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BRIDGING BRAINS AND BORDERS: WHEN INTELLECTUAL CAPITAL MEETS TAX POLICY

PREPÁJANIE MOZGOV A HRANÍC: KEĎ INTELEKTUÁLNY KAPITÁL KOREŠPONDUJE S DAŇOVOU POLITIKOU

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Abstract: *This study presents a bibliometric overview of the relationship between intellectual capital and taxation, an area that remains underexplored despite its increasing importance. Analysing publications from major academic databases, it maps the thematic areas where these fields intersect, such as performance, innovation, governance, and economic growth. The analysis reveals that the United States, UK, Spain, Italy, and China are leading contributors, with notable collaboration hubs in the UK, Switzerland, and Singapore. The findings highlight how national policies and international networks shape research in this domain. Overall, the study offers new insights into how taxation impacts the development and management of intangible assets and suggests opportunities for further interdisciplinary and policy-driven research.*

Keywords: intellectual capital, intangible assets, tax policy
JEL Classification: O34, H20

Introduction

Over the past thirty years, the concept of intellectual capital (IC) has garnered increasing scholarly and practical attention, highlighting the rising importance of intangible assets in driving firm performance, competitiveness, and economic development. Typically conceptualized as the aggregation of human, structural, and relational capital, intellectual capital has been extensively studied in relation to innovation, value creation, governance, and strategic management. Concurrently, taxation remains a central topic within economics, finance, and public policy, as fiscal policies significantly influence corporate behavior and broader economic outcomes. Notwithstanding the evident connections between these domains, the intersection of intellectual capital and taxation has been relatively underexplored.

This study addresses this gap by conducting a bibliometric analysis of publications linking intellectual capital and taxation. Using data from leading academic sources, it examines the structure, regional distribution, and collaboration patterns in this developing field. The three primary goals are to identify key thematic clusters, map contributions by region, and assess the level of international cooperation influencing the area.

The study enhances current literature in two key ways. First, it offers the first systematic bibliometric review that specifically connects intellectual capital and taxation, giving an overview of their intersection. Second, it encourages further discussion by highlighting opportunities for comparative, interdisciplinary, and policy-oriented research. Overall, it provides a solid foundation for future studies and delivers useful insights for policymakers, practitioners, and academics interested in how taxation impacts the knowledge economy.

1 LITERATURE REVIEW

Several reasons confirm the relevance of intangible assets and intellectual capital. Firstly, from a regulatory perspective, the field of intangible assets has significantly developed over the past 30 years (Garanina et al., 2021). Reforms implemented between 1994 and 2004 resulted in adopting International Accounting Standards (IAS), expanding global accounting options for companies. Starting from April 1, 2001, the International Accounting Standards Board (IASB) has embraced International Financial Reporting Standards (IFRS), previously referred to as IAS, as the recognised accounting standards (IFRS, 2018). Since 2005, the European Union has mandated the use of IFRS as the accounting standard for EU countries. Starting in 2007, efforts to align IFRS with the generally accepted accounting principles of the United States (US GAAP) have been initiated. Despite variations in the accounting treatment of intangible assets, the harmonisation process is progressing at a higher level. Despite the new regulations on accounting standards, accounting practices related to intangible assets and intellectual capital remain controversial. Some researchers, such as Chalmers et al. (2012) or Baruch Lev (2018), blame IAS 38 (International Accounting Standards) and SFAS 2 (Statements of Financial Accounting Standards) for how intangible assets are reported, valued, and disclosed. Furthermore, practitioners and researchers often criticise accounting standards for not providing additional guidance on accurately measuring intangible assets (Garanina et al., 2021). Additionally, taxation plays a crucial role in recognising and valuing intangible assets, influencing how companies account for and report these assets for fiscal purposes. Tax regulations can create incentives or disincentives for the capitalisation of intangible assets, impacting corporate financial strategies (Yusuf et al., 2025).

The global impact of information and technological and communication development has transformed our society and prioritized the globalization of the economy and innovation as key factors in global competition. The economic, political, and social environment has recently undergone profound changes, leading to a higher level of globalization and increased competition. As a result, the transition from traditional accounting to modern accounting now requires more information. The evolution from the agricultural age to the industrial age has also changed the approach to intangible assets and their importance. This is evident in published studies: in 1978, intangible assets accounted for 5% of all assets; in 1998, this number increased to 72% of all assets, and currently, intangible assets represent 75-85% of all assets (Gîju et al., 2012).

