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Digital Trade Transitions: A Bibliometric Analysis of Global Economic Networks and Innovation Ecosystems

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Abstract

Digital trade has emerged as an innovative economic strategy that transcends traditional and cross-border electronic commerce. Research Objectives: This research performs an extensive bibliometric examination to review and synthesize available research at the convergence of digital commerce, international economic networks, and innovation systems. Methodology: Employing the Scopus database, the study investigates a collection of 877 academic publications from 2010-2026 adhering to PRISMA guidelines. To extract the data, four crucial phrases "International Business", "Global Trade", "Economic Integration" and "Innovation" are utilised. Through performance analysis and scientific mapping methodologies, using VOSviewer software, the researcher examined prominent cited authors, disciplines, top universities, significant journals, citation analysis, bibliographic network of leading nations and keyword clusters over time. Key Findings: The results indicate a notable increase in scholarly production 158 in 2025 regarding digital trade, propelled by technological upheaval in this domain. Top Scopus subject areas include 'Business, Management and Accounting' having 383 documents, 'Social Sciences, 267', 'Economics, Econometrics and Finance', 261 and so on. Co-citation of most cited authors include Porter M.E., Goto M., Teece D.J. among top most productive and quoted writers with highest link strength. United States lead with 105 documents, China 86, India 66 followed by other 107 nations. Most frequent keywords are 'International Trade' with 361 occurrences, 'Innovation', 166, 'Sustainable Development' 126, 'Global Market', 72 and so on. The research reveals a significant transformation from company-focused evaluations of digital trade adoption to knowledge dissemination and sustainable economic integration, unveiling a vibrant and swiftly evolving domain. Implications: The bibliometric identification of AI, blockchain, and platform-based business models as dominant clusters offers a clear directive for MNEs. The findings have serious implications for policymakers, business strategies, and innovators. Further studies need to be done to look at the impact of digital trade shift on specific industries such as green energy technology, FinTech, and Industry 5.0.

***Keywords**: International Business, Digital Trade, Global Economic Networks, Economic Integration, Innovation Ecosystems, Bibliometric Analysis.*

Introduction

The global economy is undergoing a profound digital transformation that is fundamentally reshaping the architecture of international trade, economic integration, and innovation. Digital trade has emerged as an innovative economic strategy that transcends conventional and cross-border electronic commerce, acting as a stimulant for the growth of international economic relations (Cui et al., 2025). As

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per the Global Digital Trade Development Report 2025 released by the International Trade Centre (ITC) and Global Digital Trade Expo, the global digital trade exports have seen a massive increase from $4.59 trillion in 2020 to $7.23 trillion in 2024, resulting in an average annual growth rate of 12.1% that is significantly higher than the annual growth rate of 9.7% in total global trade during the same period. This incredible growth trajectory demonstrates the pivotal role of digitalization in changing the means through which goods, services, information, and ideas cross the borders.

The importance of digital trade transcends simply its size economically. In many ways, it is a paradigm shift in the way international business transactions are done, in the way global value chains (GVCs) are structured, and in the way innovation ecosystems are evolving globally. The digital technologies, which include but are not limited to artificial intelligence, blockchain, cloud computing, and the Internet of things, have made possible not just the cross-border transactions but also new opportunities for the transfer of knowledge and innovation. By 2024, 151 countries and regions have collaborated on innovation projects, thereby developing a global innovation ecosystem and network. This interconnectedness indicates that digital trade is much more than an economic issue; it is the engine for reshaping the very structure of global economic relations.

Evolution of Research on Digital Trade, Economic Integration, and Innovation

There have been notable advancements in the field of academic studies on the linkages between international business, international trade, economic integration, and innovation within the last two decades. Using bibliometric analysis in examining studies on global value chains indicates that the literature can be divided into three main chronological stages that reflect changes in international business studies. The first stage (1999-2010) was focused on basic notions including global value chains, industrialization, economic development, and production systems in developing nations. This was a period that aimed at describing the logic of globalized production and development of theoretical framework for the GVC/GPN approach.

The second stage of research (2011-2017) was characterized by an evident turn towards upgrading, innovation, governance, and institutional connectivity. This period was accompanied by the transition of the literature on GVCs from a predominantly descriptive to a more analytical and policy-relevant framework, recognizing the fact that participation in GVCs was not enough for economic development, but rather the ability to upgrade technically and institutionally.

The latest period (2018-2025) saw a new semantic revolution with notions such as digitalization, sustainability, resilience, circular economy, Industry 4.0, and environmental upgrading becoming core subjects of the academic discourse. On the other hand, the increased usage of such keywords as China, Africa, India, and Global South reflects a broader geographical focus of knowledge production moving beyond OECD countries to developing economies.

In the changing context, digital trade has come to be recognized as one of the areas of key academic interest. It can be seen from the increasing prevalence of digital trade rules in RTAs. Starting from the introduction of digital trade rules in the first-ever RTA between the U.S. and Jordan in 2000, the significance of the issue has significantly increased; as of November 2023, 306 RTAs included these rules in total. At the same time, progress in WTO negotiations on the same matter has been minimal. Recent scientific evidence shows that digital trade rules in RTAs help improve positions of member countries in the global innovation network, which is especially true for developing countries and high-digitalization countries. Data, intellectual property, and e-commerce rules are instrumental in the process, while new data economy rules did not show the same effect yet.

Research Gap and Rationale

Even with the increased number of publications related to digital trade and its effects on economic networks around the world, there are several gaps in the current literature. First of all, while various publications have focused on different facets of digital trade, such as influence on firm performance, GVC governance, or regulatory issues associated with digital trade, no comprehensive mapping of this literature and identification of future research fronts was performed.

