

Mapping the Intellectual Landscape of Intellectual Capital: A Multidimensional Bibliometric Review

Imad Al Zeer

Palestine Ahliya University, Bethlehem. 1041, Palestine

Email: imad@paluniv.edu.ps

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Abstract

Intellectual Capital (IC) has emerged as a critical area of study with far-reaching implications across various sectors, including banking, higher education, and supply chain management. Despite its growing importance, a comprehensive understanding of the field's research landscape remains elusive. The objective of this study is to conduct an exhaustive review of scientific publications in the field of Intellectual Capital. It aims to delineate the historical development, geographical contributions, thematic focus, and future research directions in IC. Employing advanced bibliometric analysis and data visualization techniques, the study scrutinizes publications from the Scopus database. It utilizes multiple focal points such as documents, authors, and keywords to develop interconnected networks, thereby offering a panoramic view of the field. The study reveals a surge in research activity characterized by a collaborative and globalized research environment. Geographically, Italy, China, Indonesia, and Malaysia emerge as leading contributors. Thematic clusters ranging from 'Governance, Disclosure, Efficiency' to 'Entrepreneurship, Innovation, SMEs' were identified, indicating the field's growing complexity and interdisciplinary nature. This study is unique in its comprehensive approach to understanding Intellectual Capital.

Keywords: Bibliometric, Human Capital, Intellectual Capital, Trends Topic

Introduction

The scholarly investigation of intellectual capital has garnered increasing attention since the 1960s, contemporaneous with the rise of the knowledge economy and competency-based management frameworks. These shifts underscore the pivotal role of intellectual capital in conferring competitive advantage, particularly in knowledge-centric organizations across diverse sectors. The academic inquiry into intellectual capital has matured considerably, driven by a growing consensus on valuing intangible organizational assets (Hermanson, 1963; Galbraith, 1967; Flamholtz, 1971).

In 1963, the concept of "human asset accounting" was introduced, enabling the quantification of human resources in organizational financial reporting akin to tangible assets. This initial step was followed by the term "intellectual capital," introduced by economist J.K. Galbraith in 1967, which was conceptualized as a value-added asset derived from "intellectual actions" (Galbraith, 1967). Further refinement of the construct emerged in the 1970s, with

Flamholtz's conceptualization of "human assets" denoting individuals' collective contributions in organizations (Flamholtz, 1971).

The post-1990s era marked a significant conceptual evolution, where Nonaka and Takeuchi (Nonaka, & Takeuchi, 1995) identified intellectual capital as an organizational capability encompassing knowledge generation, dissemination, and its tangible application. The construct is now understood to be multi-dimensional, comprising human capital (skills and competencies), structural capital (internal organizational frameworks), and relational capital (external stakeholder relationships) (Sveiby, 1997).

The mid-1990s heralded a four-stage evolutionary framework for intellectual capital. The initial stage emphasized its role in competitive advantage, propelling efforts to measure and standardize the construct Rooney & Dumay, (2016) and Guthrie & Dumay, (2015) empirically. The second stage, culminating in the late 1990s, aimed to institutionalize intellectual capital as an academic discipline, with various models formulated for its quantification (Dumay & Garanina, 2013; Guthrie et al., 2017). Introduced in 2004, the third stage focused on empirical research to assess the commercial implications of intellectual capital, aligning theoretical constructs with practical applications (Dumay & Garanina, 2013; Alcaniz et al., 2011; Guthrie et al., 2012). The fourth stage extended this by aiming to understand intellectual capital's broader ethical, social, and environmental impact within an ecosystem approach (Giuliani et al., 2016; Pedro et al. 2020).

Conceptually, the intellectual capital framework draws heavily from organizational resource and capability theories. According to Reed et al. (2006), this framework facilitates the identification of intangible resources and competencies essential for securing a competitive advantage. This perspective is corroborated by Foss & Knudsen, (2003), emphasizing intellectual capital as a specialized facet of the broader resource and capability theories. It encapsulates three principal resource categories: human capital, social capital, and organizational capital, each contributing uniquely to competitive advantage.

Lastly, Rastogi, (2000) emphasizes the symbiotic relationship between intellectual capital and knowledge management. He posits that these two organizational constructs function bidirectionally, serving as reservoirs and knowledge facilitators. They encompass human, structural, and relational capital as core components of an organization's knowledge assets (Guthrie & Dumay, 2015; Bontis, 1998).

This comprehensive examination provides a historical overview and highlights intellectual capital's significant contributions to organizational effectiveness and competitiveness, thus asserting its continued relevance and importance in academic discourse and practical implementation.

Intellectual Capital

The construct of Intellectual Capital has been delineated through diverse lenses owing to various academic backgrounds and disciplinary foci. It has been understood as both explicit and implicit knowledge repositories in human cognition (Al-Bishtawi & Bani Taha, 2014). Further, it encompasses a variety of dimensions, such as experience, competencies, and technological skills, among others (KOÇ, 2017). El-Azab (2016) extends the conceptual boundaries of intellectual capital by recognizing it as a seminal asset that plays a crucial role in organizational competitiveness, innovation, and production efficiency. Structural, human, and relational capital are the key subcomponents that collectively contribute to value addition in consumer engagement (Lutfi et al., 2023). Organizations utilize intellectual capital for wealth generation, explicitly leveraging the vast reservoir of experiences, informational

databases, and intellectual properties within their human resources (Altarawneh, 2017; Salahat & Katalu 2023). Moreover, it is deemed as an intangible asset that aids in problem-solving and shapes market mechanisms and organizational relationships (Abdelkader, 2014; Salahat, 2021).

The salience of intellectual capital cannot be overstated in contemporary organizational studies. It is a pillar for sustainable competitiveness and profitability (Abdullah & Elias, 2018). Intellectual capital is the cornerstone for fostering creativity, ensuring market share stability, enhancing customer loyalty, and maintaining an edge in the fiercely competitive market (Jaradat et al., 2011). It is crucial for developing present and future organizational practices and judicious utilization of resources (Cenciarelli et al., 2018). The intellectual capital framework is generally categorized into three pillars: human capital, structural capital, and relational capital (Al-Kasr, 2017). Hence, intellectual capital is an ever-evolving, dynamic, and accumulative asset integral for organizational performance enhancement.

Given its complexity and multi-dimensionality, bibliometric analysis becomes an invaluable tool for dissecting the vast literature on intellectual capital. Such an analysis provides a quantitative assessment of the existing publications, author contributions, and the interconnectedness of various sub-topics, thereby aiding in identifying gaps and future research directions. This is especially important in a field that is interdisciplinary and ever-evolving. A bibliometric review offers researchers a structured mechanism to understand the intellectual development and trajectory of the domain, allowing for more focused and impactful research endeavors. Given the intricacy and expanding nature of intellectual capital as a field, the insights from bibliometric analysis are crucial for academic progress and practical implications in organizational strategies.

Research Questions

1. Who lead in journal and author influence in intellectual capital?
2. What defines the research framework in intellectual capital?
3. What collaboration networks exist in intellectual capital research?
4. How has intellectual capital theory changed, and what are current focus areas?
5. What are prospective research paths in intellectual capital?

Research Methodology

Analysis for this study starts with the identification of the database, followed by data collection based on the search strategy (Figure 1).

The bibliometric techniques analysis was conducted utilizing the RStudio® software's Bibliometrix package and BiblioShiny interface (Ajouz & Abuamriah, 2023; Altarturi & Ajouz, 2021; Aria & Cuccurullo, 2017). In addition, to explore the connections between keywords, VOSviewer software was employed. A schematic representation of the primary stages of the data analytics process, applied to information sourced from the Scopus database, is depicted in Figure 1.

