

SYSTEMATIC LITERATURE REVIEW ON INTELLECTUAL CAPITAL AND CORPORATE PERFORMANCE

Zubair Zargar*, Mehraj Ud Din Shah**, Musadiq Amin Sahaf***

Abstract *Purpose* – This systematic review examines the relationship between intellectual capital (IC) and corporate performance, synthesising recent literature to identify key trends, measurement approaches, and performance outcomes.

Design/Methodology/Approach – A systematic literature review (SLR), guided by the PRISMA framework, was conducted on 63 peer-reviewed articles published in the Web of Science (WoS) database between 2018 and 2024.

Findings – Asia accounted for 64% of the reviewed studies, led by China (16.39%) and India (14.75%), underscoring the region's growing research prominence. Human capital was the most frequently studied IC component (85%), followed by structural capital (70%) and relational capital (65%), with increasing attention to innovation, social, and entrepreneurial capital. The Value-Added Intellectual Coefficient (VAIC) emerged as the dominant measurement tool (37.5%). Corporate performance was most significantly influenced by human capital and capital-employed efficiency (CEE), while the effects of other components were mixed.

Originality/Value – This review consolidates recent empirical evidence on IC's contribution to competitive advantage, offering policymakers and business leaders actionable insights for IC-oriented strategies. It also maps the evolving research landscape and identifies gaps for future inquiry.

Keywords *Intellectual Capital, Performance, Systematic Literature Review, PRISMA Framework, Human Capital, VAIC*

INTRODUCTION

The modern knowledge economy has witnessed a paradigm shift towards innovation, competitiveness, and sustainability, driven by the strategic role of intellectual capital (IC) (Bontis, 1998; Cheikh & Noubbigh, 2019). This paradigm shift emphasises investments in customer relationships, IT, research and development (R&D), and employee training, underlining IC's critical role in enhancing economic resilience and growth (OECD, 2008; Kamukama et al., 2010; Zhou & Fink, 2003). Defined as "knowledge that can be converted into value" (Edvinsson & Sullivan, 1996), IC has emerged as a pivotal determinant in a firm's operational efficiency, profitability, strategic advantage, and enduring success (Kato et al., 2015; Agostini et al., 2017; Razafindrambinina & Anggreni, 2017; Wang & Zatzick, 2018).

IC comprises a synergistic combination of employee skills, knowledge, and experiences integrated with organisational informational assets, collectively shaping a firm's capacity

for sustainable profitability and growth (Cosa et al., 2024). Its components – human capital (the skills, creativity, and learning capacity of individuals), structural capital (organisational systems and culture), and relational capital (stakeholder networks and external relationships) – serve as critical drivers of value creation and competitive advantage (Khalique et al., 2011; Lerro et al., 2014). Through the effective utilisation of these intangible assets, organisations enhance their ability to sustain competitiveness and foster long-term growth (Mavridis, 2004; Xu & Wang, 2018).

Theoretical perspectives such as the resource-based view (RBV) and the knowledge-based view (KBV) provide robust frameworks for understanding the influence of IC on firm value. The RBV posits that a firm's unique and valuable resources, including IC, confer a competitive edge, enabling superior performance and market valuation (Salvi et al., 2020). Similarly, the KBV emphasises creating, transferring, and applying knowledge within organisations, identifying IC as a fundamental knowledge asset that drives market position and value creation (Jiang et al., 2023). Empirical studies have

* Research Scholar, Central University of Kashmir, Jammu & Kashmir, India. Email: zubairzargar57@gmail.com

** Associate Professor, Central University of Kashmir, Jammu & Kashmir, India. Email: drshahmehraj@cukashmir.ac.in

*** Professor, Central University of Kashmir, Jammu & Kashmir, India.. Email: masahaf@hotmail.com

extensively examined the contributions of IC components – human capital (employee expertise and skills), structural capital (organisational systems and innovation processes), and relational capital (stakeholder networks and external partnerships) – to firm performance and market valuation (Mondal & Ghosh, 2021; Raimo et al., 2021; Bryl, 2021). In addition, scholars have developed models and metrics to quantify IC, enabling systematic analyses of its impact on financial performance and long-term value generation.

Understanding IC's role in shaping organisational value is both theoretically compelling and practically significant for managers and decision makers (de Frutos-Belizón et al., 2019). Despite its critical importance, IC often remains unquantified in traditional financial statements (De Villiers & Sharma, 2017; Bhasin & Shaikh, 2011; Meritum, 2002). Nevertheless, IC's intangible nature drives long-term value creation, advancing sustainability and contributing to broader societal well-being (Zhou & Fink, 2003). This is closely aligned with the sustainable development goals (SDGs) set forth in the United Nations' 2030 Agenda (Jardón et al., 2019; Xu & Wang, 2018).

Given the varied definitions and components of IC, this paper seeks to identify its analytical dimensions and components while examining its relationship to organisational performance. Doing so aims to deepen the understanding of how IC can be effectively leveraged through a detailed analysis of the management processes involved. Our exploration of IC focuses on its multifaceted components and their profound implications for organisational performance, with the ultimate goal of shedding light on the evolving role of IC in contemporary business practices.

This paper hypothesises that IC serves as a fundamental catalyst for advancing a company's business development. This hypothesis is rooted in the growing recognition that IC fosters innovation, enhances organisational efficiency, and bolsters overall competitiveness. By investigating the intricate relationships between IC and organisational outcomes, this research aspires to provide actionable insights that empower businesses to optimise their intellectual resources, fostering sustained growth and long-term success.

The remainder of this article is structured as follows: the next section outlines the methodology employed in this study. A discussion of the key findings from the systematic literature review (SLR) follows. Subsequently, the paper synthesises key insights from the review and outlines potential avenues for future research. Finally, the article concludes with a summary of key findings, practical implications, and acknowledged limitations.

METHODOLOGY

A systematic literature review (SLR) methodology has been carried out to disclose the known and unknown details concerning IC. This approach enhances traditional narrative reviews by generating methodical and verifiable research outcomes through its formalised protocols, explicit methodological criteria, accountable execution, well-defined responsibilities, and objective assessment mechanisms (Massaro et al., 2016). It provides significant advantages over traditional review approaches, including enhanced analytical rigour (Danese et al., 2017), minimised bias and methodological error (Dada, 2018), increased validity through replicable processes (Wang & Chugh, 2014), structured knowledge mapping (Tranfield et al., 2003), and improved accessibility for both academic and professional audiences (Dada, 2018). By employing transparent and well-defined procedures, SLRs not only synthesise existing research but also facilitate the identification of emerging trends, ensure reproducibility, enable critical and transparent analysis, and guide future scholarly inquiry (Boaz et al., 2002; Jesson & Lacey, 2006; Petticrew & Roberts, 2008; Di Vaio et al., 2021; Secundo et al., 2020). An SLR's objective is to systematically map and assess current knowledge to pinpoint areas that need more research and development (Okoli et al., 2010). It has demonstrated its effectiveness across interdisciplinary fields, including knowledge management, accounting, and IC (Massaro et al., 2015, 2016; Tranfield et al., 2003).

