Governance and Stakeholder Impact/Social Value.

BMT provides the basis for interpreting the different cluster characteristics of value Creation, Delivery and Capture. The cluster relating to Industry 4.0 and Innovation primarily addresses Value Creation through new technological developments. The cluster related to ESG issues relates to Value Delivery as a result of increased Transparency with respect to both Value Proposition and sustainable product offerings. However, there are few keywords associated with Value Capture related mechanisms which indicates little or no focus on how an organisation or company is able to monetise or capture the benefits derived from digitally enabled Sustainability initiatives. Thus, this gap provides a unique opportunity to conduct further research into how DT can be directly connected to Business Model architectures.

Overall, the discussion about clusters has changed from focusing only on the use of technology to be sustainable in the future. Although that change is not complete, there are new types of research that can help to create a bridge between technological and governance research, as well as explore the differences between different sectors, and understand how DTs will change business practices beyond improving efficiency.

6. Conclusion

This research was a bibliometric synthesis of research in the area of DT and BI; it mapped the intellectual structure of the emerging discipline, and identified the thematic development of the discipline over time. The literature shows that DT in business has a much greater emphasis on technological efficiencies and optimising environmental impacts than its focus on governance, social dimensions, and capability-oriented perspectives. By analysing the bibliometric patterns through BMT and ESG, the analysis identifies and clarifies how the literature conceptualises digitally enabled value creation, delivery and capture.

This paper's primary contribution is the provision of an evidence-based summary of the development of research trends, as well as outlining a research agenda, based upon bibliometric findings. In essence, the review provides an objective, comprehensive foundation for further developing knowledge related to the DT-innovation nexus. Future research should extend this work by integrating multiple bibliographic databases and adopting empirical or mixed-method designs to validate bibliometric insights and examine the development of digital transformation and business innovation capabilities across sectors and regions.

7. Limitations of the Study

While this study has made valuable contributions, it is limited, and those limitations need to be recognised in any interpretation of the results. To begin with, all analyses were conducted using only data sourced from the Scopus database. Although Scopus has a broad representation of many of the highest quality peer-reviewed journals, it is not possible to guarantee that no relevant research indexed in another database (such as Web of Science or Google Scholar) was excluded. Secondly, the inclusion of only English-language publications introduces the possibility of language-based connotation bias and also limits access to valuable, regionally specific findings from articles written in other languages.

Thirdly, the use of bibliometrics is primarily based on citation rate and date of publication, both of which emphasise visibility of research rather than depth of research and as such may give an unfair advantage to well-established areas of research or more recently published studies that have low citation rates. In addition to these deficiencies, keyword co-occurrence analysis and cluster analysis allow researchers to identify the dominant themes in the literature, but these techniques do not provide adequate methods to identify the theoretical and empirical relationships among the individual papers in question. Therefore, it is important for researchers to use complementary qualitative and empirical research methods to strengthen their understanding of DT and BI.

References

- Bai, C., Dallasega, P., Orzes, G., & Sarkis, J. (2020). Industry 4.0 technologies assessment: A sustainability perspective. *International journal of production economics*, 229, 107776. <https://doi.org/10.1016/j.ijpe.2020.107776>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17, 99-120. <https://doi.org/10.1177/014920639101700108>
- Climent, R. C., & Haftor, D. M. (2021). Business model theory-based prediction of digital technology use: An empirical assessment. *Technological Forecasting and Social Change*, 173, 121174. <https://doi.org/10.1016/j.techfore.2021.121174>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- El-Kassar, A. N., & Singh, S. K. (2019). Green innovation and organizational performance: The influence of big data and the moderating role of management commitment and HR practices. *Technological forecasting and social change*, 144, 483-498. <https://doi.org/10.1016/j.techfore.2017.12.016>
- Ennen, E., & Richter, A. (2010). The whole is more than the sum of its parts—or is it? A review of the empirical literature on complementarities in organizations. *Journal of Management*, 36, 207-233. <https://doi.org/10.1177/0149206309350083>