Second, geography of publication and collaboration in this research field has been understudied. Although some researchers have found out that the major hubs of the digital trade research community are the Russian Federation, China, and the United Kingdom,

Third, temporal change in research topics has not been investigated. The evolution from focusing on firm-level issues towards studying the GVCs and knowledge diffusion and sustainable economic integration is important in order to predict future research frontiers.

Research Questions and Scope

This research attempts to fill the research gaps by performing a thorough bibliometric review of the academic literature on digital trade transitions, global economic networks, and innovation ecosystems.

RQ 1 Which year has the most cummulative publications between 2010 and 2026?

RQ 2 Which university affiliations are the most prominent for publishing relevant papers?

RQ 3 Which are the most the leading Scopus subject categories & document types?

RQ 4 Which top publishing houses & funding agencies have published most number of articles?

RQ 5 Who are the most cited authors and the document types associated with them?

RQ 6 What are the annual documents from leading journal sources?

RQ 7 Which countries have the highest number of bibliographic coupling networks?

RQ 8 What are the most occurring keywords while publishing articles?

Significance of the Study

There are many notable contributions of this study to the current body of knowledge. One significant contribution is the development of an in-depth and organized mapping of an ever-growing but fragmented field of research, which gives a well-organized structure of intellectual space in digital trade research.

The Foundational Era: Firm-Centric Evaluations

During the nascent stages of the development of digital trade literature, the predominant trend has been that of a micro level and firm centric approach to research. In this period, researchers were more interested in studying how digital technology adoption by firms facilitated cross-border trade.

The firm-centered approach was consistent with the overall literature on international business which has always been centered on the multinational enterprise (MNE) as the principal unit of analysis. The theories of resource based view, dynamic capabilities and transaction cost economics have always dominated the literature in terms of studying how digital capabilities helped firms deal with liabilities of foreignness and achieve optimality in their operations around the globe.

In this phase, electronic commerce was conceptualized primarily as a facilitation of ongoing activities in international business, not as a transformational phenomenon in itself. The research products involved case study research on individual firms, survey research on exporting firms' behavior, and econometric analysis of firms' trade data. The concern was with how and why individual firms adopted e-commerce technologies.

The Transition: Recognition of Systemic Dynamics

This is clearly shown through the bibliometric analysis, which indicates a definite change that took place from 2017-2018 when the shortcomings of the firm-centered paradigm became quite clear. It was realized by scholars that digital trade cannot be analyzed using the firm-centered perspective alone because there were other systems at work that made digital trade part of them. Various developments brought about this change:

- **The Rise of Platform Ecosystems**: With the rise of digital platforms as the orchestration of global business - from Alibaba and Amazon to global logistics platforms - it became clear that the value creation in digital trade went well beyond any firm-level analysis. Platforms developed network effects, ecosystem interactions, and governance models that went well beyond the realm of firm-level analysis.
- **Reconfiguration of Global Value Chains:** As digital technology made the disintegration of production processes and coordination of supply chains across borders possible, it became clear that the value creation in digital trade was changing the governance model of global value chains entirely. The value creation went from firm level to value chain configuration and coordination at network level.

- **Knowledge as Currency of Trade:** With data, intellectual property, and digital services becoming more important for international business, it became clear that digital trade was not only about transferring goods across national borders but also involved knowledge and innovation transfer across global networks.
- **Regulatory and Institutional Dimensions**: However, the presence of an ever-increasing number of digital trade clauses in regional trade agreements, along with the creation of different regulatory models in different jurisdictions, indicated that the nature of digital trade was dependent on institutional aspects at supranational and national levels.

The New Paradigm: Systemic Perspectives on Knowledge Dissemination and Sustainable Integration

It is clear from the results of bibliometric analysis that modern research on digital trade has developed into an all-inclusive system consisting of the following three aspects:

- **Dissemination of Knowledge As One of Main Themes**

First of all, the appearance of thematic clusters associated with knowledge dissemination represents a radical change in the perception of the role of digital trade in the world economy. Digital trade should not be regarded as an instrument for conducting business processes but rather as a way of disseminating knowledge, transferring technologies, and diffusing innovations beyond national borders.

The presence of thematic clusters like "transnational digital innovation networks" and a high frequency of innovation-related terms (166 mentions) shows that researchers have come to the understanding that digital trade acts as a tool for global knowledge flows. The use of digital tools enables quick diffusion of technical knowledge, experience, and technological capabilities beyond national borders. Firms from developing countries can benefit from the global pool of knowledge.

The analysis of digital trade provisions in regional trade agreements demonstrates that the instruments facilitating such knowledge flows are based on formal institutional arrangements – regulations in relation to data flows, intellectual property rights, and e-commerce represent the framework for knowledge dissemination. The role of Russia, China, and the UK as major research centres also demonstrates the global nature of knowledge creation in the area of digital trade, since there are several centers of excellence involved in shaping the discourse of the discipline.

The bibliometric identification of the three dominant clusters, namely Artificial Intelligence, blockchain technology, and platform business models, demonstrates that the technologies are crucial for the knowledge dissemination process and its accelerated nature. These technologies are not just instruments for facilitation of international trade but instruments for creating, codifying, distributing, and applying knowledge.

- **Sustainable Economic Integration as an Emerging Imperative**

"‘Sustainable Development"' with 126 hits is an important keyword showing that sustainable development issues have increasingly become part of digital trade studies. This is a major departure from prior studies that viewed the economic integration of countries and sustainability issues separately. Indeed, the emergence of a theme around digital trade transitions shows an appreciation that the assessment of digital trade must go beyond economic efficiency considerations to include inclusivity, environmental and social sustainability.

The theme clustering of "digital industrialization and inclusivity" suggests that researchers are looking at the impact of digital trade on inequality between countries, regions and social classes. The process of digital industrialization refers to how digital technology is creating new ways of producing and adding value in developing countries. The issue of inclusivity here revolves around whether digital trade can address or deepen the inequalities that exist globally.