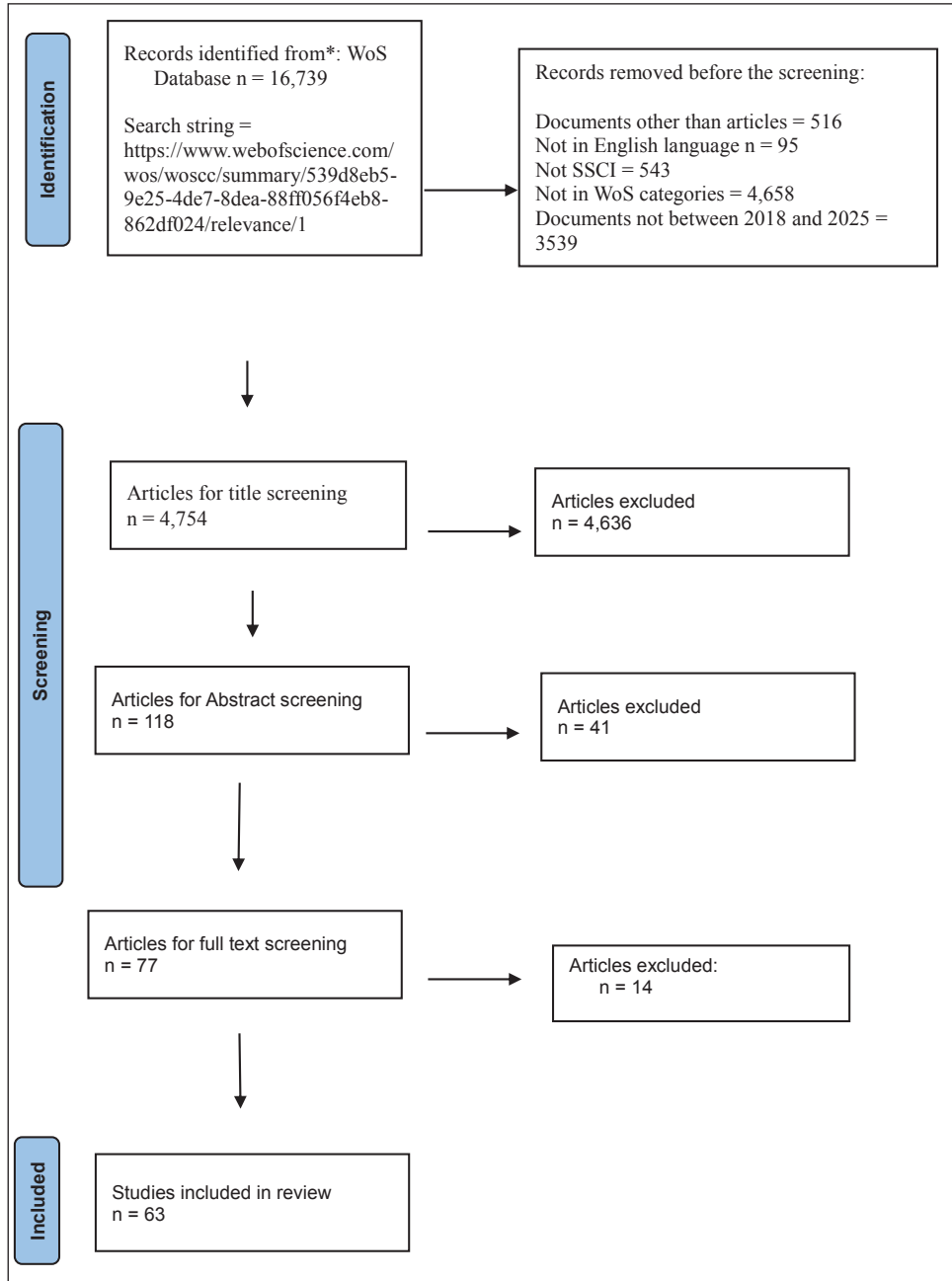
This study applies the PRISMA framework of SLR to examine academic literature on IC, aiming to generate insights, critical evaluations, and actionable recommendations for future research. According to Liberati et al. (2009), PRISMA allows researchers to conduct systematic reviews in a wide framework, eliminating the need for detailed methodologies. Furthermore, PRISMA does not manage quality evaluation to determine the merits and qualities of other organised reviews.

Massaro et al. (2016) assert that the initial stage of an SLR involves delineating the scope of the research topic and establishing the temporal boundaries for analysis. In the second step, the questions that the review is trying to address must be defined (Massaro et al., 2016). The penultimate stage comprises determining the acceptability of shortlisted articles (Massaro et al., 2016). Given that not all evidence holds equal validity or utility (Petticrew & Roberts, 2008), researchers must meticulously select appropriate materials to ensure the inclusion of high-quality and pertinent resources

(Dixon-Woods et al., 2007), while the final stage involves determining the integration of the findings (Escobar & Escobar, 2022). (See Fig. 1).

The following research questions are addressed through this review:

- To investigate the IC components that have been employed in IC research and the most and least frequently examined in connection to corporate financial performance.
- To examine the most commonly used measurement methodologies for evaluating IC and performance.
- To assess the significance of IC in improving a company’s performance.
- To assess the year-wise and journal-wise distribution.
- To identify significant insights and research gaps that will guide future studies on the relationship between IC and corporate performance.



Source: Authors’ own work.

Fig. 1: PRISMA Flow Diagram

Search from Database

For the systematic review, the Web of Science (WoS) database was accessed in December 2025 due to its wide international coverage and rich scholarly collection. The keywords ‘Intellectual capital’, ‘corporate performance’, and ‘financial performance’ were used in the abstract, title, and keywords fields. The initial search uncovered 16,739 publications between 2018 and 2024.

Inclusion and Exclusion Criteria

Inclusion Criteria

To ensure relevance and quality, this review includes only:

- Peer-reviewed journal articles.
- Studies published in English.
- Publications within the WoS categories of business, management, finance, and social sciences.
- Articles indexed in the Social Sciences Citation Index (SSCI).
- Research published between 2018 and 2024.

Exclusion Criteria

The following were systematically excluded:

- Non-journal publications (e.g., conference proceedings, book chapters, editorials, and reports).
- Non-English language publications.
- Studies outside the specified WoS categories.
- Articles not indexed in SSCI.
- Publications outside the 2018–2024 timeframe.

Systematic review initiation began with a pool of 16,739 articles extracted from WoS. The application of predetermined inclusion and exclusion criteria later led the dataset to be narrowed down to 4,754 possible publications. Thereafter, an intense two-phase screening scheme followed for obtaining qualitatively appropriate studies. To begin with, title and abstract screening of each of the 4,754 articles was performed with the outcome of 77 articles advancing to full-text screening. For the second phase, these 77 articles were screened in full text with a further 14 articles excluded for lacking methodological quality or relevance for research goals. This narrowed down the corpus of studies for the research goals to 63. Systematic methodology ensured methodological transparency with the scholarly relevance of the literature included for thorough examination.

RESULTS

Intellectual Capital Components

The concept of ‘intellectual capital’ was introduced by academics such as Galbraith (1969), Edvinsson and Malone (1997), and Coleman (1988) to describe intangible resources that contribute to organisational success. Over time, strategic models were developed to enhance non-physical assets, as highlighted by Sveiby et al. (2007). Since its inception, numerous scholarly works have proposed frameworks focusing on financial and accounting practices, analysing variables, structures, and metrics to define and classify intellectual capital within organisational contexts (Ali & Anwar, 2020; Bontis, 1998). Researchers have progressively expanded the core concepts of intangible organisational assets (Salicru et al., 2007), identifying IC as comprising the relationships, knowledge, and expertise that represent an organisation’s non-physical resources, serving as a counterpart to physical capital (Sardo & Serrasqueiro, 2019).

Earlier studies on intellectual resources highlight three fundamental variables: intangible assets, the ability to develop and adapt these resources, and the social relationships that facilitate knowledge creation (Ali et al., 2021). Cuzzo et al. (2017) emphasised that each element represents a distinct conceptualisation of knowledge, contributing to organisational innovation and performance. Human capital emerges as the most frequently examined component of IC, featuring in 85% of the reviewed studies, underscoring its critical role in leveraging individual expertise, skills, and knowledge for organisational success. This prominence is particularly evident in knowledge-intensive industries, where human capital is a primary driver of value creation (Nuryaman, 2015).

Structural capital, identified in 70% of the studies, is the second-most prevalent component, followed by relational capital, which appears in 65% of studies. Structural capital pertains to an organisation’s capacity to maintain standardised processes and systems, fostering innovation and improving performance through elements such as organisational culture, operational procedures, and intellectual property (IP) (Olarewaju & Msomi, 2021). A robust organisational structure has been shown to significantly enhance service quality and overall business outcomes (Hashim et al., 2015). Relational capital, on the other hand, focuses on managing external relationships, including those with customers, suppliers, and stakeholders, alongside the knowledge inherent in these connections. This component plays a

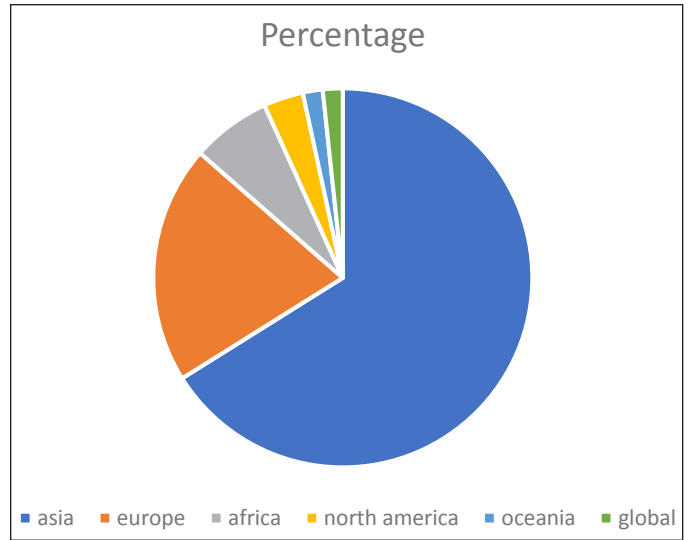
strategic role in shaping corporate reputation and fostering market competitiveness (Meles et al., 2016). These findings are consistent with early contributions by Stewart (1997), Sveiby (1997), Brooking (1996), Edvinsson (1997), Roos et al. (1997), and Bontis (1998), who collectively proposed that IC is mainly composed of human, structural, and relational or customer capital.