The concept of Intellectual Capital (IC) has been extensively examined, with diverse perspectives on its components. Most studies identify three main elements: human capital (HC), structural/organisational capital (SC), and relational capital (RC). Definitions of IC vary, considering analysis level, time value, and objectivity (Manzari et al., 2012). Its multidimensional nature complicates a single term. Perspectives include economic, managerial, and accounting views (Karchegani et al., 2013). Stewart & Loose (1994) see IC as knowledge and skills stored in the human brain. Rastogi (2003) describes it as the organization's ability to manage knowledge to create value. Martin (2000) defines it as formalised intellectual material

creating higher value. Manzari et al. (2012) see IC as knowledge, skills, technologies, and relationships providing competitive advantage. Beattie & Thomson (2007) describe it as intangible assets that create value. Bukh et al. (2001) view IC as a mix of competencies and liabilities. Gavious & Russ (2009) define it as intangible assets enabling organisational function.

A detailed review shows staff expertise, skills, education, computer use, and stakeholder relationships are key factors in property tax reassessment, linked to IC. Human resources are vital for successful revaluation (Senawi et al., 2022), especially within HC, where they form part of IC. As HC has gained importance (Bontis, 2002; Cabrita & Bontis, 2008; Mention & Bontis, 2013), IC likely impacts tax reassessment determinants. Property tax systems and software relate to SC, including hardware, software, organisational structures, patents, and trademarks that boost productivity (Mention & Bontis, 2013). Hardware and software like computers, valuation systems, and land records support reassessment; recent studies confirm their significance (Senawi et al., 2022), establishing a positive link between SC and reassessment success. Additionally, public relations and education align with RC, another IC dimension. Effective stakeholder engagement indicates RC (Liu & Jiang, 2020), crucial in property tax reassessment for stakeholder, government, and taxpayer cooperation, which aids decision-making and reduces objections. Massawe (2020) urges ongoing public awareness to improve property tax reform and ensure accurate valuation. All determinants relate to IC's three main dimensions: HC, SC, and RC. While not explicitly detailed, local authorities have adopted IC in property tax reassessment, making it practical to use IC components as substitutes for certain determinants, as in this study (Senawi & Osmadi, 2022).

2 METHODOLOGY AND DATA COLLECTION

The data were gathered on October 2, 2025, from the Web of Science database. This reputable and comprehensive scientific resource provides access to a wide range of peer-reviewed journals and conference proceedings. Its stringent selection process guarantees the reliability and quality of included publications. Moreover, Web of Science features advanced search and citation-tracking tools, facilitating researchers in locating relevant information and evaluating the impact of scientific work. Its broad coverage across various disciplines further underscores its reliability as a trusted source for scientific research. The filtering criteria applied to the data are detailed in Figure 1.

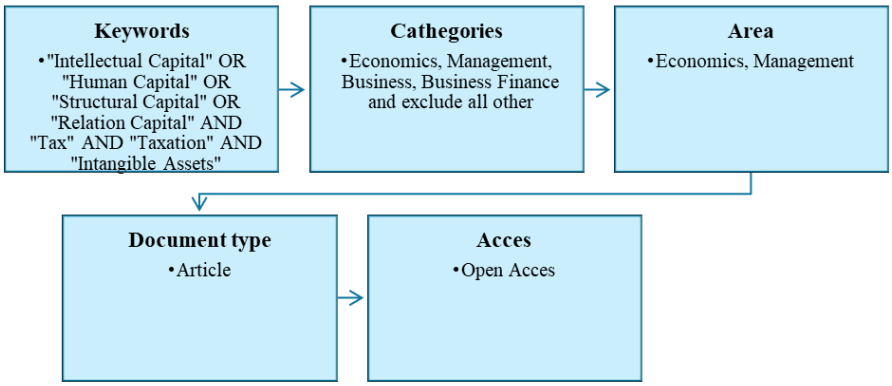


Figure 1: Filtering Criterias
Source: own proceeding

The collected sample was cleaned to remove duplicates, ensuring the accuracy and reliability of subsequent analyses. Working with a de-duplicated sample is crucial in academic research because it prevents data bias, enhances the validity of the results, and maintains the integrity of the scientific process. By eliminating duplicate entries, researchers can accurately interpret the data, draw valid conclusions, and ensure their findings are reproducible and trustworthy.