- **The Innovation Ecosystem Perspective**

Innovation ecosystems, as a separate thematic cluster, can be considered as the main one in the described transformation. Innovation ecosystems cannot be reduced to just an individual firm or industry; they refer to the complex interaction of various entities, such as firms, universities, research centers, government organizations, etc., responsible for creating, disseminating, and commercializing knowledge.

Bibliographic detection of “transnational digital innovation networks” implies that the emerging notion of digital trade sees innovation as a process which occurs on a global scale due to digital connections.

Digital trade facilitates:

- **Cross-border R&D Collaboration**: Enabling research teams across countries to work together on innovation projects
- **Knowledge Spillovers**: Allowing technological advances in one location to rapidly diffuse to others
- **Global Talent Mobility**: Facilitating the movement of skilled workers and the deployment of distributed teams
- **Access to Global Innovation Resources**: Enabling firms in any location to access global knowledge, technologies, and funding

Research Methodology

This review is done according to the PRISMA approach, which offers an extensive guide on how systematic reviews and meta-analysis can be performed effectively and comprehensively (R. Raman et al., 2023). This research will use the bibliometric approach to solve the problems of this study, using information collected from the Scopus database from the years 2010 to 2026.

- Bibliometric Analysis A study by Donthu, indicated that bibliometric analysis is a systematic and rigorous approach for examining and evaluating enormous scientific data, enabling researchers to clarify the complexities of a particular field's evolution and emphasize its rising frontiers (Donthu et al., 2021). This is a quantitative assessment of various facets of the literature on a subject, intended to discern trends in authorship, publication, and secondary journal coverage, thereby illuminating the dynamics of knowledge proliferation in the respective fields of study, as articulated by (Kannan P, 2019). Bibliometric analysis is different from standard narrative reviews SLR or meta analyses that combine findings.

  An overview of performance metrics and science mapping indicators is presented as below:

  - **Performance Metrics:** The contributions of significant nations, emphasizing the global distribution of research activities and identifying the leading countries were analysed in this domain. This comprehensive method offers an in-depth understanding of research trends, significant contributions, and the intellectual processes within the academic community.
  - **Science Mapping:** These indicators employ several analytical tools to analyse the trends and structure of a research domain. We can ascertain the impact of significant publications by identifying prominent researchers and their most frequently referenced works through document-based citation analysis of leading writers. We emphasize the most cited journals to illustrate those that have substantially influenced the scientific discourse in the topic. Co-citation analysis elucidates connections among researchers' concepts by detecting patterns in the co-occurrence of references to the most frequently cited authors' works. The bibliographic coupling of universities and sources indicates collaboration among institutions through shared references, highlighting the robustness of their research networks. Likewise, by delineating shared references among nations, bibliographic coupling of countries illustrates global research collaborations. Finally, keyword co-occurrence analysis elucidates the principal research issues and their interrelations, highlighting evolving trends and emerging key terms. These indicators collectively provide a thorough understanding of the research environment through network visualizations using the VOSviewer application (version 1.6.20).

- **Data Source and Search Strategy**

The authors used Scopus as a data source. Scopus is a primary source of data and is known as the world’s largest database of management and social science literature (Zhu & Liu, 2020). The search was conducted following the PRISMA guidelines (Moher et al., 2009b).

- **Search String:** The relevant literature was compiled based on several search criteria: Title-Abs-Key “International Business,” “Global Trade,” “Economic Integration,” and “Innovation.”

These terms were chosen deliberately as they allow compiling a vast number of studies related to the issue and its development.

- **Inclusion / Exclusion criteria:** The search strategy also employed specific filters:
- **Selection Process:** The data used in the study was derived from 2010 to 2026 in terms of authors, year of publication, and citations by exporting the findings in CSV form from the Scopus database. The definition of knowledge structures along with co-authorship networks and emerging research hotspots was key in adopting a rigorous enough approach to conduct an analysis.

The selection process was divided into three phases for Prisma Framework:

- Phase I: Identification of pertinent documents
- Phase II: Document Screening
- Phase III: Conclusive selection

Results and Discussion

From the bibliometric analysis of 877 publications indexed in Scopus database from 2010 to 2026, there are several important findings that together provide insights into the changing field of study on digital commerce.