The analysis also reveals a growing emphasis on the emerging dimensions of IC. Innovation capital, for example, is examined in 25% of the studies, customer capital in 20%, and process capital in 18%. In addition, components such as social, technological, spiritual, and entrepreneurial capital are addressed in a smaller proportion of the research, reflecting an expanding and nuanced understanding of IC. These developments illustrate a shift from traditional frameworks to broader perspectives accommodating diverse organisational value drivers.

Studies by Bontis et al. (1998), Bayraktaroglu et al. (2020), and Xu and Liu (2021) reaffirm the centrality of traditional IC components while integrating emerging dimensions such as innovation and customer capital, adapting to evolving organisational priorities. Over the last two decades, organisations globally have recognised the imperative to cultivate intellectual capital components, viewing them as foundational elements for sustained business growth (Cabrilo & Dahms 2018).

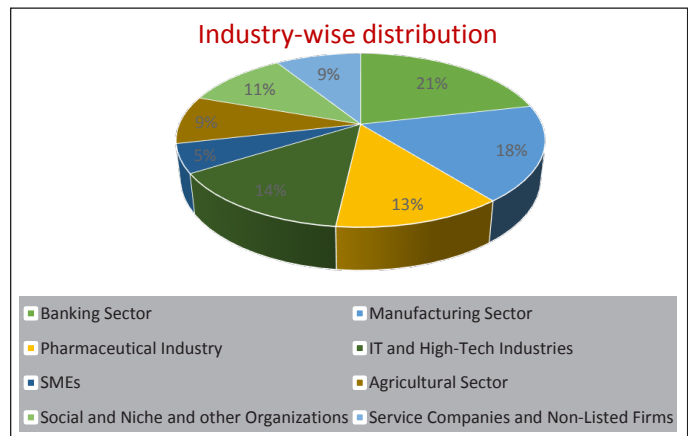
Contexts of IC Research

The SLR revealed that 64% of the reviewed studies originated in Asia, as depicted in Fig. 2, with China (16.39%) as the leading contributor, followed by India (14.75%) and Taiwan (6.56%). Other notable contributions within the region came from Indonesia (4.92%), Türkiye (3.28%), and Korea (3.28%), while Thailand, Pakistan, the United Arab Emirates (UAE), Iran, Bangladesh, and Vietnam each accounted for 1.64%. Europe emerged as the second-largest source of research, contributing 19.67%, led by Serbia (8.20%), Italy (4.92%), and Spain (3.28%), with smaller shares from France (1.64%) and West Balkan countries (1.64%). Africa represented 6.56%, with Nigeria, Ghana, Mauritius, and Tunisia each contributing 1.64%. North America and Oceania collectively comprised 4.92%, represented by the US, Mexico, and Australia. In addition, 1.64% of studies were cross-regional, underscoring the global scope of IC and corporate performance research.



Source: Authors' own work

Fig. 2: Geographical distribution



Source: Authors' own work

Fig. 3: Industry-Wise Distribution

Fig. 3 depicts the sector-wise distribution of studies, which shows that the banking industry accounted for the most studies (18.75%), followed closely by the manufacturing industry (15.63%). Moderate presence is seen in the IT and high-tech industries (12.50%), the pharmaceutical business (10.94%), and social or specialist organisations (9.38%). In contrast, small and medium enterprises (SMEs) (4.69%), agriculture (7.81%), and service corporations or non-listed firms are underrepresented. This distribution shows that there is a considerable emphasis on established and data-rich businesses, while there are still research gaps in

underrepresented sectors, especially those that operate in traditional or resource-constrained environments. These disparities highlight the need for additional research to understand how IC affects performance across various industries comprehensively.

Measuring IC and Outcome Variables

IC Measurement

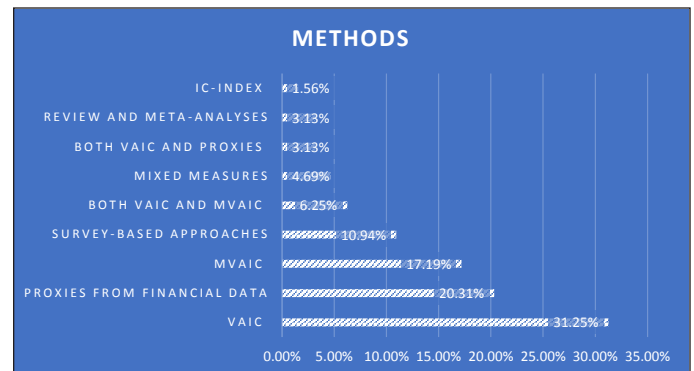
Measuring IC is a complex phenomenon, as illustrated by Fig. 4, and studies on IC and corporate performance often include a wide range of research approaches. The reviewed studies in this SLR demonstrate diverse methods for measuring IC, each with varying degrees of prevalence. The majority of studies reviewed adopted proxies to assess IC, with most of the studies relying on the Value-Added Intellectual Coefficient (VAIC) model (Pulic, 2000) proxies for measuring IC components. VAIC, either individually or in combination with other techniques, accounts for 37.50% of the total reviewed studies and is a popular method for evaluating IC that provides substantial data about the effectiveness of both real and intangible assets inside an organisation.

VAIC determines IC based on value-added ratios through the efficiency of HC, structural capital, and capital employed. Its widespread implementation reflects the popularity of standardised frameworks for measuring Intellectual capital efficiency. After VAIC, the Modified VAIC (MVAIC) model, which is derived from the traditional VAIC model, was adopted by 13 studies, which contributed to 20.31% of all studies. The MVAIC extends the model by incorporating other components such as innovation and relational capital (Ulum et al., 2014 and Nadeem et al., 2018), offering a more comprehensive view of IC's multidimensional nature.

Apart from VAIC and MVAIC, proxies derived from financial data were utilised in 18 studies, comprising 28.13% of the total, providing practical measures for various IC components; for instance, Anghel et al. (2018) used the market-to-book ratio to represent IC. Tran et al. (2021) quantified Human Capital using the natural logarithm of staff costs, assessed Structural Capital through the turnover of working capital, and captured the Relational Capital using rate of organisations revenue growth. Similarly, Anifowose et al. (2020) represented the relational capital through the firms' promotion and advertisement expenses (Nazari & Herremans, 2007) and for innovation capital, R&D expenditure was used as an indicator (Bosworth & Rogers,

2001). These examples highlight the versatility of financial data proxies in capturing different dimensions of IC.

Furthermore, surveys and questionnaires-based methods were used in 10 studies, accounting for 15.63% of the total, allowing for qualitative, rich insights into IC dimensions, such as perceptions of human and relational capital. Two studies (3.13%) employed mixed methods, incorporating financial proxies and survey data, indicative of conceptual integration in measuring IC. These approaches capture the qualitative account of respondents by emphasising the subjective aspects of IC measurement, including perceptions of human capital and relational connections. Questionnaires are generally less costly and time consuming than observations and interviews but may result in losing valuable information due to non-responses to questions (Bougie & Sekaran, 2019, p. 143). So, considerations in the form of the design of the questionnaire and ways to boost response have an important implication for the effectiveness of IC measurements. Two studies used mixed methods where financial proxies were integrated with survey data, representing 3.13% of the total, signifying that they applied alternatives in the IC measurement process, offering the promise of a broader view of IC measurement. A minority of studies adopted alternative methodologies (e.g., meta-analyses, IC-indexes, review-based), showing novel attempts at conceptualising IC. Although less common, these approaches offer insightful views on the IC measurement.