Table 1: Title of table

Timespan	1992 – 2024 (end year data)
Number of collected sources	661
Number of collected documents	4 046
Annual growth rate	18,02%
Document average age	6,16
Number of collected references	162 034
Average citation per document	19,5
Number of collected keywords	9 633
Number of authors	9 667

Source: own proceeding

In our previous research (Slyvkanych et al., 2025), we identified English as the primary language of bibliometrics. In that case, we focused on various possible access points to tax legislation and included all languages. Nonetheless, intellectual capital is closely connected to the changes in accounting standards at the beginning of the 21st century, and as we can see from Figure 2, the primary language even in that field of research remains English.

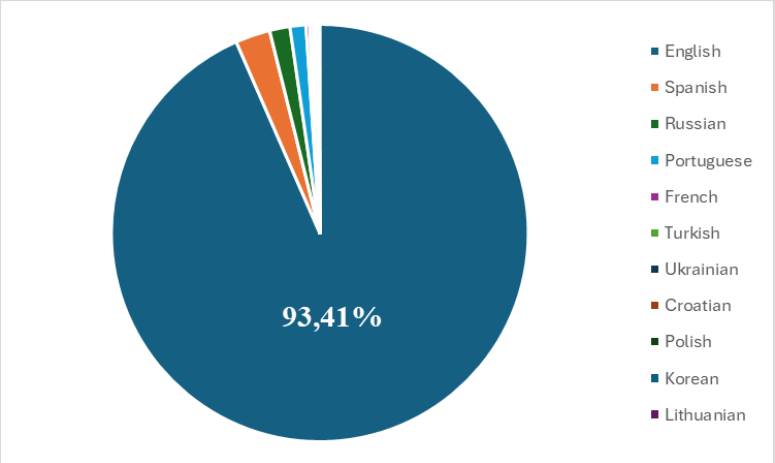


Figure 2: Language distribution

Source: own proceeding

The described sample was further analysed with the help of the "Bibliometrix" package in RStudio. The package was carefully developed by Aria & Cuccurullo (2017), employing a comprehensive bibliometric methodology. It incorporates advanced techniques like bibliographic coupling, co-citation, co-authorship, and co-word analysis, providing a thorough and detailed approach to bibliometric research. This package includes various basic and advanced bibliometric tools described in detail in Figure 3.

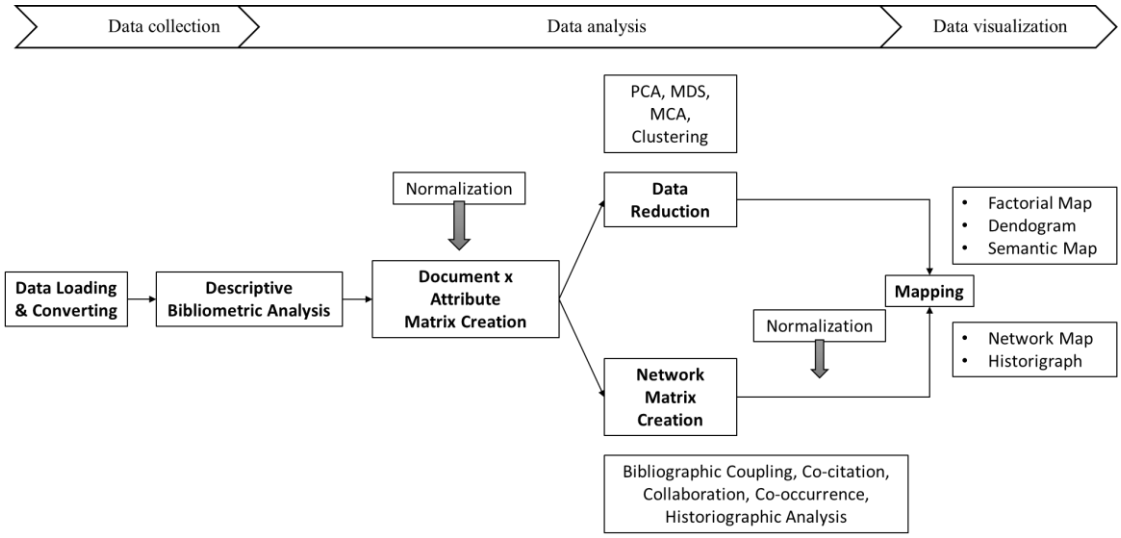


Figure 3: Bibliometrix package tool
Source: own proceeding according to Aria & Cuccurullo (2017)