I Performance Analysis

- **Cummulative Publications**

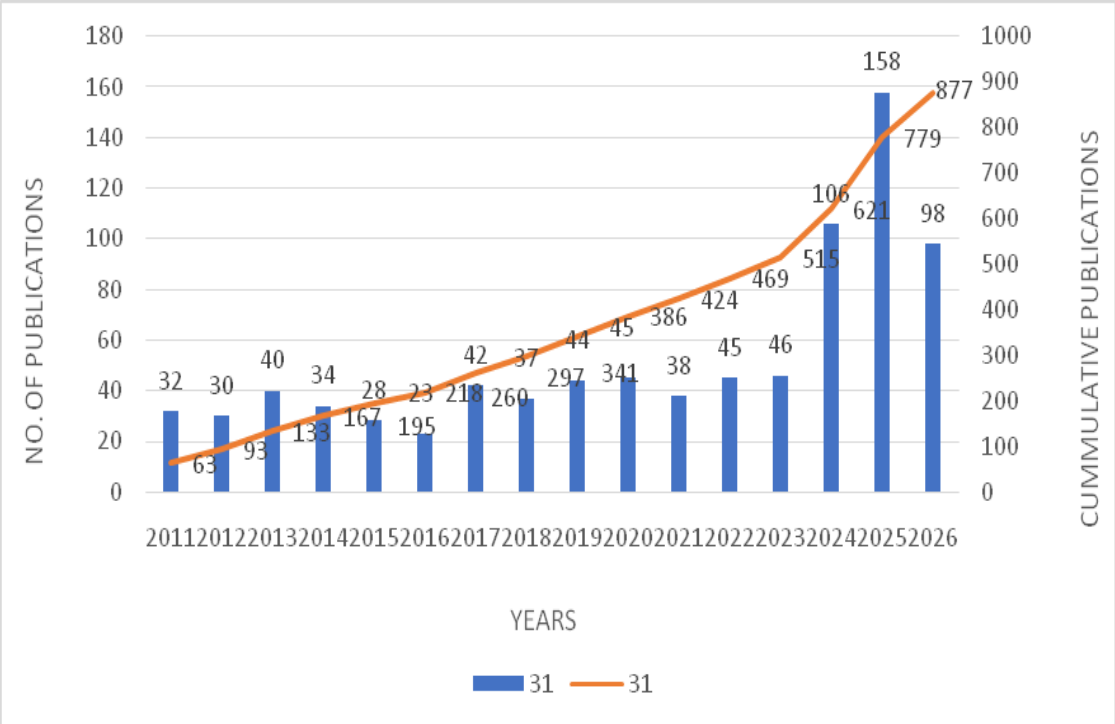


Fig. 1

Temporal Growth Trajectory

The sudden spike in research work reaching its highest level of 158 pieces in 2025 is a clear indication of increased scholarly interest in digital trade. It has been driven by various significant world events such as the digital acceleration brought about by the COVID-19 pandemic, increase in the number of digital trade agreements, and growth in the technology of artificial intelligence. The exponential growth trend shows that digital trade has moved from being a specialized field of study to an important scholarly area of study.

- **Top Affiliation**

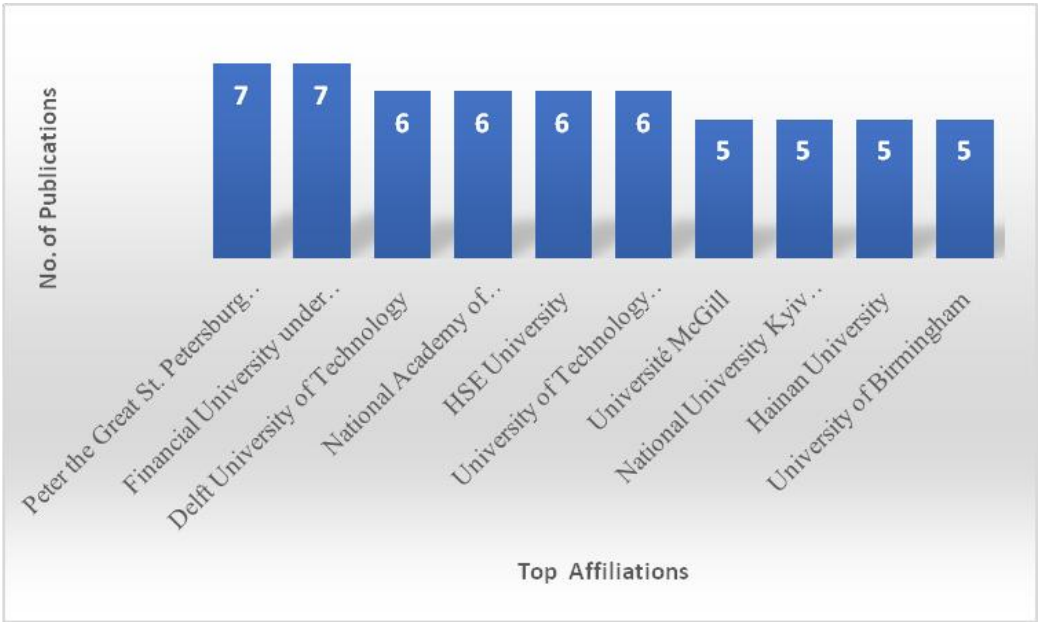


Fig 3

- **Subject Areas**

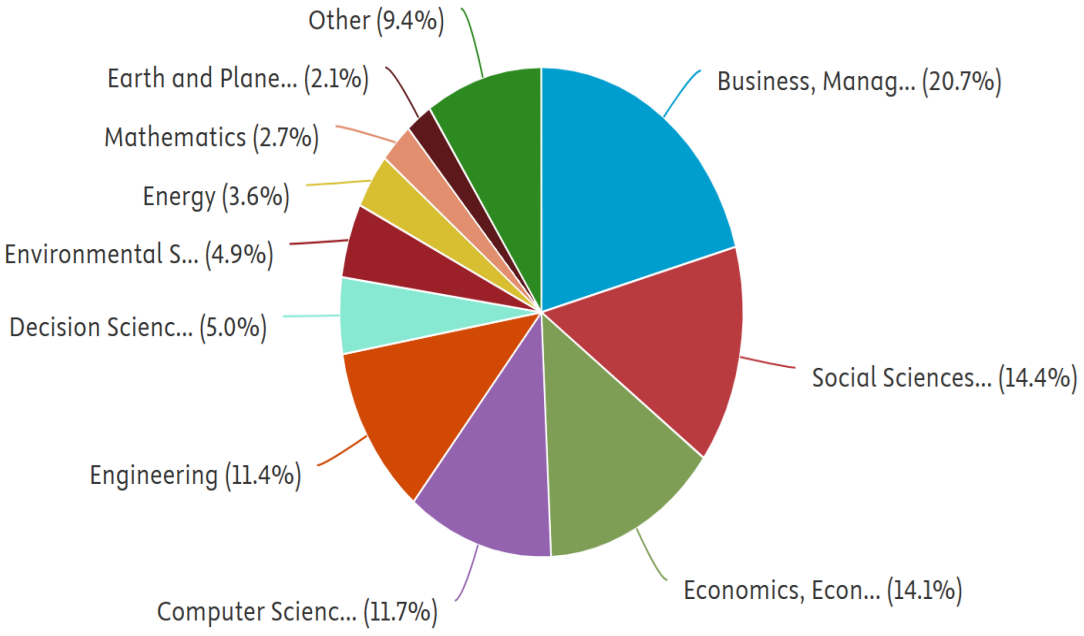


Fig. 4: Documents by SUBJECT area

Business, Management and Accounting 383, Social Sciences 267, Economics, Econometrics and Finance 261, Computer Science 216 AND Engineering210

Interdisciplinary Intellectual Structure

However, the fact that 'Business, Management and Accounting' (383 papers), 'Social Sciences' (267 papers), and 'Economics, Econometrics and Finance' (261 papers) account for the three top subject classifications speaks to the multidisciplinary nature of digital trade. In essence, it means that digital trade is not only about economics or technology but a socio-economic revolution, which involves many different aspects of governance, consumers, institutions, and other social aspects. The high level of representation of social sciences points to increased scholarly interest in the social dimension of digital trade, such as the issue of digital inclusion.