The dataset was curated as of August 31, 2023, and is comprised of scholarly articles on intellectual capital that have been published since 2018, extracted directly from the Scopus database—a significant repository for academic literature (Aguillo, 2012). The findings generated from the Bibliometrix package were employed to highlight salient themes over time, relying on both keyword analysis and the quantifiable metrics associated with the

publications and journals, such as title, abstract, authorship, keywords, the total number of citations for each document, and affiliations, among other parameters.

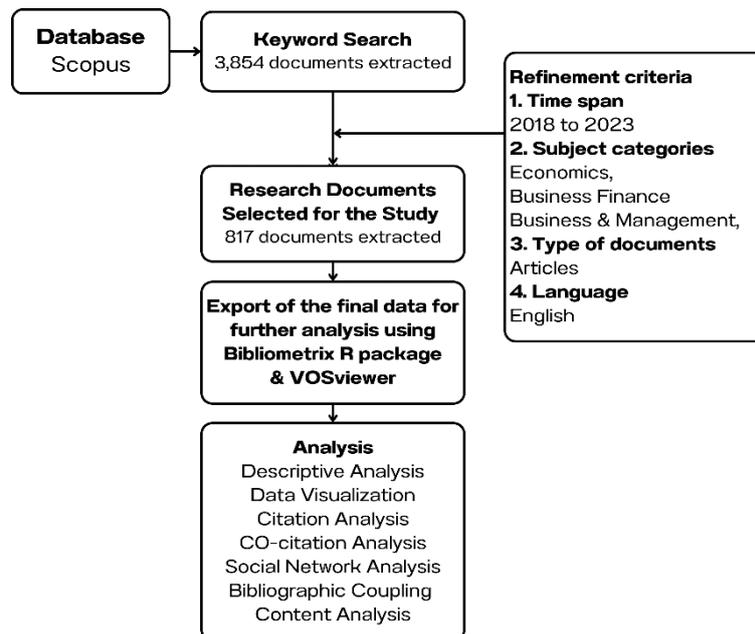


Figure 1: Flowchart for Selection of Documents for Bibliometric Analysis

Results and Discussion

The dataset employed for this bibliometric review consists of 816 scholarly articles sourced from the Scopus database. This section elucidates the findings from an exhaustive analysis using the Bibliometrix package in R. Analysis facilitates the production of descriptive statistics, graphical representations, and scientific mapping. The section is organized into four subsections, each dedicated to a specific aspect of the data: descriptive analysis, data visualization, intellectual structure, and bibliographic coupling and content analysis.

Descriptive Analysis

Data Set

Table 1 provides an overview of the key metrics from 816 articles selected via a targeted search on the Scopus database. The articles published from 2018 to 2023 across 251 different sources. The dataset displays a 6.07% annual growth rate and an average document age of 2.33 years, suggesting the research field is both current and expanding. Average citations per document stand at 13.78, indicating a moderate academic impact. The dataset encompasses 43,788 references and includes a variety of keywords, with 1,923 authors contributing. The data reveals a collaborative research environment with an average of 3.03 co-authors per document and 30.15% international co-authorships.

Table 1

Summary of Data Set

Description	Results
Main Information About Data	
Timespan	2018:2023
Sources (Journals, Books, etc)	251
Documents	816
Annual Growth Rate %	6.07
Document Average Age	2.33
Average citations per doc	13.78
References	43788
Document Contents	
Keywords Plus (ID)	394
Author's Keywords (DE)	1908
Authors	
Authors	1923
Authors of single-authored docs	78
Authors Collaboration	
Single-authored docs	84
Co-Authors per Doc	3.03
International co-authorships %	30.15

Sources

During the last five years, scientific productivity in the research domain showed an upward trend. The data in Table 2 shows a general increase in the number of articles published on Intellectual Capital from 2018 to 2023, despite minor yearly fluctuations. Several factors may explain this upward trend: the growing significance of intellectual capital in organizational and economic contexts, advancements in research methods, the interdisciplinary nature of the field, and increased international collaboration and institutional support. Overall, the data suggests sustained and expanding interest in Intellectual Capital research.

Table 2

Scientific Productivity

Year	2018	2019	2020	2021	2022	2023
Articles	108	124	148	132	159	145

Figure 2 shows that the Journal of Intellectual Capital is the most prolific source for research on Intellectual Capital, followed by a range of other journals with fewer publications. This dominance could be due to its specific focus on the subject, establishing it as a leading platform for researchers in the field. Other journals in the list reflect intellectual capital research's interdisciplinary and multi-dimensional nature, varying from business and management to regional focuses and technological foresight. Additionally, the h-index metric in Figure 2 offers a nuanced view of the impact of journals in the field of Intellectual Capital.

It reveals that the Journal of Intellectual Capital leads in productivity and citation impact with an h-index of 36. Other journals, while contributing significantly to the field, have lower h-indices, indicating varying levels of impact and citation. The h-index serves as a more comprehensive measure of a journal's contribution, balancing the quantity and quality of publications.

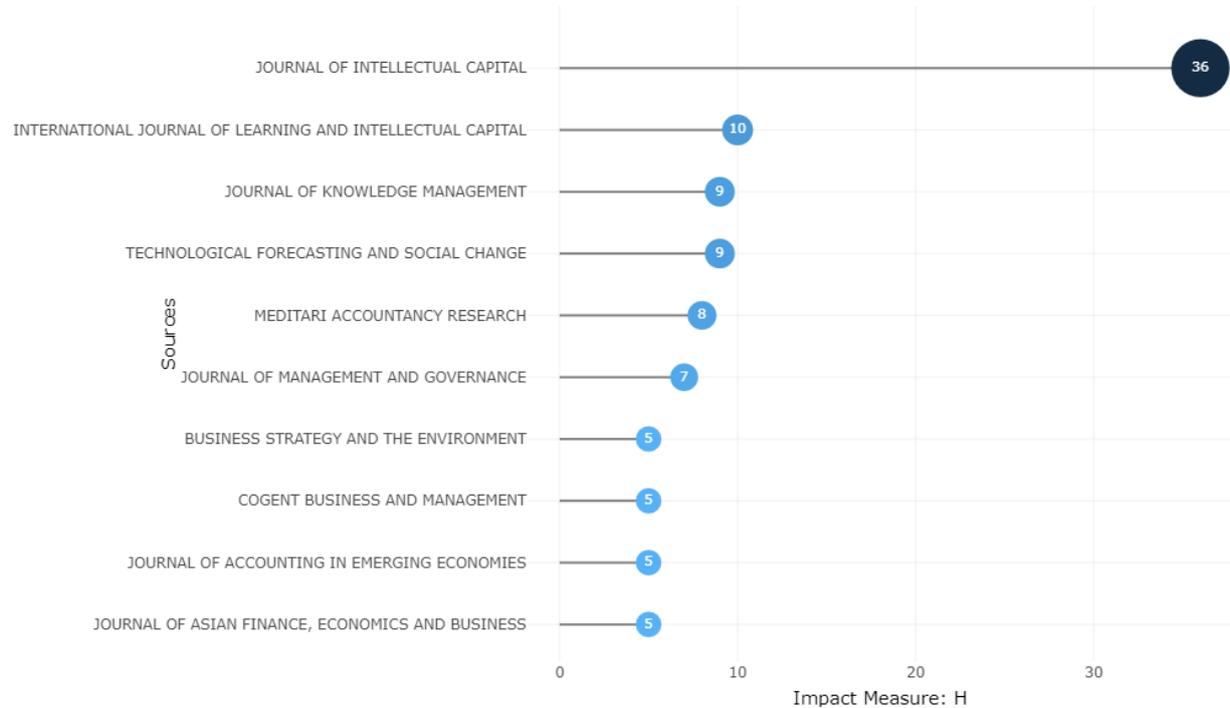


Figure 2: Top impactful resources

Figure 3 offers insights into the evolving landscape of Intellectual Capital research. The "Journal of Intellectual Capital" emerges as a dominant source with a high h-index and an increasing number of publications. The data also indicates the growing interdisciplinary nature of the field, as seen by the rise of other journals like the "International Journal of Learning and Intellectual Capital." This multi-disciplinary expansion is affirmed by the trends seen in Figure 3, which show an increase in publications in journals related to Intellectual Capital, aligning with observations made by Quintero-Quintero et al. (2021).