3 RESULTS

Figure 4 depicts the annual number of published articles alongside the corresponding average citations per article from 1992 to 2024. A discernible trend emerges across the studied period: the volume of publications has exhibited a consistent increase — particularly post-2008, with counts surpassing 450 in 2024 — while the average citations per article have generally declined since the early 2000s. During the period from 1992 to 2004, citation metrics were relatively elevated yet characterised by volatility, with several peaks exceeding 200 citations per article. Conversely, during this interval, publication output remained modest with notable fluctuations. From 2005 onward, there was a marked and steady rise in publication activity, accelerating notably after 2012. Meanwhile, the average citations per article have exhibited a downward trend, implying that although research output has grown, the visibility or impact of individual articles — measured through citations — has diminished over time. This divergence may reflect broader shifts in academic publishing trends, including heightened competition for scholarly attention, evolving citation practices, and the saturation of certain research domains.

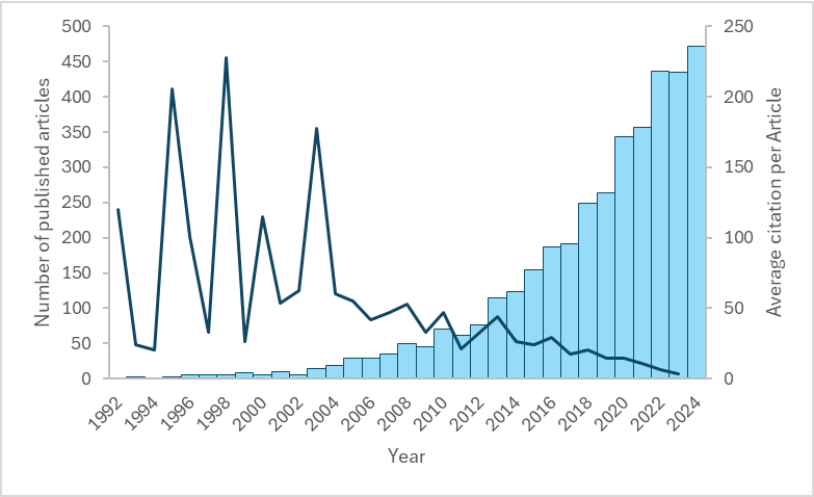


Figure 4: Trends in Publication Volume and Citation Impact Over Time (1992–2024)
Source: own proceeding

The specified language priority is potentially influenced not solely by the designation of English as the primary language for research but also by the predominant publishing nations and their collaborative networks. As illustrated in Figures 5 and 6, the two foremost publishing countries are English-speaking nations. An analysis at the country level reveals a concentration of research output within a limited subset of nations. The United States leads with 370 articles, followed by the United Kingdom (350), Spain (294), Italy (243), and China (200). These five countries collectively constitute a significant proportion of the global research output. Additional notable contributors include Poland (149), Indonesia (139), Russia (108), South Africa (95), France (85), and the Netherlands (82). This distribution underscores the central role of advanced economies and prominent emerging markets in shaping the landscape of intellectual capital and taxation research.