- Feroz, A. K., Zo, H., & Chiravuri, A. (2021). Digital transformation and environmental sustainability: A review and research agenda. *Sustainability*, 13, 1530. <https://doi.org/10.3390/su13031530>
- Foss, N. J., & Saebi, T. (2017). Fifteen years of research on business model innovation: How far have we come, and where should we go?. *Journal of management*, 43, 200-227. <https://doi.org/10.1177/0149206316675927>
- Goksu, I. (2021). Bibliometric mapping of mobile learning. *Telematics and Informatics*, 56, 101491. <https://doi.org/10.1016/j.tele.2020.101491>
- Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management*, 63, 102466. <https://doi.org/10.1016/j.ijinfomgt.2021.102466>
- Kulins, C., Leonardy, H., & Weber, C. (2016). A configurational approach in business model design. *Journal of Business Research*, 69, 1437-1441. <https://doi.org/10.1016/j.jbusres.2015.10.121>
- Lopez, F. J. D., Bastain, T., & Tukker, A. (2019). Business model innovation for resource-efficiency, circularity and cleaner production: What 143 cases tell us. *Ecological Economics*, 155, 20-35. <https://doi.org/10.1016/j.ecolecon.2018.03.009>
- Massa, L., Tucci, C. L., & Afuah, A. (2017). A critical assessment of business model research. *Academy of Management annals*, 11, 73-104. <https://doi.org/10.5465/annals.2014.0072>
- Pierli, G., Murmura, F., & Bravi, L. (2022). Digital transformation and sustainability. A systematic literature review. In *International scientific conference on Digital Transformation in Industry: Trends, Management, Strategies*, Springer Nature, 83-99, Switzerland. https://doi.org/10.1007/978-3-031-30351-7_8
- Porter, M. E. (1985). Technology and competitive advantage. *Journal of business strategy*, 5, 60-78. <https://doi.org/10.1108/eb039075>
- Reis, J., Amorim, M., Melão, N., Matos, P. (2018). Digital Transformation: A Literature Review and Guidelines for Future Research. In: Rocha, Á., Adeli, H., Reis, L.P., Costanzo, S. (eds) *Trends and Advances in Information Systems and Technologies. WorldCIST'18 2018. Advances in Intelligent Systems and Computing*, 745, 411-421, Springer, Cham. https://doi.org/10.1007/978-3-319-77703-0_41
- Ricciardi, F., Zardini, A., & Rossignoli, C. (2016). Organizational dynamism and adaptive business model innovation: The triple paradox configuration. *Journal of Business Research*, 69, 5487-5493. <https://doi.org/10.1016/j.jbusres.2016.04.154>
- Sahoo, S. K., Goswami, S. S., Sarkar, S., & Mitra, S. (2023). A review of digital transformation and industry 4.0 in supply chain management for small and medium-sized enterprises. *Spectrum of engineering and management sciences*, 1, 58-70. <https://doi.org/10.31181/sems1120237j>
- Sohl, T., Vroom, G., & McCann, B. T. (2020). Business model diversification and firm performance: A demand-side perspective. *Strategic entrepreneurship journal*, 14, 198-223. <https://doi.org/10.1002/sej.1342>
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long range planning*, 43, 172-194. <https://doi.org/10.1016/j.lrp.2009.07.003>
- Teece, D. J. (2019). A capability theory of the firm: an economics and (strategic) management perspective. *New zealand economic papers*, 53, 1-43. <https://doi.org/10.1080/00779954.2017.1371208>
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28, 118-144. <https://doi.org/10.1016/j.jsis.2019.01.003>
- Zott, C., & Amit, R. (2008). The fit between product market strategy and business model: Implications for firm performance. *Strategic management journal*, 29, 1-26. <https://doi.org/10.1002/smj.642>