- **Funding Sponsors**

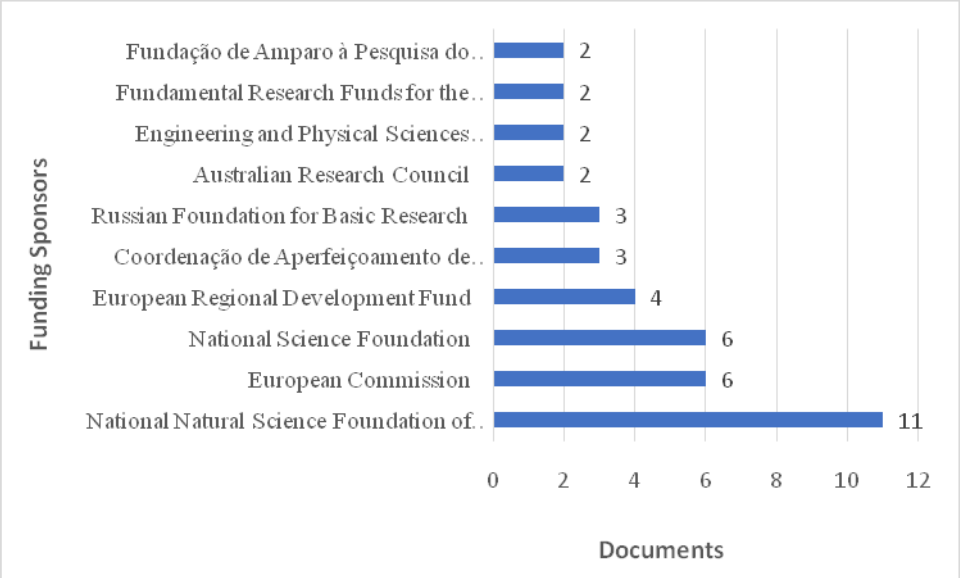


Fig. 5

- **Co-Citation Analysis of Cited Authors**

Out of 25536 authors in this domain, 1628 met the threshold

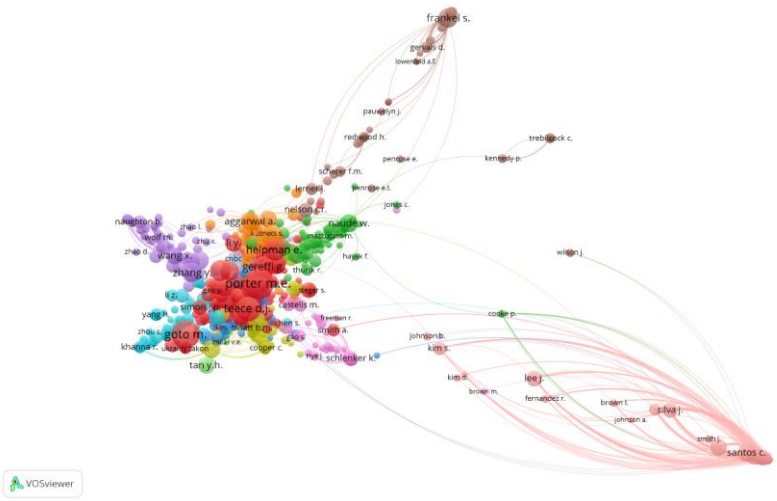


Fig. 6

Authoritative Intellectual Pillars

As can be seen from co-citation, the important intellectual pillars are Porter M.E., Goto M., and Teece D.J., having the strongest link between each other. Competitive advantage theories of Porter, innovation and economic development theories of Goto and dynamic capability theories of Teece form the foundation upon which knowledge about competition of firms and countries in digitally-mediated global markets can be built. The importance of these authors shows that the study of digital commerce is based on well-established theories of international business and innovation.