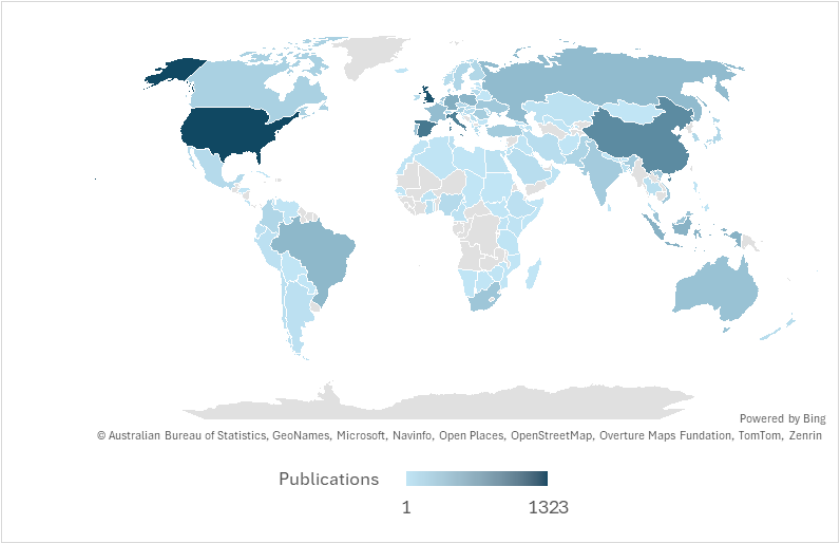
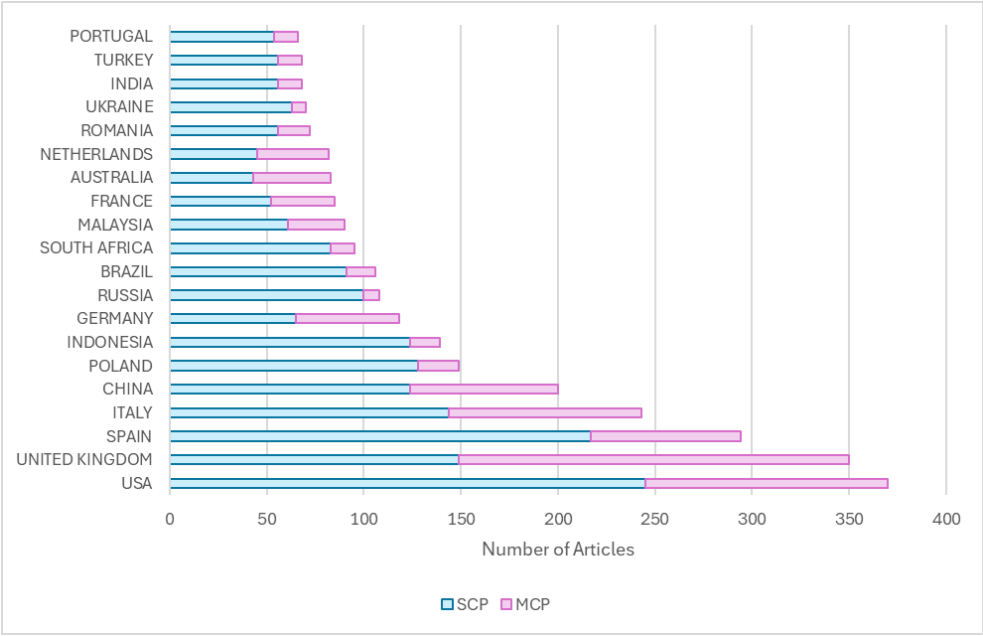


Figure 5: Map of the scientific publication amount
Source: own proceeding

Beyond publication volume, the authorship type reveals significant differences. Single-country publications (SCPs) are predominant in many regions, especially in Spain (74%), Poland (86%), Indonesia (89%), Russia (93%), South Africa (87%), Ukraine (90%), and Turkey

(82%). These studies tend to focus domestically, highlighting the role of local institutional, fiscal, and tax frameworks in intellectual capital research. Conversely, some nations exhibit a stronger tendency toward multiple-country publications (MCPs). The UK leads with 201 MCPs, constituting 57% of its total output, making it a key player in international collaboration. Other countries like Canada (53%), Switzerland (58%), Singapore (72%), and Austria (55%) also have majority international co-authored work. Countries such as the US (34% MCPs), Italy (41%), China (38%), France (39%), and the Netherlands (45%) display a more balanced approach, combining domestic research with international partnerships. These trends suggest that while research on intellectual capital and taxation often aligns with national tax and institutional settings, some countries serve as bridges for cross-national comparative studies. Notably, the UK plays a crucial role in connecting domestically focused research communities, allowing the field to incorporate diverse fiscal and regulatory viewpoints.



Note: SCP – single country publication; MCP – multiple country publication

Figure 6: Collaboration potential of countries

Source: own proceeding

To deepen understanding of the link and significance of intellectual capital and taxation, we present a co-word analysis. The keyword co-occurrence network offers a clear visualisation of the intellectual framework guiding current research at the crossroads of economics, management, and organisational performance. The analysis identifies two main thematic groups: one centred on macroeconomic and policy issues (Cluster 1, red), and the other on firm-level and managerial topics (Cluster 2, blue). Key nodes — performance, impact, innovation, and growth — serve as conceptual anchors, highlighting areas of strong scholarly interest. Performance and effects have the highest PageRank scores, indicating their influence, and the highest betweenness centrality, suggesting they connect different research themes. The blue cluster includes themes related to knowledge, innovation, management, and capabilities, emphasising the intangible assets that enhance firm performance. Conversely, the red cluster features terms like growth, investment, model, policy, and economic-growth, which are central to public finance and taxation studies. The shared pathways where these terms overlap with firm-focused concepts show increasing recognition that taxation policy can both influence and be influenced by firms' strategies regarding intellectual capital. For example, investments in

R&D, knowledge management, and human capital can directly impact innovation and growth, affecting tax contributions and incentives. Conversely, tax policy can either enable or restrict a firm's ability to develop and utilise intellectual capital. The key nodes — performance, impact, and growth — highlight a convergence between firm-level value creation and macroeconomic policies, indicating a growing interdependence. Overall, this visualisation maps the main themes and emphasises the potential to connect theories of intellectual capital with taxation research. This integration opens new pathways to understand how intangible assets shape fiscal outcomes and how tax policies can be designed to promote knowledge-based economic growth.