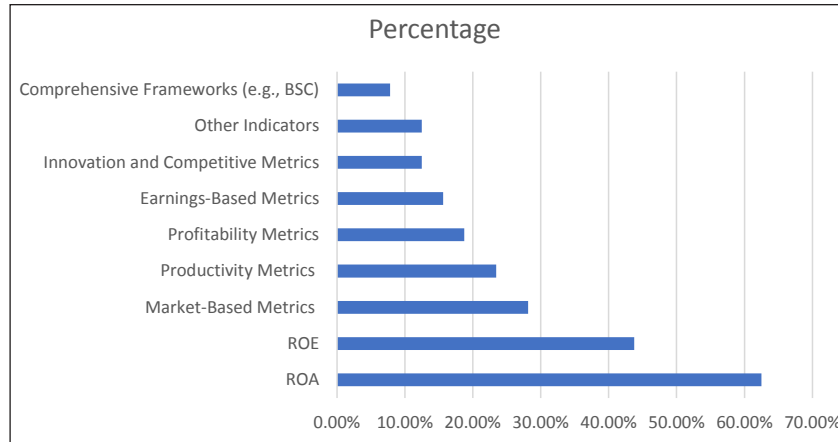


Source: Authors' own work.

Fig. 4: Methods for Measuring IC

Measuring Performance

The reviewed studies show that a variety of performance indicators have been used to evaluate the impact of IC on organisational performance, including financial (ROA, ROE), operational, productivity, efficiency, competitiveness, value creation, innovative dimensions, and various significant areas of organisational performance, indicating the multidimensional nature of IC.



Source: Authors' own work.

Fig. 5: Performance Measurement

The analysis suggests that the most often reported measure used is the return on assets (ROA) (Tran & Vo, 2018; Tran et al., 2022; Anghel et al., 2018; Izzo et al., 2021; Soewarno & Tjahjadi, 2020) used as the performance evaluation metric in 40 studies (62.50%), as depicted in Fig. 5. It represents the company's ability to use assets regardless of its financing policy, showing the degree to which a business' profits outweigh its expenses (Chen et al., 2005). This statistic, used in IC and firm-specific literature, assesses how well a firm turns its assets into earnings. This is followed by return on equity (ROE) (Izzo et al., 2021; Soewarno & Tjahjadi, 2020; Chowdhury et al., 2018; Weqar et al., 2020; Ginesti et al., 2018; Bayraktaroglu et al., 2019) commonly used alongside ROA in 28 studies (43.75%), which assesses a company's financial viability by measuring its wealth creation relative to shareholders. ROE is a key financial statistic for investors as it shows the profit accessible to equity stockholders. Tobin's Q (Babajee et al., 2020; A Hamdan, 2018; Smriti & Das, 2018), market-to-book (MTB) ratio (Bayraktaroglu et al., 2019), and price-to-book (PB) ratio were found in 18 cases (28.13%), indicating market valuations and investor perceptions of IC's impact on business value. The MTB ratio measures how much a company's market value exceeds its book value (Chowdhury et al., 2018). MTB is used to determine if a specific firm or company is overvalued or undervalued (Buallay, 2019). Productivity metrics such as asset turnover (ATO) (Smriti & Das, 2018; Ginesti et al., 2018; Bayraktaroglu et al., 2019; Weqar et al., 2020) and productive efficiency (Ting et al., 2020; Ting et al., 2022; Zakiy & Falikhatun, 2024) have been used in 15 papers (23.44%) indicating how businesses examine their operational efficiency in making money from their assets.

About 19% of studies employed profitability indicators such as operating profit, net income, and GPM (gross profit margin) alone or in combination with ROA and ROE (Xu

& Liu, 2021). Ten studies (15.63%) used profits-based indicators, such as profits before interest and taxes (EBIT) (Xu & Liu, 2021) and other profitability measures, to demonstrate the impact of IC on core earnings. Only eight (12.50%) studies used innovation-related variables, such as innovation performance (Pigola et al., 2022; Hamdoun et al., 2024; AlMulhim et al., 2025) and entrepreneurial opportunity recognition (AlMulhim et al., 2025), to analyse the role of IC in supporting innovation.

In addition, five papers (7.81%) reported data from complete frameworks, including the balanced scorecard (BSC) (Mehralian et al., 2018) with dimensions for the financial, customer, internal process, and growth perspectives. Other metrics, including supply chain resilience (SCR) (Yu et al., 2023), Malmquist productivity index (MPI) (Oppong et al., 2019), and excess efficiency scores, collectively accounted for eight studies (12.50%), further demonstrating the diverse range of approaches used to assess IC's impact on organisational performance.

BIBLIOMETRIC ANALYSIS

Journal Outlets

The top five journals with the highest number of articles published during this period are outlined in Table 1. A total of 23 journals were identified during this review as having contributed to the body of research in this area. Among these, the *Journal of Intellectual Capital* emerged as the leading publication venue, accounting for 27 articles, representing 43% of the total articles reviewed. This underscores the journal's prominent role in advancing research on IC. It is followed by the *Journal of Knowledge Economy* and *Custos e Agronegócio Online*, with five articles each. These findings

highlight the concentration of IC-related research within a select group of specialised academic outlets, reflecting their pivotal role in disseminating studies on this subject. Other significant contributors include the *Journal of Business Economics and Management* and the *International Journal of Islamic and Middle Eastern Finance and Management*, which represents the extension of IC to various economic, managerial, and cultural settings.

Table 1: Top 5 Journals with Highest Publications

Sr. No.	Journal Name	Articles Published
1.	Journal of Intellectual Capital	27
2.	Custos E Agronegocio Online	5
3.	Journal of the Knowledge Economy	5
4.	Journal of Business Economics and Management	3
5.	International Journal of Islamic and Middle Eastern Finance and Management	2

Source: Authors’ own work.

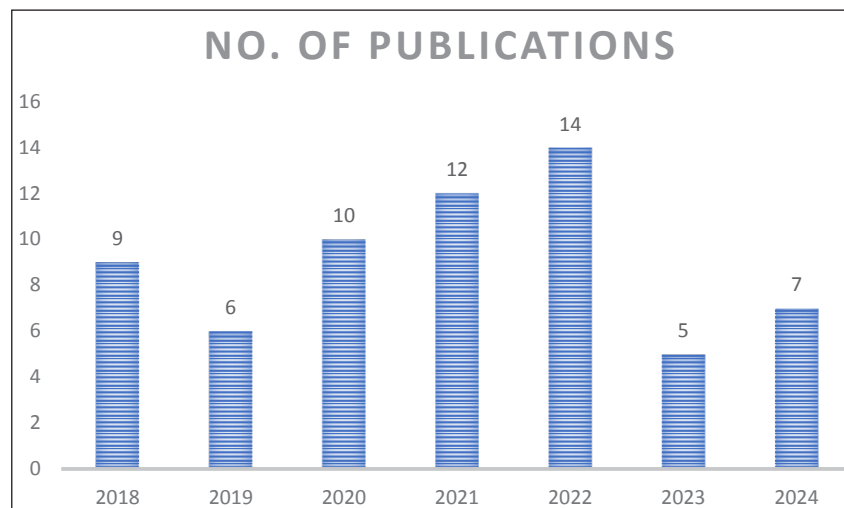
IC’s wide range of applications across many fields is demonstrated by the variety of journals that are devoted to this area. Journals such as *Supply Chain Management* and *Engineering, Construction and Architectural Management* highlight IC’s importance in operational and industry-specific contexts, while journals such as *Technological Forecasting*

and *Social Change* demonstrate its influence in innovation and technology-driven sectors. The strategic and process-oriented parts of IC are visible in publications such as the *Business Process Management Journal* and the *European Journal of International Management*. Finance-focused journals such as the *Australian Accounting Review*, as well as multidisciplinary platforms, demonstrate IC’s integration across industries and research traditions. This diverse distribution demonstrates the growing acknowledgement of IC as a critical driver of organisational performance and innovation.