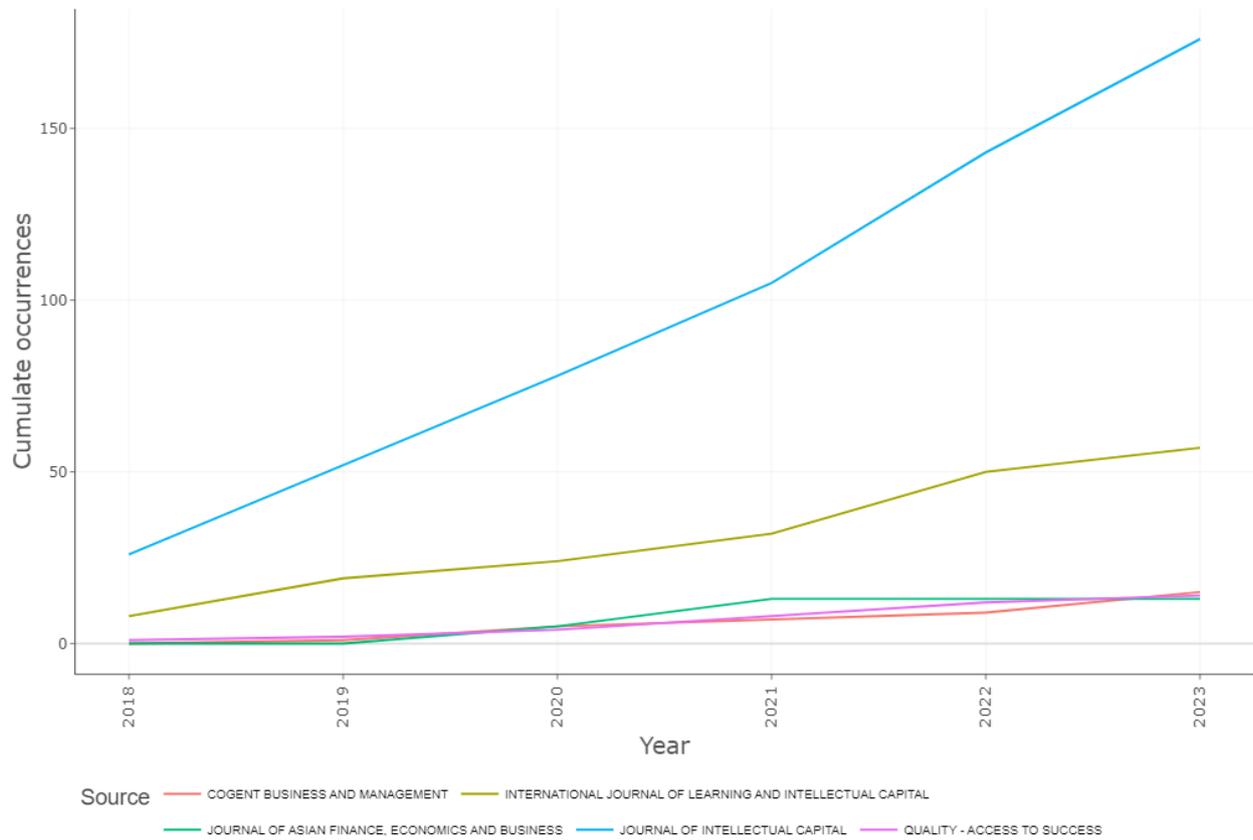


Figure 3: Source dynamics

Authors

The list of most productive authors in the field of Intellectual Capital reveals a variety of contributors, led by Bontis N with 19 articles as presented in Figure 4. Several factors can account for the variations in author productivity. These include the length of research tenure, the extent of collaborative work, access to funding and institutional resources, and the focus on interdisciplinary research. While a higher number of publications may indicate increased productivity, it does not necessarily correlate with the research impact.

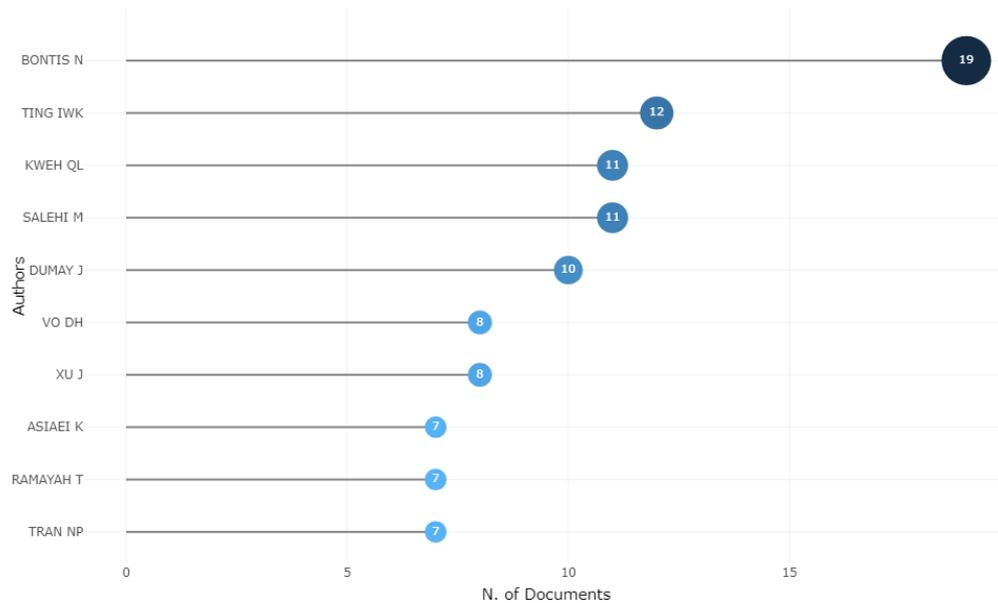


Figure 4: Most relevant authors

The list of authors in the field of Intellectual Capital, along with their h-index values, highlights their individual impacts in terms of both productivity and citation as presented in Figure 5. Bontis N leads with an h-index of 11, indicating a high level of influential work. Other researchers like Dumay J and Asiaei K also show considerable impact with lower h-index values. The h-index serves as a composite metric reflecting both the quality and quantity of an author's contributions to the field.