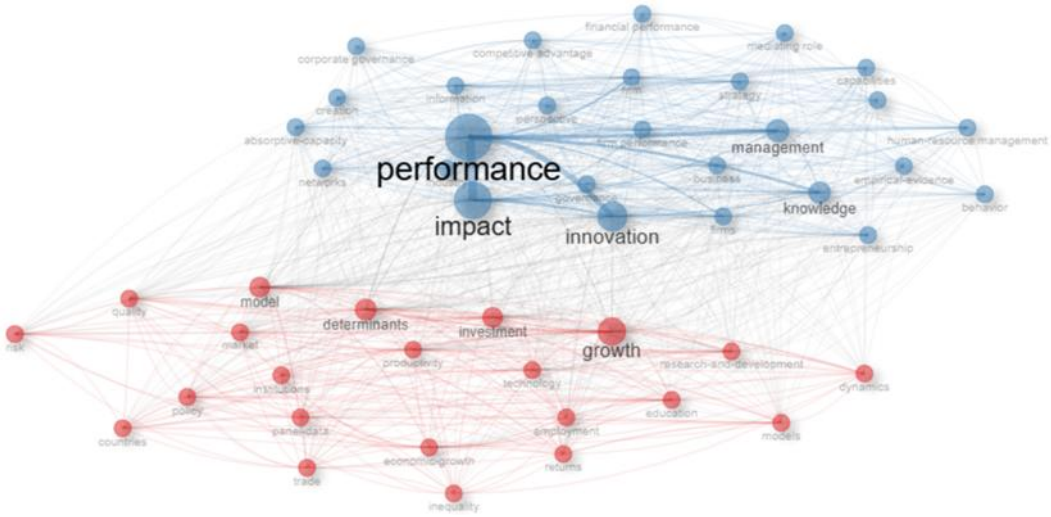


Figure 7: Keyword Network of Intellectual Capital and Taxation Studies
Source: own proceeding

The analysis of the conceptual structure utilising Multidimensional Scaling (MDS) reveals that the scholarly literature on intellectual capital and taxation is organized around a singular yet multidimensional cluster of concepts (Figure 8). This suggests that research within this domain is relatively cohesive, characterised by overlapping themes rather than entirely distinct streams. Central to the map, the concepts of performance, management, firm, business, innovation, and growth are closely interconnected. Their prominence underscores the predominant focus on firm- level outcomes in the literature, indicating that intellectual capital is primarily examined in terms of its influence on performance and value creation within organizations. Several distinct thematic areas can be discerned within the cluster. On the left side, concepts such as resources, capabilities, strategy, knowledge, and competitive advantage emphasize resource- based and knowledge- based perspectives of intellectual capital. This reflects the positioning of human, structural, and relational capital as vital intangible resources that shape organisational competitiveness. Related terms such as absorptive capacity, networks, innovation, and entrepreneurship highlight the dynamic aspects of intellectual capital, especially its role in facilitating knowledge creation, learning, and technological advancement. On the right side of the map, the focus transitions to broader economic and policy dimensions. Terms such as economic growth, education, institutions, foreign direct investment, trade, and inequality underscore the influence of intellectual capital on macroeconomic outcomes. The inclusion of policy and taxation- related terms in this domain indicates an increasing linkage between intellectual capital and fiscal policy, investment decisions, and institutional frameworks. This reflects a growing recognition of how tax systems, incentives, and regulatory environments impact the accumulation, deployment, and reporting of intellectual capital across firms and nations. At the periphery of the map, methodological concepts such as empirical

evidence, panel data, models, and determinants are situated. Their position indicates that, while essential for empirical investigation, these serve primarily as analytical tools rather than foundational conceptual elements. Overall, the map demonstrates that research on intellectual capital and taxation is grounded in firm- level performance, informed by innovation and knowledge- based theories, and progressively interconnected with macroeconomic and policy discourses on growth, inequality, and fiscal regimes.