Year-Wise Distribution

The distribution of studies year-wise highlights trends and patterns in IC research. According to the review, the number of publications climbed gradually between 2018 and 2022, as shown in Fig. 6, demonstrating rising interest in this field. Most of the articles (14) were published in 2022, showing the peak research activity in this year. Nonetheless, this growing tendency has witnessed a drop in 2023, with only five publications produced, reflecting the current decreasing productivity of academia.

The year 2024 shows a slight recovery, with seven articles. This trend study highlights the expanding importance of IC research but suggests that areas of attention may shift based on academic and practical interests.



Source: Authors’ own work.

Fig. 6: Year-Wise Distribution of Studies

CONTENT ANALYSIS

IC promotes growth and competitiveness by enhancing stakeholder’s well-being and corporate performance (Sullivan, 1999; Alee, 2000; Guthrie, 2001; Zhou & Fink,

2003; Mavridis, 2004; Lerro et al., 2014; Jardon et al., 2019). According to some research, firms may gain a competitive edge and improve their chances of surviving in the market by investing in intangible assets (de Leaniz & Bosque, 2013).

Component-specific analysis produces nuanced results, with HCE as the most impactful IC component in increasing profitability and value generation. Ting et al. (2020) identified HCE as a key driver of productive efficiency, profitability, and marketability. Similarly, Bontis et al. (2018) emphasise the economic value, notably on the performance indicators such as value added per employee. According to Nkambule et al. (2021), it is a critical factor in enhancing companies' efficiencies in US software companies. Xu et al. (2023) stress it as a prominent component at various stages of a company's lifespan, especially at the growth and revival stages. Further studies by Barak and Sharma (2024), Li et al. (2020), Ni et al. (2020), Sánchez-Hernández and Castilla-Polo (2020), and Ginesti et al. (2018) further affirm the importance of human capital in attaining both operational and financial efficiencies.

Following HCE, capital-employed efficiency (CEE) is crucial to organisational performance. Ahmed et al. (2020) demonstrate its involvement in enhancing operating productivity, lowering resource wastage, and enhancing productivity. However, Tran and Vo (2018) prove that resource allocation via CEE leads to substantial value addition. Tiwari (2022) observed it has a significant influence on financial performance, particularly in capital-intensive industries.

Ge and Xu (2021) highlight CEE's synergistic effect with other IC components to multiply organisational outcomes. Research by Ivanovic et al. (2021), Petković et al. (2020), Weqar et al. (2020), Gupta et al. (2022), Oppong et al. (2019), Izzo et al. (2021), and Xu and Li (2022) indicate it has a substantial effect on financial performance, profitability, productivity, value addition, sustainable competitiveness, and innovativeness.

The results are mixed for other components, such as structural, relational, and innovation capital. Studies by Xu and Li (2021, 2022), Pavlović et al. (2021), Smriti and Das (2018), Xu et al. (2023), Barak and Sharma (2024), Ge and Xu (2021), Hamdoun et al. (2024), Zhang et al. (2023), and Yu et al. (2023) show a positive and significant impact on profitability and performance. The integration of relational and structural capital with both internal and external processes is seen to enhance IP and organisational resilience (AlMulhim et al., 2025). Among others, Xu and Liu (2020), Petković et al. (2020), Ting et al. (2020), Ivanovic et al. (2021), Chowdhury et al. (2019), Ousama et al. (2020), and Izzo et al. (2021) have found neutral or negative outcomes. To prevent inefficiencies in IC investments, especially in relational and structural capital, Ozkan and Zeytinoglu (2024) stress the necessity of an ideal threshold. Xu et al. (2023), Bayraktaroglu et al. (2019), and Wang et al. (2018) found that innovation capital plays a favourable influence in improving organisational outcomes. Furthermore, studies by

Wang et al. (2018), Rehman et al. (2022), and Bayraktaroglu et al. (2019) highlight the significance of innovation in moderating the relationship between IC and performance measures. Zhang et al. (2023) emphasise the importance of digital transformation as a mediator in improving performance.

Yu et al. (2023) and Paunović et al. (2024) highlight the importance of social capital in creating organisational resilience and growth. Paunović et al. (2024) found that entrepreneurial capital indicates an entrepreneur's knowledge and strategic orientation, favourably impacting process improvements and financial performance. Finally, knowledge management practices (KMP) have a considerable impact on innovativeness, moderating the relationship between IC and competitive advantage (Rehman et al., 2022). Pigola et al. (2022) further highlight KMP's moderating influence on enhancing IC's impact on financial performance.

CONCLUSION

Systematic review offers an extensive synthesis of literature regarding IC and how it is related to firm performance, based on 63 peer-reviewed papers between 2018 and 2024. The most impactful of these components, human capital and CEE, are invariably found to have beneficial performance consequences, whereas structural, relational, and innovation capital have mixed consequences determined by conditions of industry and firm size.

The review points to the dominance of VAIC model and its extensions and variants to measure IC, as well as to how ROA and ROE are often used as measures of performance. The results emphasise the growing importance of intangible IC dimensions such as social, technological, and entrepreneurial capital and how these may contribute to outlining organisational strategy and innovation capability.

Geographically, Asia, and most significantly, China and India, dominate IC research, which reflects a strong regional bias. Nonetheless, there are still sector gaps, most obviously in SMEs, services, and agriculture, which point to future research opportunities. This research invites the creation of contextual IC frameworks that bring together both traditional and intangible elements to fully comprehend IC's role in building competitive advantage.

These results provide practical and theoretical guidelines for scholars and practitioners regarding how to manage and optimise IC in firms. Longitudinal effects, inter-sector differences, and mediating processes such as innovation and digital transformation should be investigated for future research, especially focusing on under-developed regions and sectors.

The bibliometric analysis reveals a sharp rise in IC-related publications between 2018 and 2022, peaking in 2022. The financial, manufacturing, and IT sectors were most represented, with the *Journal of Intellectual Capital* and *Custos e Agronegócio Online* emerging as leading publication outlets. These trends confirm the increasing scholarly attention towards IC and its implications for business value.

In summary, this review reaffirms the evolving relevance of IC as a driver of firm performance and competitiveness. Further investigation is needed to clarify the differential effects of IC components and to extend research to diverse organisational and regional contexts. Future studies should adopt longitudinal designs, examine integration between traditional and emerging IC elements, and assess IC's impact across varied firm types and development stages.

Limitations and Future Research

Despite its contributions, this review has several limitations. It is based solely on the WoS database, potentially omitting relevant studies indexed elsewhere (e.g., Scopus, Google Scholar). The search employed a narrow set of keywords ('intellectual capital', 'corporate performance', 'financial performance'), which may have excluded studies using alternate terminology. In addition, the review covered only articles published between 2018 and 2024, omitting earlier foundational works and non-journal sources such as books or grey literature.

Future research should explore the IC–performance relationship across different geographies, industries, technological intensities, and firm sizes. There is a need to develop and test diverse IC frameworks tailored to contextual variables. To strengthen practical relevance, future studies should actively involve practitioners – either through co-authorship or as informants – and employ qualitative methods that complement dominant quantitative approaches.

Expanding the database coverage, exploring longitudinal effects, and integrating managerial perspectives can improve the depth and applicability of future IC research. These strategies will not only refine our theoretical understanding but also support the strategic application of IC in real-world contexts.

Conflict of Interest

All authors declare that they have no conflicts of interest.