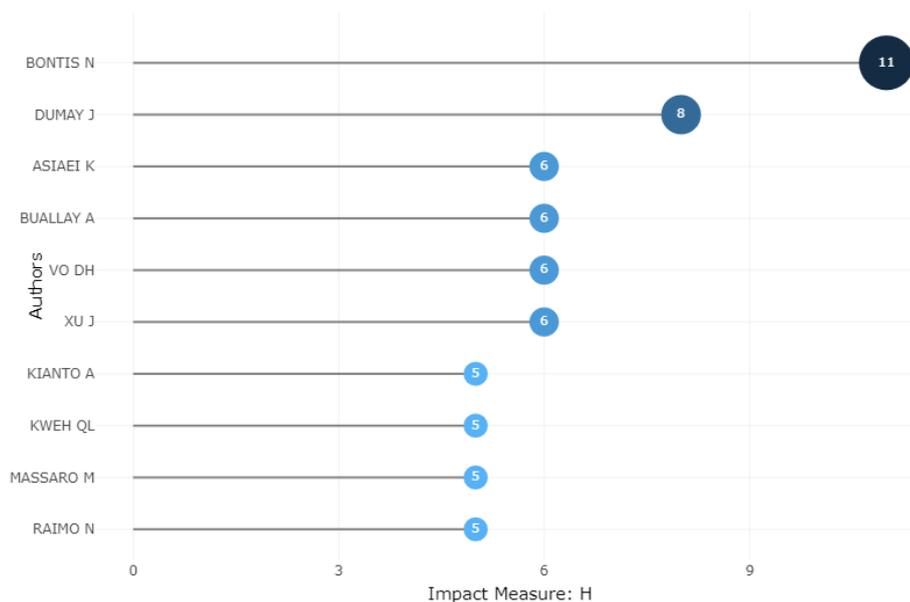


Figure 5: Author impact

Country-Wise Contribution

Based on the data presented in Table 3, we can observe a unique distribution of intellectual capital contributions across various nations. Indonesia leads in the number of scientific publications with a frequency of 341, closely followed by Italy with 302 publications. It is noteworthy that although Italy lags slightly behind Indonesia in the number of scientific

publications, it stands as the most cited country with a total of 1756 citations, highlighting the high impact of its research in the field of intellectual capital. Interestingly, countries with higher scientific production do not necessarily receive a corresponding number of citations. For instance, China, with 190 publications, surpasses Italy but garners only 1215 citations. This discrepancy could be indicative of varying research quality or a divergence in the scope and outreach of research contributions.

Moreover, Malaysia and India make a noteworthy presence, securing the third and fourth spots in both scientific production and citations, albeit not in the same order. These countries, part of the emerging economies, seem to be making strides in high-quality research on intellectual capital. In terms of citations, Western countries like Italy and the United Kingdom are amongst the leaders, although their overall scientific production is not the highest. This suggests that their work has a greater impact or higher level of acceptance within the intellectual community, perhaps owing to established research methodologies or greater dissemination of findings. Developing countries like Pakistan, Iran, and Jordan appear in the lower half of the table, indicating their gradual progress in contributing to the field of intellectual capital. Their presence in this list, however, implies an encouraging movement toward quality research in this domain.

Table 3

Top 10 Countries Regarding Productivity and Citations

Country's Scientific Production		Most Cited Countries	
Country	Frequency	Country	Total citations
Indonesia	341	Italy	1756
Italy	302	China	1215
China	190	Malaysia	793
Malaysia	166	India	491
India	119	Indonesia	485
Pakistan	116	Canada	453
Spain	92	United Kingdom	441
Iran	91	Iran	390
Jordan	55	Spain	386
Portugal	54	Pakistan	378

Documents

Figure 6 delineates the 10 most cited documents in the field of Intellectual Capital. Remarkably, all these papers have amassed more than 100 citations, signifying their high impact and seminal contributions to the area. The top-cited paper, authored by Yong et al. (2019), received 210 citations, setting a benchmark for research excellence in the field. This paper stands as a central point of reference for scholars and researchers in Intellectual Capital. The following three papers by Cabrilo & Dahms (2018); Allameh (2018); Yuzliza et al. (2020), with 161, 154, and 142 citations, respectively, also represent significant contributions to the academic discourse on Intellectual Capital. This collection of papers suggests a dynamic range of research activity, with newer publications like that of Yuzliza in 2020 quickly gaining scholarly attention. Notably absent from the top four are any recurring authors. This could suggest a more diversified range of influential scholars in the field of Intellectual Capital, as opposed to a few dominating figures.

Moreover, the citations of these top articles appear to be relatively evenly distributed, with the citation numbers not exhibiting drastic differences. This could indicate that there is a relatively consistent interest in these high-impact papers, suggesting that they each address fundamental aspects of Intellectual Capital that have attracted sustained academic scrutiny. The analysis indicates a well-distributed pattern of influential scholarly in the field of Intellectual Capital, with no single author overwhelmingly dominating in citations. The range of citations—from 210 to 125—among the top 10 papers suggests a healthy, competitive academic environment that is conducive to the robust growth of research in this area.

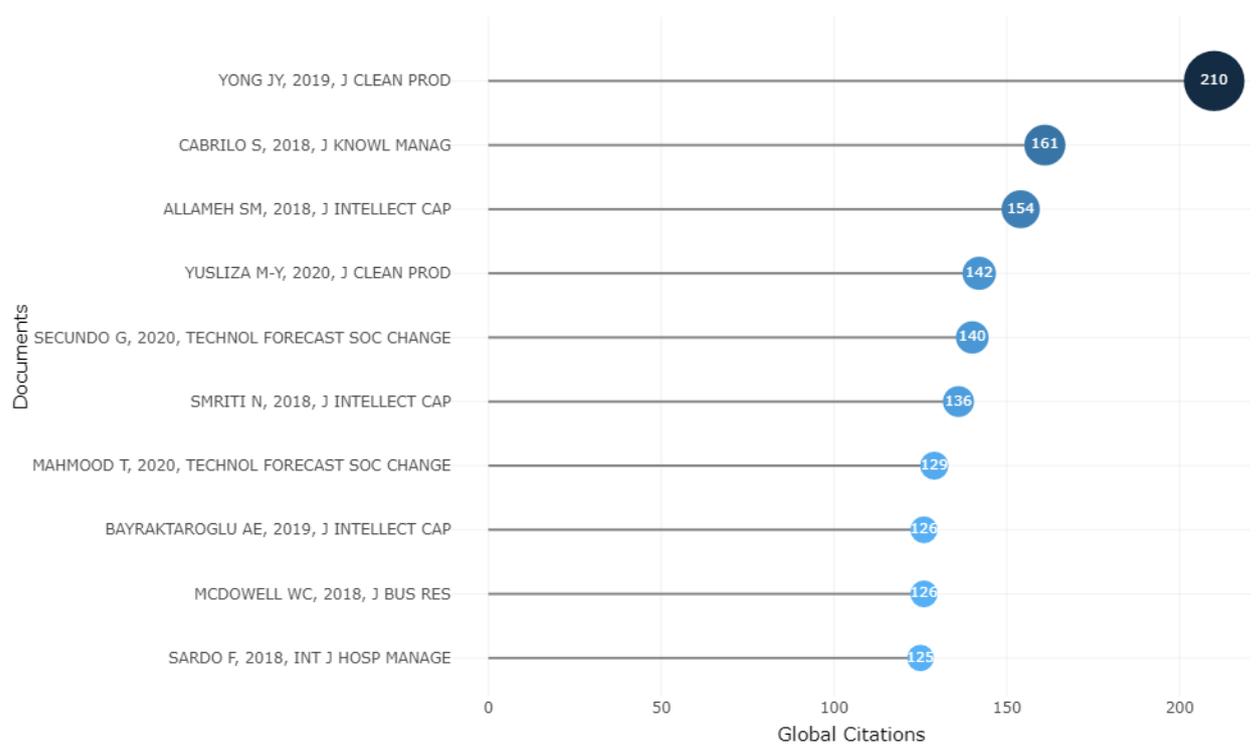


Figure 6: Most cited documents

Keywords

An analysis of the frequency of terms used in the corpus of articles on Intellectual Capital reveals intriguing trends. As indicated, the term "knowledge management" appears with the highest frequency (41 times), followed closely by "intellectual capital" (38 times). This suggests that knowledge management and intellectual capital are central themes in the literature, acting as foundational constructs for the field. The word cloud depicted in Figures 7 and 8 serve as a visual representation of these term frequencies and can be interpreted as a proxy for the relevance of each term within the academic discourse. For example, terms such as "human capitals," "integrated circuits," and "sustainable development" also feature prominently, albeit with fewer occurrences than the leading terms.