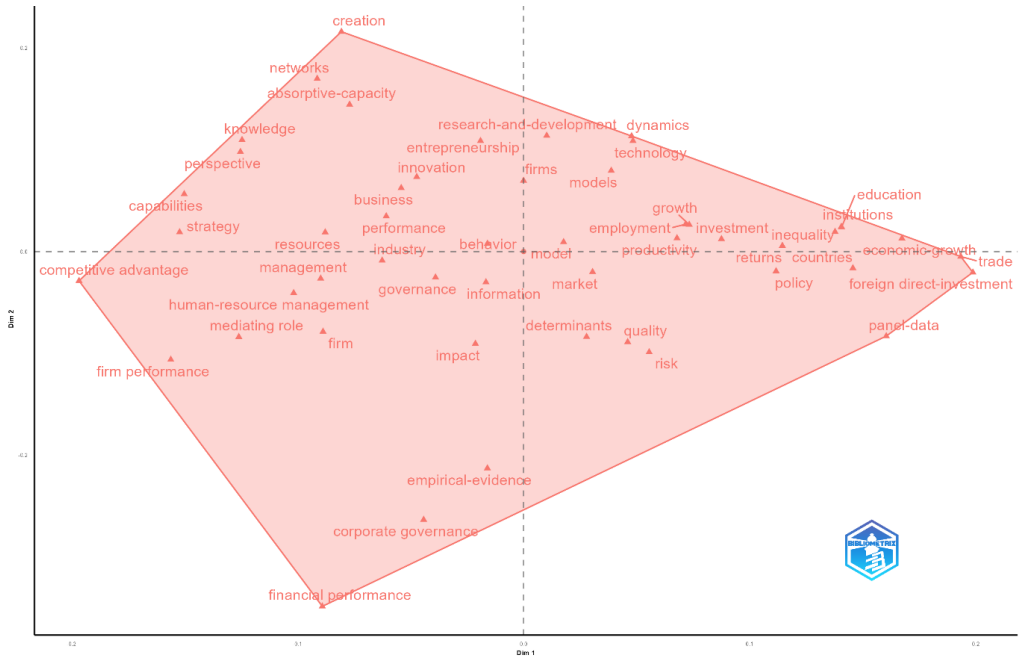


Figure 8: Conceptual structure map – factorial analysis
Source: own proceeding

CONCLUSION

This study constitutes the comprehensive bibliometric analysis examining the nexus between intellectual capital (IC) and taxation — two pivotal yet traditionally discrete domains of scholarship. Through delineating thematic clusters and regional contributions, the analysis accentuates the escalating academic interest regarding the influence of fiscal policies on the development, valuation, and management of intangible assets. The findings identify the United States, United Kingdom, Spain, Italy, and China as the primary centres of research activity, with salient collaborative networks emerging in Switzerland and Singapore. These patterns imply that domestic policy agendas and international scholarly collaborations substantially influence research trajectories within this emergent field. The findings substantiate the significance of intellectual capital within the broader economic discourse, particularly concerning organisational performance, innovation, governance frameworks, and sustainable development. Concurrently, they highlight a notable deficiency in integrated research that examines the fiscal and policy aspects of intangible asset management. As economies evolve toward paradigms grounded in knowledge and innovation, a comprehensive understanding of the influence of taxation on intellectual capital assumes escalating importance.

To improve, focus on implementing clear strategies like fostering interdisciplinary research, enhancing international collaboration, developing standardized metrics, and expanding regional and sectoral studies. Our research shows that many European countries are grouped as a single publishing nation. Since most are part of the European Union, they are

influenced by centralised policies. Collaborating on qualitative and quantitative research can help clarify the differences between countries and highlight the best examples or case studies. Partnering with the USA might also enhance the accounting system for recording and managing intellectual capital as an intangible asset, which could lead to better tax policies. Integrating research on intellectual capital and taxation with empirical data can enhance the accuracy of synthetic indexes. To achieve clearer results and better comprehend the step-by-step development of intellectual capital, along with its accounting and taxation, it is advisable to utilise firm-level data. Comparing firms across various sectors, such as those classified by NACE, can provide more insightful analysis. Not less important is also to research the accesses to intellectual property which are more stronger in common law countries (e.g. USA) that in civil law countries (e.g. EU countries) what can be achieved by multicultural collaboration. These steps will strengthen understanding and policymaking related to tax policies and intellectual capital.