REFERENCES

- Agostini, L., Nosella, A., & Filippini, R. (2017). Does intellectual capital allow improving innovation performance? A quantitative analysis in the SME context. *Journal of Intellectual Capital*, 18(2), 400–418.
- Ahmed, S. S., Guozhu, J., Mubarik, S., Khan, M., & Khan, E. (2020). Intellectual capital and business performance: The role of dimensions of absorptive capacity. *Journal of Intellectual Capital*, 21(1), 23–39. doi:https://doi.org/10.1108/JIC-11-2018-0199
- Ali, B. J., & Anwar, G. (2021). Intellectual capital: A modern model to measure the value creation in a business. *International Journal of Engineering, Business and Management*, 5(2), 31–43. doi:https://doi.org/10.22161/ijebm.5.2.4
- Ali, M. A., Hussin, N., Haddad, H., Al-Araj, R., & Abed, I. A. (2021). Intellectual capital and innovation performance: Systematic literature review. *Risks*, 9(9), 170. doi:https://doi.org/10.3390/risks9090170
- Allee, V. (2000). The value evolution: Addressing larger implications of an intellectual capital and intangibles perspective. *Journal of Intellectual Capital*, 1(1), 17–32. doi:https://doi.org/10.1108/14691930010371627
- AlMulhim, A. F., Mohammed, S. M., Benlaria, H., & Gheraia, Z. (2025). Refueling intellectual capital toward innovation performance of SMEs in Saudi Arabia: Mediating the role of entrepreneurial opportunity recognition. *Business Process Management Journal*, 31(1), 340–364. doi:https://doi.org/10.1108/BPMJ-05-2023-0386
- Anghel, I., Siminică, M., Cristea, M., Sichigea, M., & Noja, G. G. (2018). Intellectual capital and financial performance of biotech companies in the pharmaceutical industry. *Amfiteatru Economic*, 20(49), 631–646.
- Anifowose, M., Abang, S., & Zakari, M. A. (2020). Integrated capitals reporting and companies' sustainable value: Evidence from the Asian continent. *Asian Review of Accounting*, 28(4), 567–589. doi:https://doi.org/10.1108/ARA-10-2019-0184
- Barak, M., & Sharma, R. K. (2024). Analyzing the impact of intellectual capital on the financial performance: A comparative study of Indian public and private sector banks. *Journal of the Knowledge Economy*. doi:https://doi.org/10.1007/s13132-024-01901-4
- Bayraktaroglu, A. E., Calisir, F., & Baskak, M. (2019). Intellectual capital and firm performance: An extended VAIC model. *Journal of Intellectual Capital*, 20(3), 406–425.

- Bhasin, M., & Shaikh, J. M. (2011). Intellectual capital disclosures in the annual reports: A comparative study of the Indian and Australian IT-corporations. *Int. J. Managerial and Financial Accounting*, 3(4), 379–402.
- Bisogno, M., Restaino, M., & Carlo, A. D. (2018). Forecasting and preventing bankruptcy: A conceptual review. *African Journal of Business Management*, 12(9), 231–242.
- Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36(2), 63–76. doi:https://doi.org/10.1108/00251749810204142
- Bontis, N., Ciambotti, M., Palazzi, F., & Sgro, F. (2018). Intellectual capital and financial performance in social cooperative enterprises. *Journal of Intellectual Capital*, 19(4), 712–731. doi:https://doi.org/10.1108/JIC-03-2017-0049
- Bosworth, D., & Rogers, M. (2001). Market value, R&D and intellectual property: An empirical analysis of large Australian firms. *Economic Record*, 77(239), 323–337. doi:https://doi.org/10.1111/1475-4932.t01-1-00026
- Bougie, R., & Sekaran, U. (2019) *Research methods for business: A skill-building approach* (8th ed.). Wiley.
- Brooking, A (1996) *Intellectual capital: Core asset for the third millennium enterprise*. Thomson Business Press.
- Bryl, L. (2021). Intellectual capital disclosure in the digital era: Challenges and opportunities for MNEs. In S. H. Park, M. A. Gonzalez-Perez, & D. E. Floriani (Eds.) *The Palgrave Handbook of Corporate Sustainability in the Digital Era*. Cham: Palgrave Macmillan. doi:https://doi.org/10.1007/978-3-030-42412-1_30
- Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality*, 30(1), 98–115. doi:https://doi.org/10.1108/MEQ-12-2017-0149
- Cabrilo, S., & Dahms, S. (2018). How strategic knowledge management drives intellectual capital to superior innovation and market performance. *Journal of Knowledge Management*, 22(3), 621–648.
- Castilla-Polo, F., & Ruiz-Rodríguez, C. (2017). Content analysis within intangible assets disclosure: A structured literature review. *Journal of Intellectual Capital*, 18(3), 506–543. doi:https://doi.org/10.1108/JIC-11-2016-0123
- Cheikh, I. B., & Noubbigh, H. (2019). The effect of intellectual capital drivers on performance and value creation: The case of Tunisian non-financial listed companies. *Journal of the Knowledge Economy*, 10(1), 147–167.
- Chen, M., Cheng, S., & Hwang, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, 6(2), 159–176. doi:https://doi.org/10.1108/14691930510592771
- Chowdhury, L. A. M., Rana, T., Akter, M., & Hoque, M. (2018). Impact of intellectual capital on financial performance: Evidence from the Bangladeshi textile sector. *Journal of Accounting & Organizational Change*, 14(4), 429–454. doi:https://doi.org/10.1108/JAOC-11-2017-0109
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, Suppl., S95–S120. doi:https://doi.org/10.1086/228943
- Cosa, M., Pedro, E., & Urban, B. (2024). How to assess the intellectual capital of firms in uncertain times: A systematic literature review and a proposed model for practical adoption. *Journal of Intellectual Capital*, 25(7), 1–22. doi:https://doi.org/10.1108/JIC-05-2023-0096
- Cuozzo, B., Dumay, J., Palmaccio, M., & Lombardi, R. (2017). Intellectual capital disclosure: A structured literature review. *Journal of Intellectual Capital*, 18(1), 9–28. doi:https://doi.org/10.1108/JIC-10-2016-0104
- Dada, O. (2018). A model of entrepreneurial autonomy in franchised outlets: A systematic review of the literature. *International Journal of Management Reviews*.
- Danese, P., Manfè, V., & Romano, P. (2017). A systematic literature review on recent lean research: State-of-the-art and future directions. *International Journal of Management Reviews*.
- de Frutos-Belizón, J, Martín-Alcázar, F., & Sánchez-Gardey, G. (2019). Conceptualizing academic intellectual capital: Definition and proposal of a measurement scale. *Journal of Intellectual Capital*, 20(3), 306–334. doi:https://doi.org/10.1108/JIC-09-2018-0152
- de Villiers, C., & Sharma, U. (2017). A critical reflection on the future of financial, intellectual capital, sustainability and integrated reporting. *Critical Perspectives on Accounting*.
- Di Vaio, A., Palladino, R., Pezzi, A., & Kalisz, D. E. (2021). The role of digital innovation in knowledge management systems: A systematic literature review. *Journal of Business Research*, 123, 220–231.
- Dixon-Woods, M., Sutton, A., Shaw, R., Miller, T., Smith, J.,... Jones, D. (2007) Appraising qualitative research for inclusion in systematic reviews: A quantitative and qualitative comparison of three methods. *Journal of Health Services Research & Policy*, 12(1), 42–47. doi:https://doi.org/10.1258/135581907779497486
- Edvinsson, L., & Malone, M. S. (1997). Intellectual capital: Realizing your company's true value by finding its hidden brainpower.