Citations of Documents

Out of 877 documents, 312 met the criteria displayed in density visualisation

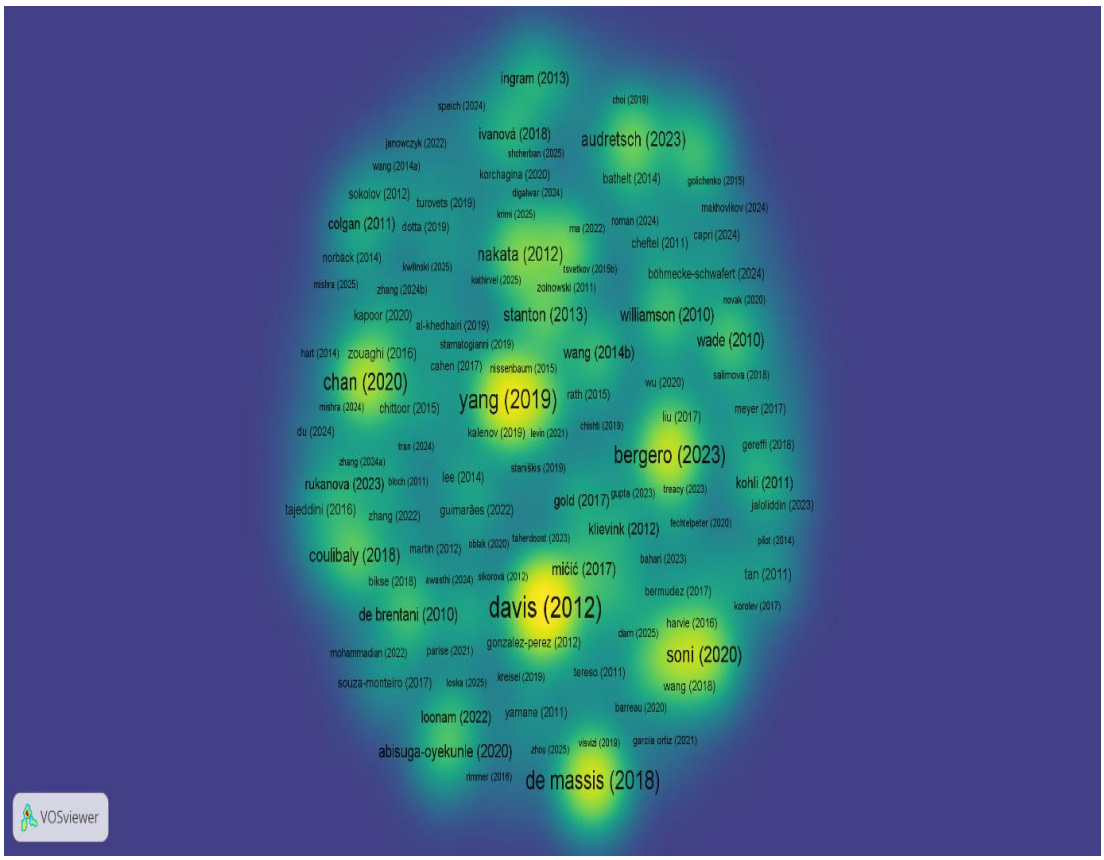


Fig. 7

Thematic Clusters and Knowledge Structure

The formation of distinct themes of artificial intelligence and automation in business, blockchain-powered management of supply chains, digital industrialization and inclusion, and international digital innovation networks illustrates the complex nature of digital trade studies. The combination of these themes implies that the field of digital trade research has transcended from description to transformation.

Top Journal Sources

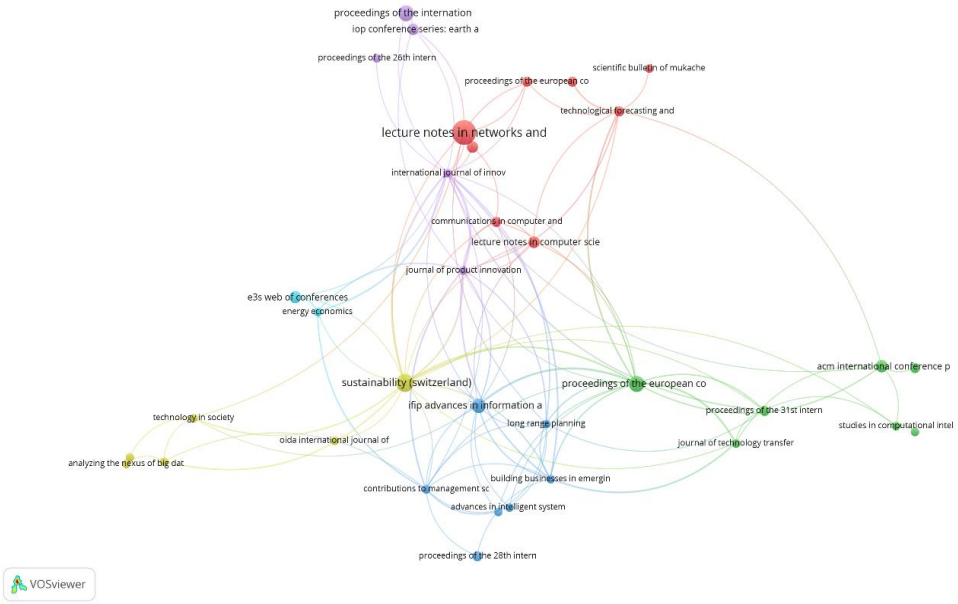


Fig. 8

Bibliographic Network of Nations

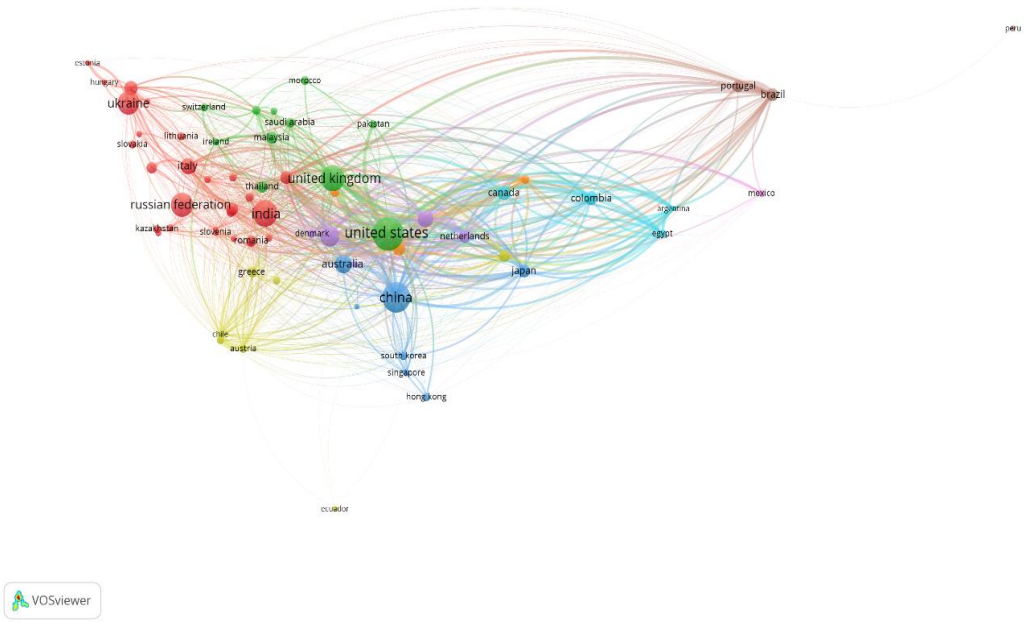


Fig. 9, Out of 110 countries publishing research in this domain, 69 met the threshold as displayed in network visualisation