Despite its valuable insights, this study has several limitations. Firstly, bibliometric analyses rely heavily on the quality and comprehensiveness of publication databases, which may miss relevant works not included in the chosen sources. Secondly, concentrating on quantitative indicators might not reflect the full qualitative depth or practical significance of the research. Lastly, since tax policy and IC-related regulations are continuously changing, the findings could become outdated if not regularly reviewed.

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REFERENCES

ARIA, M., CUCCURULLO, C. bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, vol.11 (2017), no. 4, pp. 959–975. Dostupné na: https://doi.org/10.1016/j.joi.2017.08.007

BONTIS, N. Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field. *World Congress on Intellectual Capital Readings* (2002), pp. 13–56. Dostupné na: https://doi.org/doi:10.1016/B978-0-7506-7475-1.50006-3

CABRITA, M. D. R., BONTIS, N. Intellectual capital and business performance in the Portuguese banking industry. *International Journal of Technology Management*, vol. 43 (2008), Article 1/2/3. Dostupné na: https://doi.org/10.1504/IJTM.2008.019416

CHALMERS, K., CLINCH, G., GODFREY, J. M., WEI, Z. Intangible assets, IFRS and analysts’ earnings forecasts: Accounting and Finance. *Accounting & Finance*, vol. 52 (2012). no. 3, Article 3.Dostupné na: https://doi.org/10.1111/j.1467-629X.2011.00424.x

GARANINA, T., HUSSINKI, H., DUMAY, J. Accounting for intangibles and intellectual capital: A literature review from 2000 to 2020. *Accounting & Finance*, vol. 61 (2021), no. 4, Article 4. Dostupné na: https://doi.org/10.1111/acfi.12751

GÎJU, G. C., RADU, V., GRIGORE (IANCU), M. A., VLĂDAIA (VLAD), M. L. From Visible to Hidden Intangible Assets. *Procedia - Social and Behavioral Sciences*, vol. 62 (2012), pp. 682–688. Dostupné na: https://doi.org/10.1016/j.sbspro.2012.09.116

IFRS. (2018). IFRS - Who we are. Who We Are. Dostupné na: https://www.ifrs.org/about-us/who-we-are/

LEV, B. The deteriorating usefulness of financial report information and how to reverse it. *Accounting and Business Research*, vol. 48 (2018), pp. 465–493. Dostupné na: https://doi.org/10.1080/00014788.2018.1470138

LIU, C.-H., JIANG, J.-F. Assessing the moderating roles of brand equity, intellectual capital and social capital in Chinese luxury hotels. *Journal of Hospitality and Tourism Management*, vol. 43 (2020), pp. 139–148. Dostupné na: https://doi.org/10.1016/j.jhtm.2020.03.003

MASSAWE, H. T. Regulation of Property Tax in Tanzania: Legal and Administrative Challenges. *KAS African Law Study Library*, vol. 7 (2020), no. 3, pp. 424–438. Dostupné na: https://doi.org/10.5771/2363-6262-2020-3-424

MENTION, A., BONTIS, N. (2013). Intellectual capital and performance within the banking sector of Luxembourg and Belgium. *Journal of Intellectual Capital*, vol. 14 (2013), no. 2, Article 2. Dostupné na: https://doi.org/10.1108/14691931311323896

SENAWI, A., OSMADI, A. Intellectual capital and property tax reassessment performance of local authorities: The interrelationships analysis. *Frontiers in Psychology*, vol. 13 (2022). Dostupné na: https://doi.org/10.3389/fpsyg.2022.1060219

SENAWI, A., OSMADI, A., RAHMAN, N. A. Y. A. Evaluating determinants of property tax reassessment: Malaysian practitioners' preliminary observations. *Planning Malaysia*, vol. 20 (2022). Dostupné na: https://doi.org/10.21837/pm.v20i21.1118

SLYVKANYCH, N., GLOVA, J., DANCAKOVA, D. Evolution Of Intellectual Capital As An Intangible Asset In Accounting: Systematic Literature Review And Bibliometric Analysis. *AD ALTA Journal of Interdisciplinary Research*, vol. 14 (2024), pp. 108–118. Dostupné na: https://doi.org/10.33543/1402

YUSUF, M., ISMAIL, T., TAQI, M., SOLENA, N. (2025). Audit Delay In The Agency Context: Profitability, Corporate Social Responsibility, Intellectual Capital, And Tax Avoidance. *Financial and Credit Activity Problems of Theory and Practice*, vol. 4 (2025), no. 63, pp. 93–105. Dostupné na: https://doi.org/10.55643/fcaptp.4.63.2025.4812