- Edvinsson, L., & Sullivan, P. (1996). Developing a model for managing intellectual capital. *European Management Journal*, 14(4), 356–364.
- Escobar, D. R. O., & Escobar, E. S. O. (2022). Oil and its influence on the creation of a sustainable society: A systematic literature review. *Intangible Capital*, 18(3), 402–429. doi:https://doi.org/10.3926/ic.1833
- Ge, F., & Xu, J. (2020). Does intellectual capital investment enhance firm performance? Evidence from pharmaceutical sector in China. *Technology Analysis & Strategic Management*, 33(9), 1006–1021. doi:https://doi.org/10.1080/09537325.2020.1862414
- Ginesti, G., Caldarelli, A., & Zampella, A. (2018). Exploring the impact of intellectual capital on company reputation and performance. *Journal of Intellectual Capital*, 19(5), 915–934. doi:https://doi.org/10.1108/JIC-01-2018-0012
- Gupta, J., Rathore, P., & Kashiramka, S. (2023). Impact of intellectual capital on the financial performance of innovation-driven pharmaceutical firms: Empirical evidence from India. *J Knowl Econ*, 14, 1052–1076. doi:https://doi.org/10.1007/s13132-022-00927-w
- Guthrie, J. (2001). The management, measurement and the reporting of intellectual capital. *Journal of Intellectual Capital*, 2(1), 27–41. doi:https://doi.org/10.1108/14691930110380473
- Hamdan, A. (2018). Intellectual capital and firm performance: Differentiating between accounting-based and market-based performance. *International Journal of Islamic and Middle Eastern Finance and Management*, 11(1), 139–151. doi:https://doi.org/10.1108/IMEFM-02-2017-0053
- Hamdoun, M., Pérez-Cornejo, C., & Touazni, D. (2024). Corporate social responsibility and innovation: Understanding the role of intellectual capital. *Journal of Intellectual Capital*, 25(5/6), 963–983. doi:https://doi.org/10.1108/JIC-11-2023-0257
- Hashim, M. J., Osman, I., & Alhabshi, S. M. (2015). Effect of intellectual capital on organizational performance. *Procedia - Social and Behavioral Sciences*, 211, 207–214. doi:https://doi.org/10.1108/ECAM-06-2023-0623
- Ivanovic, T., Maksimovic, G., Mandaric, M., Radivojevic, N., & Jovic, M. (2021). The impact of intellectual capital on the financial performance of agricultural enterprises: Evidence from the West Balkans countries. *Journal of Agribusiness*, 21(2), 45–62.
- Izzo, F., Tomnyuk, V., & Varavallo, G. (2020). Intellectual capital and company performance: Evidence from European FinTech companies. *International Business Research*, 13(6), 34–44. doi:https://doi.org/10.5539/ibr.v13n6p34
- Jardon, C. M. (2014). The use of intellectual capital to obtain competitive advantages in regional small and medium enterprises. *Knowledge Management Research & Practice*, 13(4), 486–496. doi:https://doi.org/10.1057/kmrp.2014.4
- Jardón, C. M., & Martínez-Cobas, X. (2019). Leadership and organizational culture in the sustainability of subsistence small businesses: An intellectual capital based view. *Sustainability*, 11(12), 3491.
- Jesson, J. K., & Lacey, F. M. (2006). *How to do (or not to do) a critical literature review*. Pharmacy Education.
- Jiang, Y., Ma, Z., & Wang, X. (2023). The impact of knowledge management on intellectual property risk prevention: Analysis from China's strategic emerging industries. *Journal of Knowledge Management*, 27(1), 197–207. doi:https://doi.org/10.1108/JKM-03-2022-0216
- Dumay, J., Bernardi, C., Guthrie, J., & Demartini, P. (2016). Integrated reporting: A structured literature review. *Accounting Forum*, 40(3), 166–185. doi:https://doi.org/10.1016/j.accfor.2016.06.001
- Joshi, M., Cahill, D., Sidhu, J., & Kansal, M. (2013). Intellectual capital and financial performance: An evaluation of the Australian financial sector. *Journal of Intellectual Capital*, 14(2), 264–285.
- Kamukama, N., Ahiauzu, A., & Ntayi, J. M. (2010). Intellectual capital and financial performance in Uganda's microfinance institutions. *Journal of Intellectual Capital*, 11(4), 553–574.
- Kato, M., Okamuro, H., & Honjo, Y. (2015). Does founders' human capital matter for innovation? Evidence from Japanese Start-ups. *Journal of Small Business Management*, 53(1), 114–128.
- Khalique, M., Nassir Shaari, J. A., & Isa, A. H. B. M. (2011). Intellectual capital and its major components', *International Journal of Current Research*, 3(6), 343.
- Lerro, A., Linzalone, R., & Schiuma, G. (2014). Managing intellectual capital dimensions for organizational value creation. *Journal of Intellectual Capital*, 15(3), 350–361. doi:https://doi.org/10.1108/JIC-05-2014-0063
- Li, X., Nosheen, S., Haq, N. U., & Gao, X. (2021). Value creation during the fourth industrial revolution: Use of intellectual capital by the most innovative companies of the world. *Technological Forecasting and Social Change*, 163, 120479. doi:https://doi.org/10.1016/j.techfore.2020.120479
- Martínez García de Leaniz, P., & Rodríguez del Bosque, I. (2013). Intellectual capital and relational capital: The role of sustainability in developing corporate reputation. *Intangible Capital*, 9(1), 262–280.

- Massaro, M., Dumay, J., & Garlatti, A. (2015). Public sector knowledge management: A structured literature review. *Journal of Knowledge Management*.
- Massaro, M., Dumay, J., & Guthrie, J. (2016). On the shoulders of giants: Undertaking a structured literature review in accounting. *Accounting, Auditing & Accountability Journal*, 29(5), 767-801. doi:https://doi.org/10.1108/AAAJ-01-2015-1939
- Mavridis, D. G. (2004). The intellectual capital performance of the Japanese banking sector. *Journal of Intellectual Capital*, 5(1), 92–115. doi:https://doi.org/10.1108/14691930410512941
- Mehralian, G., Nazari, J. A., & Ghasemzadeh, P. (2018). The effects of knowledge creation process on organizational performance using the BSC approach: The mediating role of intellectual capital. *Journal of Knowledge Management*, 22(3), 802–823. doi:https://doi.org/10.1108/JKM-10-2016-0457
- Meles, A., Porzio, C., Sampagnaro, G., & Verdoliva, V. (2016). The impact of intellectual capital efficiency on commercial bank performance: Evidence from the US'. *Journal of Multinational Financial Management*, 36, 64–74. doi:https://doi.org/10.1016/j.mulfin.2016.04.003
- Meritum Project. (2002). *Guidelines for managing and reporting on intangibles*. Intellectual Capital Report, Fundación Airtel Móvil, Madrid.
- Mondal, A., & Ghosh, C. (2021). Effect of intellectual capital disclosure on cost of equity capital: A study on Indian companies. *Asian Journal of Accounting Research*, 6(2), 165–179.
- Nadeem, M., Gan, C., & Nguyen, C. (2018). The importance of intellectual capital for firm performance: Evidence from Australia. *Australian Accounting Review*, 28(3), 334–344. doi:https://doi.org/10.1111/auar.12184
- Nazari, J. A., & Herremans, I. M. (2007). Extended VAIC model: Measuring intellectual capital components. *Journal of Intellectual Capital*, 8(4), 595–609. doi:https://doi.org/10.1108/14691930710830774
- Ni, Y., Cheng, Y., & Huang, P. (2021). Do intellectual capitals matter to firm value enhancement? Evidence from Taiwan. *Journal of Intellectual Capital*, 22(4), 725–743. doi:https://doi.org/10.1108/JIC-10-2019-0235
- Nkambule, N. A., Wang, W.-K., Ting, I. W. K., & Lu, W.-M. (2022). Intellectual capital and firm efficiency of US multinational software firms. *Journal of Intellectual Capital*, 23(6), 140–1434. doi:https://doi.org/10.1108/JIC-02-2021-0041
- Nuryaman. (2015). The influence of intellectual capital on the firm's value with the financial performance as intervening variable. *Procedia - Social and Behavioral Sciences*, 211, 292–298. doi:https://doi.org/10.1016/j.sbspro.2015.11.037
- OECD. (2008). *OECD Annual Report 2008*. OECD Publishing.
- Okoli, C., & Schabram, K. (2010). *A guide to conducting a systematic literature review of information systems research*. Retrieved from https://ssrn.com/abstract=1954824; doi:http://dx.doi.org/10.2139/ssrn.1954824
- Olarewaju, O., & Msomi, T. (2021). Factors affecting small and medium enterprises' financial sustainability in South Africa. *African Journal of Inter/Multidisciplinary Studies*, 3(1), 103–117.
- Oliveira, L., Rodrigues, M., & Craig, R. (2010). Intellectual capital and financial performance in the Portuguese banking industry. *Journal of Intellectual Capital*, 11(4), 482–495.
- Oppong, G. K., Pattanayak, J. K., & Irfan, M. (2019). Impact of intellectual capital on productivity of insurance companies in Ghana: A panel data analysis with System GMM estimation. *Journal of Intellectual Capital*, 20(6), 763–783. doi:https://doi.org/10.1108/JIC-12-2018-0220
- Ousama, A. A., Hammami, H., & Abdulkarim, M. (2020). The association between intellectual capital and financial performance in the Islamic banking industry: An analysis of the GCC banks. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(1), 75–93. doi:https://doi.org/10.1108/IMEFM-05-2016-0073
- Ozkan, N., & Zeytinoglu, E. (2024). Intellectual capital and asset quality: A nonlinear investigation in the Turkish banking sector. *Borsa Istanbul Review*. Advance Online Publication.
- Pavlović, V., Knežević, G., & Petković, M. (2021). The impact of intellectual capital on financial performance in the fishing industry: Evidence from France. *Custos e Agronegócio*, 17(4), 445–467.
- Petković, M., Knežević, G., Pavlović, V., Radivojević, N., & Jović, M. (2020). Where did the competitive advantage of French wineries come from? Insight into the effect of intellectual capital structure on financial performances. *Custos e Agronegócio Online*, 16(3), 463–480.
- Petticrew, M., & Roberts, H. (2008). *Systematic reviews in the social sciences: A practical guide*. John Wiley & Sons.
- Pigola, A., De Santi, P. V., da Costa, P. R., & Storopoli, J. (2022). Intellectual capital on performance: A meta-analysis study enhancing a new perspective of the components. *Journal of Intellectual Capital*, 23(6), 1379–1403. doi:https://doi.org/10.1108/JIC-01-2021-0025
- Pulic, A. (2000). VAIC™ – An accounting tool for IC management. *International Journal of Technology*