Interestingly, the terms also suggest a multi-disciplinary approach to the study of Intellectual Capital. For instance, "sustainable development" and "environmental management" point toward an ecological perspective, while "competitive advantage" and "performance assessment" are evocative of strategic management and organizational studies. Similarly, "small and medium-sized enterprise," "banking," and "commerce" indicate that the field is not only concerned with large corporations but extends its inquiry to various scales and sectors of business. Additionally, there seems to be an incorporation of more specialized topics like "green intellectual capital," "industry 4.0," and "supply chain

management," albeit at a lower frequency. This indicates a growing interest in niche areas that intersect with the broader theme of Intellectual Capital.

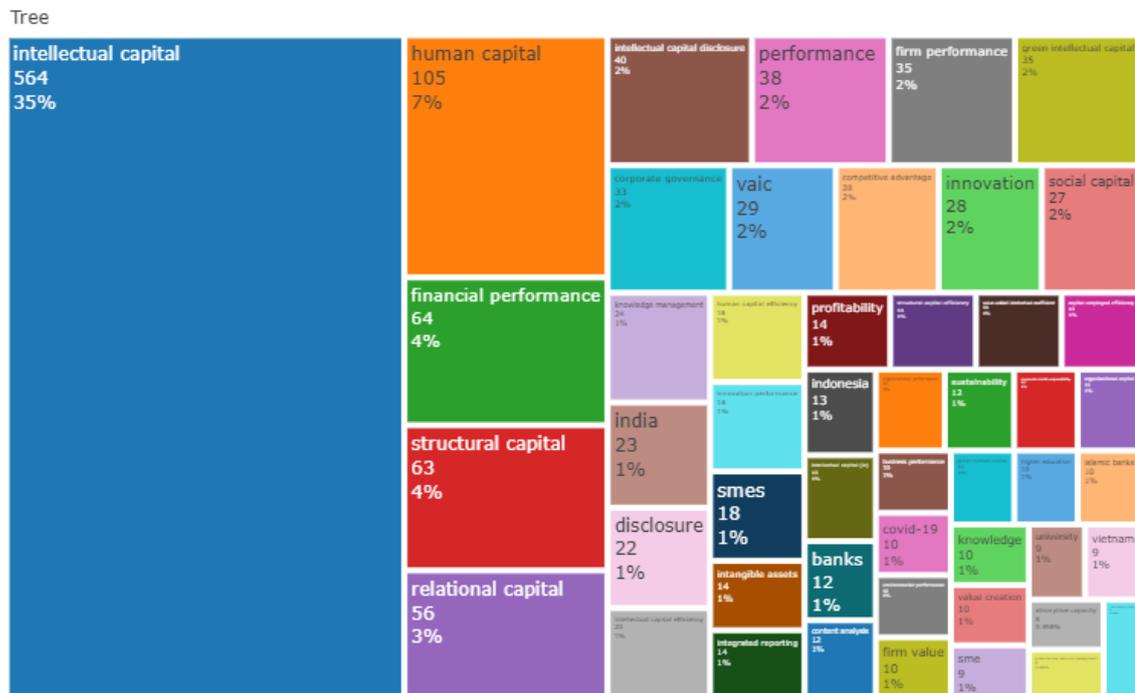


Figure 7: Word Tree

A broad spectrum of variables related to managerial and organizational aspects, such as "decision making," "performance," and "human resource management," also feature in the list. This diversity in keyword frequency suggests a multi-faceted exploration of Intellectual Capital, ranging from human and relational aspects to strategic and environmental considerations. There's also an emphasis on performance metrics, seen in terms like "performance assessment," "firm performance," and "industrial performance," indicating a focus on the evaluative aspects of Intellectual Capital.

Although the data does not provide a temporal dimension, one could hypothesize that some of these terms may have gained prominence more recently, reflecting evolving trends and research foci in the field of Intellectual Capital.

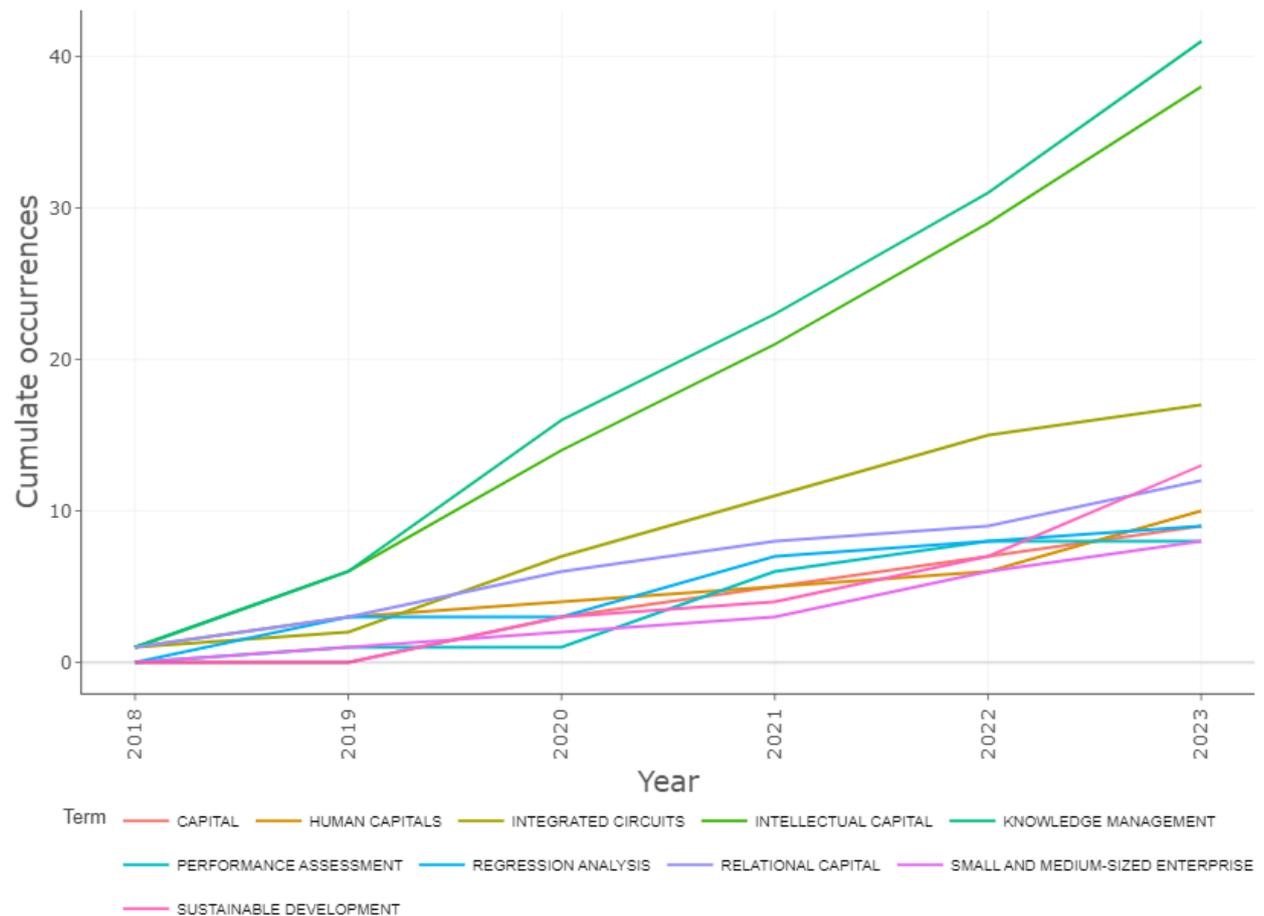


Figure 8: Word Dynamics

Trend Topics

Figure 9 illustrates the evolving landscape of topics in the field of Intellectual Capital over a five-year span. The figure is plotted on a two-dimensional scale with logarithmic frequency values on the vertical axis and publication years on the horizontal axis. In 2019, the focus primarily revolved around foundational themes like "competition" and "human capitals," perhaps echoing the importance of human resources and competitive strategies in the conceptual roots of Intellectual Capital. The year 2020 marked a transition towards a multi-dimensional focus, including themes such as "relational capital," "knowledge management," "intellectual capital," and "integrated circuits." This suggests that researchers were paying attention not only to human assets but also to relational and structural assets, as well as quantitative methodological frameworks like "least squares approximations".