Geographic Distribution of Research Leadership

Table 1: BIB Network of top Nations

#	Country	Documents	Citations	Total Link Strength	#	Country	Documents	Citations	Total Link Strength
1	United States	105	3941	10115	11	Canada	21	734	4853
2	China	86	750	6846	12	Poland	20	121	1849
3	India	66	434	1382	13	Colombia	18	414	4976
4	United Kingdom	64	1245	9022	14	France	18	1177	6815
5	Russian Federation	55	340	405	15	Brazil	17	380	6186
6	Ukraine	50	138	1150	16	Indonesia	17	55	138
7	Germany	41	1387	6245	17	Japan	17	362	4409
8	Australia	33	139	2398	18	Turkey	17	304	4108
9	Spain	27	446	5703	19	Malaysia	15	25	425
10	Italy	26	564	1878	20	Netherlands	15	505	5339

It is clear that the rise of USA (105 publications), China (86), and India (66) as centers for research on this subject can be attributed to the economic and political realities in the digital trade sphere. The leadership shown by the US is due to their technological superiority and historical dominance in the field of international business studies. China's high number is due to their aggressive infrastructural development in the digital age and being one of the manufacturing and digital economy giants globally. India's presence, which ranks third, shows their rising importance in the digital services sector and in global value chains.

- **Co-Occurences All Keywords**

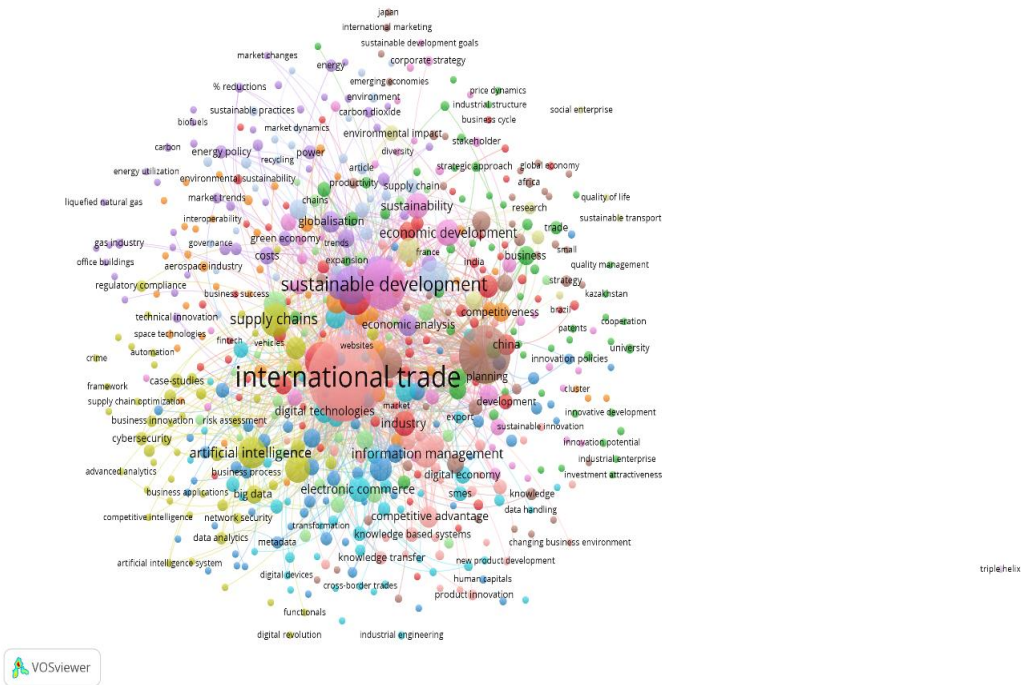


Fig. 10: Out of 5435 keywords, 585 met the threshold that are most occurring

Table 2: Co-Occurences All Keywords

#	Keyword	Occurrences	Total Link Strength	#	Keyword	Occurrences	Total Link Strength
1	International Trade	361	2966	11	Digital Transformation	48	381
2	Innovation	166	1291	12	Commerce	47	427
3	Competition	142	1329	13	Decision Making	40	368
4	Sustainable Development	126	1229	14	Information Management	39	348
5	Investments	73	744	15	Economic Development	35	318
6	Global Market	72	572	16	Business Models	33	284
7	Economic And Social Effects	61	592	17	Sustainability	33	290
8	Economics	54	530	18	Technological Innovation	33	309
9	Supply Chains	54	535	19	Electronic Commerce	32	303
10	Artificial Intelligence	49	417	20	Industry	30	257

Keyword Dynamics and Research Priorities

The frequency distribution of keywords such as ‘International Trade’ (361 times), ‘Innovation’ (166 times), ‘Sustainable Development’ (126 times), and ‘Global Market’ (72 times) denotes that there is a definite hierarchy of research. The prominence of the term ‘International Trade’ reveals the basic importance of the concept, whereas the frequency of ‘Innovation’ highlights the importance of digital trade in terms of innovation. The prominence of the term ‘Sustainable Development’ as a keyword implies that the concern for sustainability has become an integral part of digital trade research.