- Management*, 20(5-8), 702–714. doi:https://doi.org/10.1504/IJTM.2000.002891
- Raimo, N., de Nuccio, E., Giakoumelou, A., Petruzzella, F., & Vitolla, F. (2021). Non-financial information and cost of equity capital: An empirical analysis in the food and beverage industry. *British Food Journal*, 123(1), 49–65. doi:https://doi.org/10.1108/BFJ-03-2020-0278
- Razafindrabinina, D., & Anggreni, T. (2017). Intellectual capital and corporate financial performance of selected listed companies in Indonesia. *Malaysian Journal of Economic Studies*, 48(1), 61–77.
- Babajee, R. B., Seetana, B., & Nunkoo, R. (2020). The determinants of hotel financial performance: An intellectual capital perspective. *Journal of Hospitality Marketing & Management*. doi:https://doi.org/10.1080/19368623.2020.1703870
- Rehman, A. U., Aslam, E., & Iqbal, A. (2022). Intellectual capital efficiency and bank performance: Evidence from Islamic banks. *Cogent Economics & Finance*, 10(1), 2127484.
- Roos, J., Roos, G., Dragonetti, N. C., & Edvinsson, L. (1997). *Intellectual capital: Navigating the new business landscape*. Macmillan.
- Salicru, S., Perryer, C., & Hancock, P. (2007). Intellectual capital and company performance - literature review and research opportunities in Australia', in R. Chapman (Ed.), *21st ANZAM 2007 Conference*, 21, Australian and New Zealand Academy of Management.
- Salvi, A., Vitolla, F., Raimo, N., Rubino, M., & Petruzzella, F. (2020). Does intellectual capital disclosure affect the cost of equity capital? An empirical analysis in the integrated reporting context. *Journal of Intellectual Capital*, 21(6), 985–1007.
- Sánchez-Hernández, M. I., & Castilla-Polo, F. (2021). Intellectual capital as a predictor of cooperative prominence through human capital in the Spanish agrifood industry. *Journal of Intellectual Capital*, 22(6), 1126–1146. doi:https://doi.org/10.1108/JIC-06-2020-0201
- Sardo, F., & Serrasqueiro, Z. (2019). On the relationship between intellectual capital and service SME survival and growth: A dynamic panel data analysis. *International Journal of Learning and Intellectual Capital*, 16(3), 213–238. doi:https://doi.org/10.1504/IJLIC.2019.100537
- Secundo, G., Dumay, J., Schiuma, G., & Passiante, G. (2020). Managing intellectual capital through a collective intelligence approach: An integrated framework for universities. *Journal of Intellectual Capital*.
- Smriti, N., & Das, N. (2018). The impact of intellectual capital on firm performance: A study of Indian firms listed in COSPI. *Journal of Intellectual Capital*, 19(5), 935–964. doi:https://doi.org/10.1108/JIC-11-2017-0156
- Soewarno, N., & Tjahjadi, B. (2020). Measures that matter: An empirical investigation of intellectual capital and financial performance of banking firms in Indonesia. *Journal of Intellectual Capital*, 21(6), 1085–1106. doi:https://doi.org/10.1108/JIC-09-2019-0225
- Stewart, T. A. (1997) *Intellectual capital: The new wealth of organizations*. Doubleday/Currency.
- Sullivan, P. H. (1999). Profiting from intellectual capital', *Journal of Knowledge Management*, 3(2), 132–143. doi:https://doi.org/10.1108/13673279910275585
- Sveiby, K. E. (2007). *The new organizational wealth: Managing and measuring knowledge-based assets*. Berrett-Koehler Publishers.
- Ting, I. W. K., Ren, C., Chen, F.-C., & Kweh, Q. L. (2020). Interpreting the dynamic performance effect of intellectual capital through a value-added-based perspective. *Journal of Intellectual Capital*. doi:https://doi.org/10.1108/JIC-05-2019-0098
- Tiwari, R. (2023). Intellectual capital and firms' performance: The role of institutional ownership. *International Journal of Managerial and Financial Accounting*, 15(1), 1–20. doi:https://doi.org/10.1504/IJMFA.2023.10051308
- Tran, D. B., & Vo, D. H. (2018). Should bankers be concerned with Intellectual capital? A study of the Thai banking sector. *Journal of Intellectual Capital*, 19(5), 897–914. doi:https://doi.org/10.1108/JIC-12-2017-0185
- Tran, N. P., Dinh, C. T. H., Hoang, H. T. T., & Vo, D. H. (2022). Intellectual capital and firm performance in Vietnam: The moderating role of corporate social responsibility. *Sustainability*, 14(19), 12763. doi:https://doi.org/10.3390/su141912763
- Tran, N. P., Van, L. T.-H., & Vo, D. H. (2020). The nexus between corporate governance and intellectual capital in Vietnam. *Journal of Asia Business Studies*, 14(5), 637–650. doi:https://doi.org/10.1108/JABS-01-2020-0007
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222. doi:https://doi.org/10.1111/1467-8551.00375
- Ulum, I., Ghazali, I., & Chariri, A. (2014). Intellectual capital performance of Indonesian banking sector: A modified VAIC (M-VAIC) perspective. *Asian Journal of*

- Finance and Accounting*, 6(2), 103–123. doi:<https://doi.org/10.5296/ajfa.v6i2.5246>
- Wang, C. L., & Chugh, H. (2014). Entrepreneurial learning: Past research and future challenges. *The International Journal of Management Reviews*.
- Wang, T., & Zatzick, C. D. (2018). Human capital acquisition and organizational innovation: A temporal perspective. *Academy of Management Journal*, 62(1), 99–116.
- Weqar, F., Khan, A. M., & Haque, S. M. I. (2020). Exploring the effect of intellectual capital on financial performance: A study of Indian banks. *Measuring Business Excellence*, 24(4), 511–529. doi:<https://doi.org/10.1108/MBE-12-2019-0118>
- Xu, J., & Liu, F. (2021). Nexus between intellectual capital and financial performance: An investigation of Chinese manufacturing industry. *Journal of Business Economics and Management*, 22(1), 217–235. doi:<https://doi.org/10.3846/jbem.2020.13888>
- Xu, J., & Wang, B. (2018). Intellectual capital, financial performance and companies' sustainable growth: Evidence from the Korean manufacturing industry. *Sustainability*, 10(12), 4651.
- Xu, J., Haris, M., & Liu, F. (2023). Intellectual capital efficiency and firms' financial performance based on business life cycle. *Journal of Intellectual Capital*, 24(3), 653–682. doi:<https://doi.org/10.1108/JIC-12-2020-0383>
- Yu, W., Wong, C. Y., Chavez, R., Jacobs, M., & Nittala, L. (2023). How intellectual capital builds supply chain resilience? Exploring mediation and interaction effects from an intellectual capital-based view. *Supply Chain Management*, 28(6), 1060–1074. doi:<https://doi.org/10.1108/SCM-12-2022-0477>
- Zakiy, F. S., & Falikhatun, F. (2024). The role of intellectual capital on zakat performance: Insight from Indonesia. *Journal of Intellectual Capital*.
- Zhang, Y., Li, H., & Yao, Z. (2023). Intellectual capital, digital transformation and firm performance: Evidence based on listed companies in the Chinese construction industry. *Engineering, Construction and Architectural Management*.
- Zhou, A. Z., & Fink, D. (2003). The intellectual capital web: A systematic linking of intellectual capital and knowledge management. *Journal of Intellectual Capital*, 4(1), 34–48. doi:<https://doi.org/10.1108/14691930310455379>