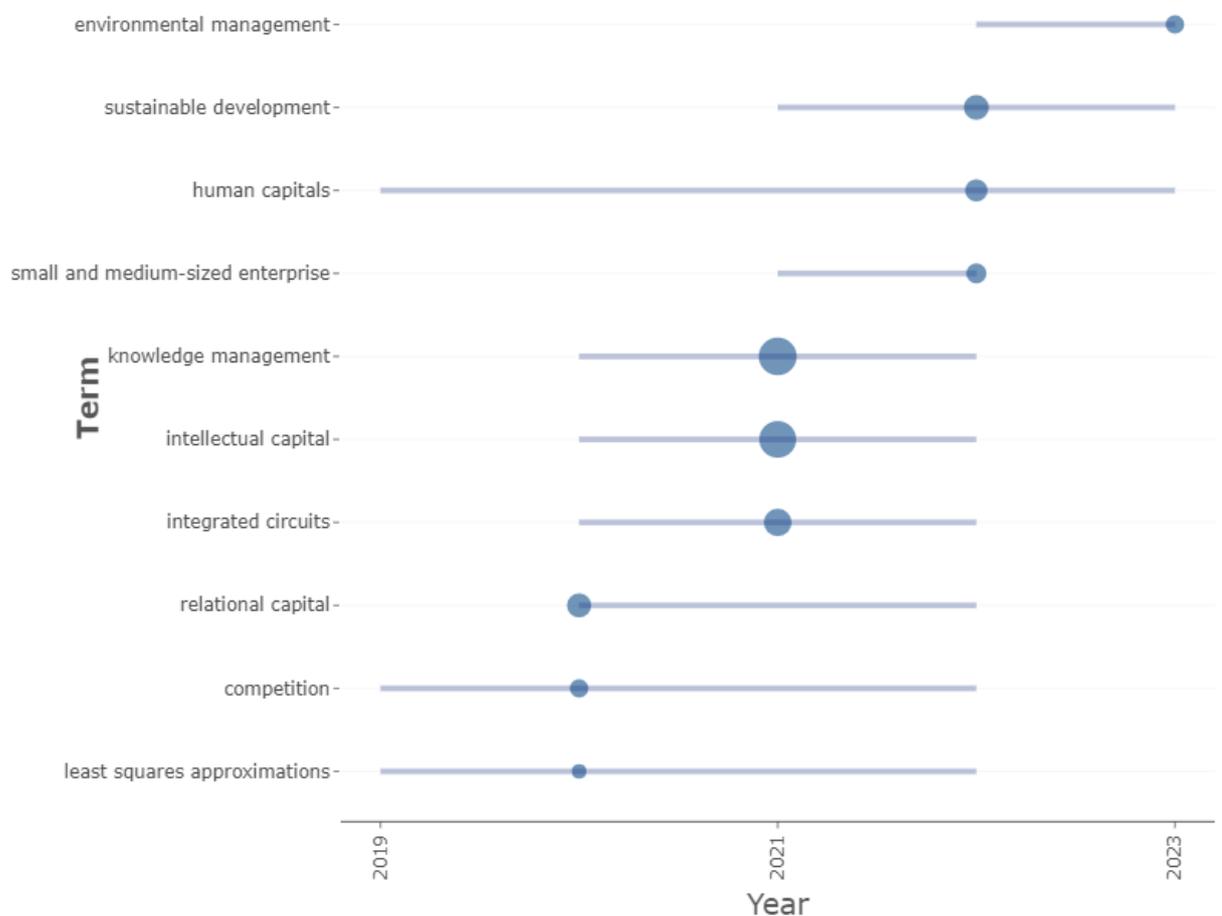


Figure 9: Trend topics

A noticeable thematic shift occurred in 2021, as topics like "sustainable development" and "small and medium-sized enterprises" came to the forefront. This trend likely mirrors the growing academic interest in the sustainability and scalability aspects of Intellectual Capital frameworks. By 2022, the inclusion of "environmental management" indicated a deeper alignment with global sustainability goals and agendas. Data for 2023 suggests a consolidation of this alignment, emphasizing that sustainable and environmental issues have become integral components of Intellectual Capital research. Overall, the evolving themes from 2019 to 2023 indicate a transition from a more traditional, foundational focus to a more diversified and contemporary array of topics, revealing both the depth and breadth of the field's current research interests.

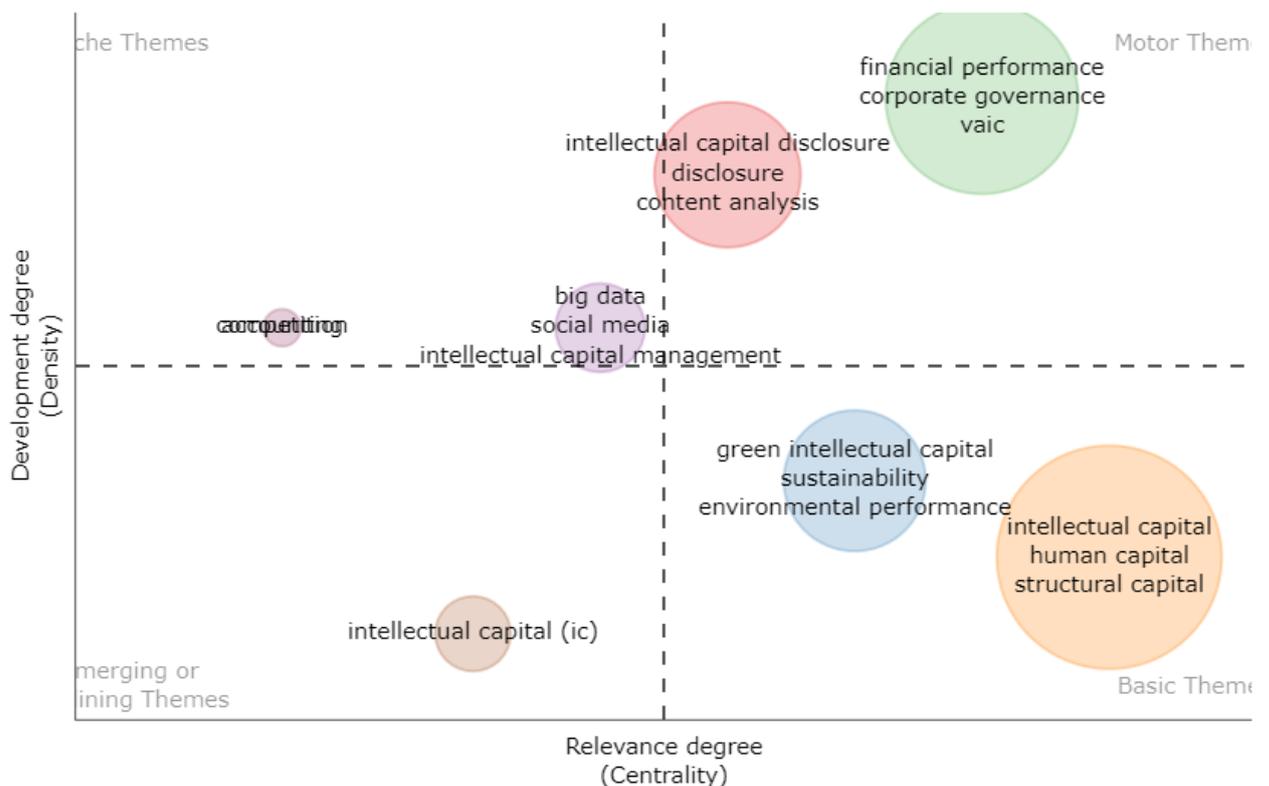
Data visualisation

In recent years, the subject matter of Intellectual Capital has garnered increasing scholarly attention and research emphasis. This section delineates the progressive thematic developments within this academic domain. Network analysis is employed as a tool for data visualization to quantify aspects like emerging clusters, frequency of occurrences, and relationships among different analytical units. This analytical technique utilizes multiple focal points, such as documents, authors, and keywords, to develop interconnected networks. Within these networks, nodes are interconnected through links, and statistical evaluations are conducted on the resultant maps to provide various metrics about the overall network.