The Paradigm Shift in Digital Trade Research: From Firm-Centric to Systemic Perspectives

The findings indicate a remarkable shift in the intellectual climate of digital trade literature, depicting a fundamental epistemological shift from a company-centric assessment of digital trade adoption towards a holistic study of the system involving knowledge transfer and sustainable economic integration. This shift can be explained by many related dimensions of this phenomenon.

Conclusion

This bibliometric analysis has provided an organized mapping of the intellectual landscape associated with digital trade studies. It depicts a dynamic and evolving area of study located at the intersection of international business, global trade, economic integration, and innovation. Through an extensive study of 877 Scopus-indexed articles published from 2010 to 2026, the structure, priority, and dynamics involved in the scientific study of the evolution of digital trade have been brought into focus.

The results obtained demonstrate the way in which digital trade has transformed into a disruptive factor in the global economy in terms of the structure and innovation system. The impressive increase in the number of scholarly works, in particular, the record number of 158 papers in 2025, shows that the academic community recognizes digital transformation as a phenomenon changing the rules of international trade. This trend is driven by technology disruptions such as artificial intelligence, blockchain, and business models based on platforms.

Interdisciplinary character of digital trade research, manifesting itself through domination of business, social sciences, and economics disciplines, shows multiple aspects of this phenomenon. Digital trade moves beyond pure economic issues and raises governance, social justice, and institution-related concerns which have to be addressed with a common effort of several disciplines. Intellectual frameworks of Porter, Goto, and Teece serve as long-lasting theoretical underpinning, but new clusters show that the discipline is responsive to current technological and political realities.

The geography of research leadership and the rise of such countries as the United States, China, and India as leading ones demonstrates the changing epicenters of the global digital economy. This triad of leadership demonstrates how closely linked the research on digital trade is to the economics and technology of these countries, but the involvement of 107 more countries in the study reveals the globalization of the capacity and interest for conducting research. The leading role played by the Russian

Federation, China, and the United Kingdom highlights the geopolitics of the research on digital commerce.

The selection of AI, blockchain, and platform business models as the dominating thematic clusters provides clear strategic guidelines for MNEs and governments. The results highlight the necessity of integrating advanced technology into global value chains governance of MNEs, which goes beyond digital trade understood as e-commerce into system-level digital innovation. For governments, the research highlights the urgency of developing unified frameworks regulating digital innovation.

A paradigmatic move from analyses based on firms to systemic studies of governance in global value chains, the dissemination of knowledge, and sustainable economic integration can be seen as a maturing of the field, since it stems from a realization of the interrelatedness of the digital transformations in trade and its significant influence on economic development, environmental sustainability, and social equity.

The presented bibliometric analysis offers a contribution to the body of research literature through systematic review of the dynamically growing but highly fragmented research area, identification of research gaps, and future research agenda. The results of the analysis have profound implications for policy makers, corporate strategists, and innovators faced with the challenges of digital economic transformation.

Given the evolving nature of digital trade in the global economy, future research should break down the bibliometric database in order to undertake specific analysis of different economic areas such as green energy technology, FinTech, and Industry 5.0.

Through such analysis, future research could help understand the effects of digital trade differently in other economic areas and provide insights into how to capitalize on the opportunities of digitalization while avoiding its threats.

Finally, this paper highlights that digital trade is not only an evolution of technology or economics, but an evolution of the international business environment, which requires further research, policy, and strategy to take full advantage of its potential.

Conclusion

To conclude, the research shows how there has been an evident shift from the firm-oriented studies on the adoption of digital trade to studies based on a systemic approach towards the study of knowledge dissemination and sustainable economic integration, thereby demonstrating how this field has evolved from being firm-oriented.

The intellectual framework of the research has now shifted to consider all aspects of technology change, institutional framework, network relations and sustainability issues associated with digital trade in today's globalized world.

This evolution can be said to have been more than just a mere shift of focus for research in this field since it means that digital trade is no longer conceived as a technological adoption decision of firms but as a systemic transformation.

The evidence of bibliometric analysis – in terms of the clusters of themes, dynamics of keywords, geography of research leadership and change of scholarly priorities through time – shows that there has been a major epistemological development in the field of digital trade scholarship. Today's scholarship is aware of the fact that studying digital trade transitions should be more than looking at the behavior of firms; it needs to take into account system-, network- and institution-based perspectives on digitalization of international business, trade, economic integration and innovations.

There are many opportunities in this evolving research area for further scholarship that will expand the frontiers of knowledge based on what previous scholarship has shown us. The bibliometric roadmap outlined in this study can help researchers navigate through this evolving domain of scholarship, showing what its current intellectual pillars are and what new frontiers it promises to explore.

Implications

- **Theoretical and Methodological Implications**

The transformation from firm-centric to systemic perspectives carries important theoretical and methodological implications.

Theoretically, The change reflects a move away from reductionist perspectives, which reduce complex phenomenon by focusing on the behavior of individual actors, towards more holistic perspectives which incorporate concepts of emergence, networks, and system interactions. Researchers are increasingly utilizing theoretical perspectives, including complex systems theory, network theory, institutional theory, and evolutionary economics, to provide understanding of how the process of digital trade transitions occurs at a systemic level.

The relevance of scholars such as Porter, Goto, and Teece in the co-citation map indicates that classical theoretical perspectives still play a key role in informing current research, but are being modified and expanded to address systemic issues. For instance, Teece's concept of dynamic capabilities is now being used not just for explaining the behavior of individual firms but the behavior of whole innovation ecosystems, and how actors within systems are able to sense, seize, and transform due to digital trade transitions.

Methodologically, This change has facilitated the development of research methodologies, which have been able to analyze systems. The application of bibliometric analysis is an example, as it can help us to understand influences, thematic relationships, and connections between scholars that cannot be discovered using case studies or surveys. It is clear that the application of networks, computation, and multi-level modeling represents a trend.

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