development," shows a high degree of connectivity and centrality. On the other hand, Cluster 7, which encompasses terms like "environmental management" and "green intellectual capital," indicates a more niche area of focus within the intellectual capital discourse. Therefore, the analysis provides a multifaceted understanding of the evolving thematic landscape in the study of Intellectual Capital, marking dominant, emergent, and interconnected themes and topics.

Thematic Map and Evolution

In the domain of intellectual capital, a thematic map based on co-word analysis reveals key typological themes represented as bubbles on a two-dimensional plot. When considering centrality and density as the axes, the themes can be categorized into four quadrants. The theme "intellectual capital" stands out with a high centrality and density, positioning it in the upper right quadrant as a "motor theme." This indicates that the theme is at the core of the discipline and is widely discussed. "Green intellectual capital" appears in the lower right quadrant, signaling it as a "basic theme" with substantial density but lesser centrality. This suggests that the area is important but not yet fully developed.



As for the thematic evolution over time, "intellectual capital" was strongly correlated with "human capital," "organizational performance," and "financial performance" during the 2018–2020 period. This association changed in the 2021–2022 period, displaying broader inter-linkages with themes like "higher education," "organizational performance," and "intangible assets," as evidenced by the Weighted Inclusion Index and Stability Index. In the same vein, "financial performance" during 2018–2020 was closely linked to "agency theory" and "board of directors" in 2021–2022, whereas "green intellectual capital" remained relatively stable across both periods. This data suggests a growing complexity and interdisciplinary nature in the study of intellectual capital.

In summary, the themes surrounding intellectual capital have displayed significant shifts over time, with "intellectual capital" itself evolving as a central and complex theme, intricately

linked to various other themes like financial performance, human capital, and organizational performance. Such evolving patterns indicate a need for further integrated research to explore these inter-linkages and emerging themes.

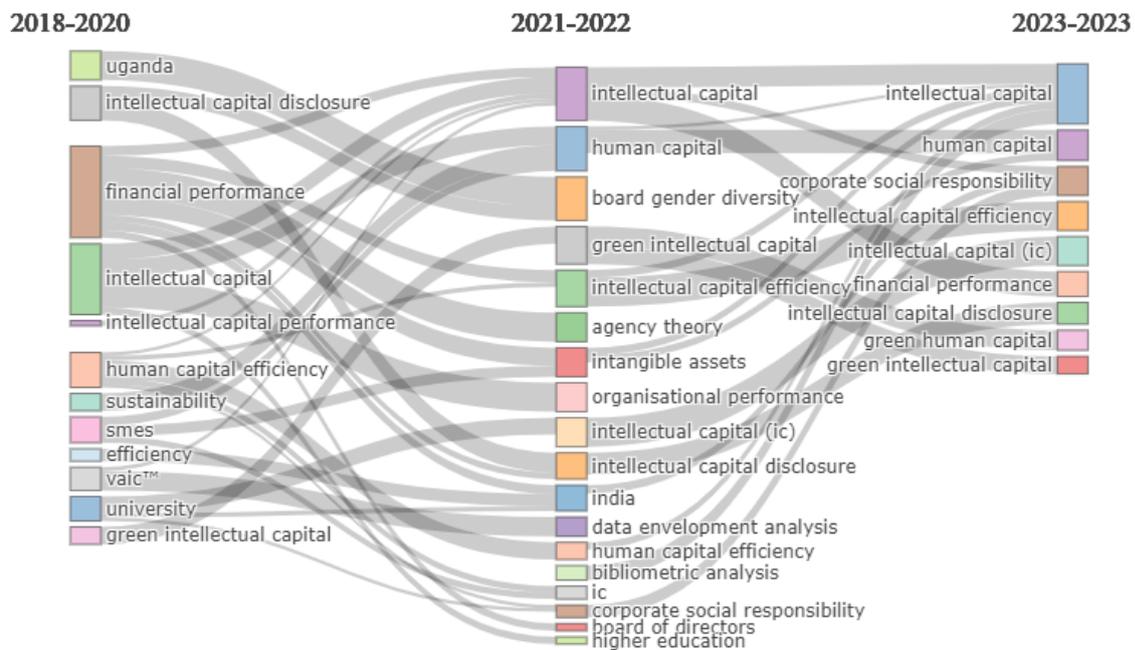


Figure 11: Thematic Evolution During 2018–2023

Bibliographic Coupling and Keywords Analysis

Cluster 1: Red

Core Themes: Banking Sector, Financial Performance, Higher Education

Analysis: This cluster suggests a critical research concentration at the crossroads of intellectual capital and financial performance, particularly within banking. Interestingly, higher education also appears, indicating a possible focus on educational institutions as organizational entities that significantly depend on intellectual capital.

Future Research: Research could explore how intellectual capital management varies between traditional and Islamic banking systems. Another direction could be examining the relationship between the quality of human capital (like academic faculty) and the financial sustainability of higher education institutions.

Cluster 2: Green

Core Themes: Sustainability, Corporate Social Responsibility

Analysis: This cluster extends intellectual capital into a more socially and environmentally responsible framework. It also introduces the idea of 'green intellectual capital,' a relatively nascent field.

Future Research: Investigate how corporate social responsibility initiatives can be quantified and integrated into intellectual capital valuation models. An emerging research area could be the operationalization of "green intellectual capital" and its impact on long-term sustainability metrics.

Cluster 3: Blue

Core Themes: Governance, Disclosure, Efficiency

Analysis: This cluster navigates the complex relationships between governance structures, voluntary/mandatory disclosure, and efficiency. The presence of social media suggests modern platforms as tools for disclosure.

Future Research: Studies can explore how governance frameworks impact the strategic management of intellectual capital and whether enhanced disclosure through modern platforms like social media has a measurable impact on efficiency and firm performance.

Cluster 4: Yellow

Core Themes: Entrepreneurship, Innovation, SMEs

Analysis: The cluster focuses on how intellectual capital can catalyze innovation, especially within Small and Medium-sized Enterprises (SMEs) and sectors like pharmaceuticals.

Future Research: Research could explore how different types of intellectual capital interact to foster innovation in startups versus established SMEs. There could be an industry-focused study on how intellectual capital investments translate into pharmaceutical innovations.

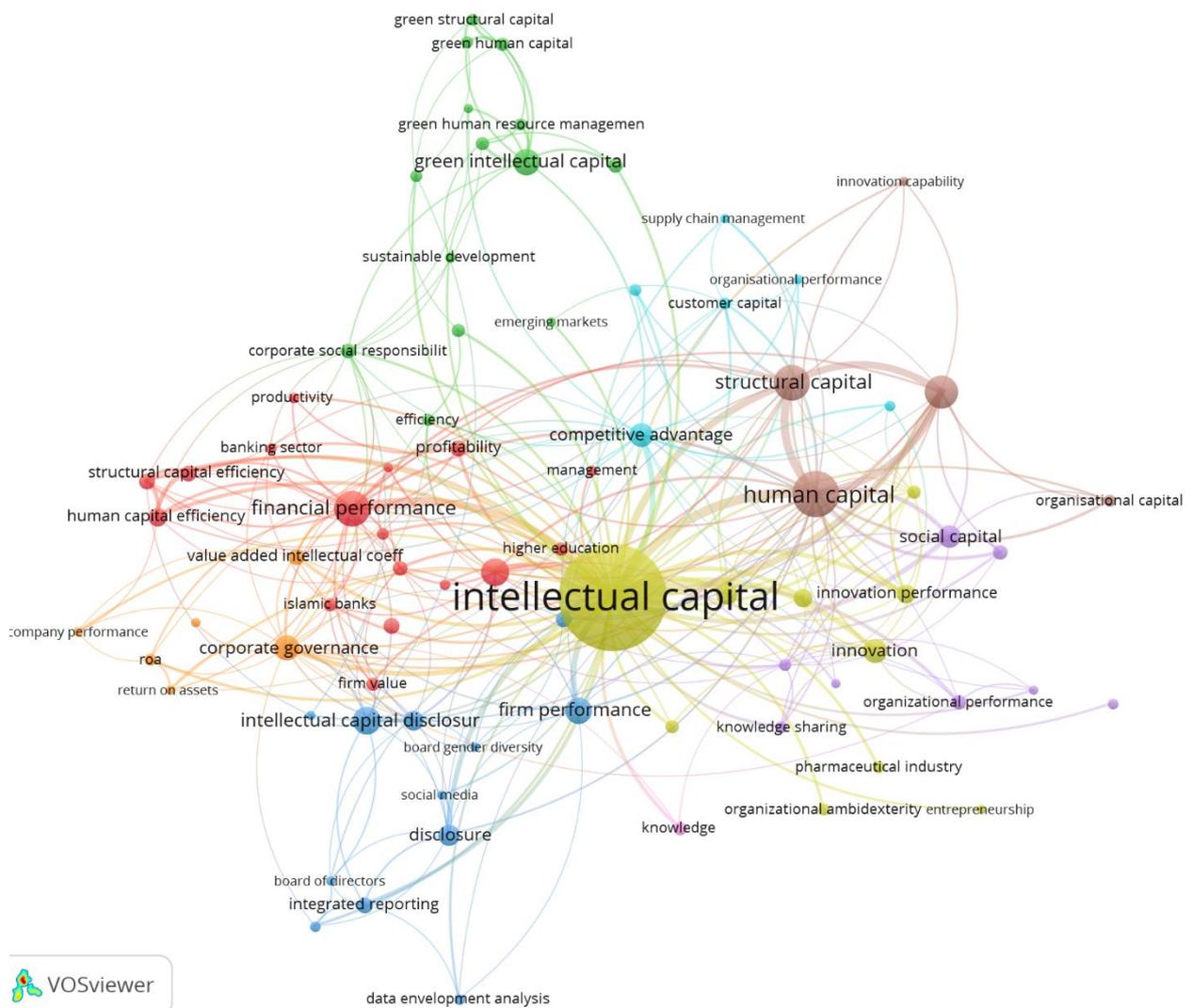


Figure 12: Cluster visualization of Keywords

Cluster 5: Purple

Core Themes: Organizational Performance, Higher Education

Analysis: This cluster looks at the role of intellectual, organizational, and social capital in affecting performance, particularly in higher educational institutions.

Future Research: Studies can delve into the mechanisms through which knowledge sharing affects organizational performance. In higher education, research could explore how strategic management practices can optimize intellectual capital for better academic and research outcomes.

Cluster 6: Greenish Blue

Core Themes: Competitive Advantage, Supply Chain

Analysis: The central theme is how intellectual capital serves as a source of competitive advantage, extending even to operational aspects like supply chain management.

Future Research: Investigate how intellectual capital interacts with supply chain agility and resilience. Studies could also look into how customer capital, a sub-category of intellectual capital, can be harnessed to create sustainable competitive advantages.

Cluster 7: Orange

Core Themes: Performance Metrics, Corporate Governance

Analysis: This cluster is pivotal for organizations that aim to establish a quantitative understanding of how well their intellectual capital is managed.

Future Research: Future work might focus on developing newer, more robust metrics for measuring the effectiveness of intellectual capital management, perhaps drawing from advancements in data analytics.

Cluster 8: Brown

Core Themes: Types of Intellectual Capital

Analysis: This cluster takes a closer look at the types of intellectual capital, dissecting them into human, organizational, and relational capitals.

Future Research: Research could focus on developing an integrative framework that shows how these different types of intellectual capital interact, with a particular focus on how they contribute to innovation capabilities.

Conclusion

This study conducted an exhaustive review of scientific publications in the field of Intellectual Capital, employing advanced Bibliometric analysis and graphical representations to delineate its historical development. The data reveals a surge in research activity, characterized by a collaborative research environment with an average of 3.03 co-authors per document and a 30.15% rate of international co-authorships. This suggests a globalized and interdisciplinary approach to Intellectual Capital, corroborating its growing and expansive body of knowledge.

Geographically, Italy, China, Indonesia, and Malaysia emerge as leading contributors. However, a nuanced analysis shows that while Indonesia leads in the number of publications, Italy excels in terms of citations. This underscores the notion that the quality of research is not solely dependent on the quantity of publications but also hinges on its acceptance and applicability within the academic community.

In terms of thematic focus, the study uncovers a rich tapestry of research areas, ranging from foundational themes like 'human capital' and 'financial performance' to more complex

and contemporary topics such as 'sustainability' and 'corporate social responsibility.' This shift in thematic landscape indicates a growing awareness of the multifaceted nature of Intellectual Capital and its relevance across various sectors, including banking, higher education, and supply chain management.

The study also identifies several thematic clusters, such as 'Governance, Disclosure, efficiency,' suggesting that modern platforms like social media could be instrumental in enhancing disclosure and organizational efficiency. Another cluster focuses on entrepreneurship, innovation, SMEs, highlighting the critical role of intellectual capital in fostering innovation, particularly in Small and Medium-sized Enterprises.

The theoretical implications of this comprehensive study offer a panoramic view of intellectual capital research, identifying its key components, growth trajectory, and areas of focus. Practically, the findings have direct relevance for researchers, educators, and students in higher education, providing a robust theoretical foundation for future work. The study's limitations lie in its exclusive reliance on the Scopus database, leaving room for further research using other databases.

In summary, the field of intellectual capital is not only expanding but also becoming increasingly complex and interdisciplinary. The evolving themes and the emergence of new clusters indicate a need for integrated research that explores these inter-linkages and emerging topics. Future research could focus on developing robust metrics for measuring intellectual capital, exploring its impact in different sectors, and understanding its role in achieving long-term sustainability goals. Given that most existing studies focus on measuring the three main components of intellectual capital—human, structural, and relational capital—in commercial settings, future work could examine intellectual capital as a strategic asset in higher education institutions, which are inherently creative and knowledge-disseminating organizations.

This research significantly enriches the understanding of intellectual capital, both theoretically and contextually. Theoretically, it traces the concept's evolution from the early notion of 'human asset accounting' to a sophisticated construct encompassing human, structural, and relational capital. This progression underlines the increasing complexity and academic importance of intellectual capital. Contextually, the study reveals its global and interdisciplinary nature, with diverse contributions across sectors like banking, education, and supply chain management. The research also aligns intellectual capital with contemporary concerns such as sustainability and corporate social responsibility, highlighting its broader relevance beyond conventional business metrics. This comprehensive analysis thus positions intellectual capital as a pivotal element in organizational strategy and sustainability, providing a robust foundation for future explorations in various knowledge-intensive sectors.

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