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FROM KNOWLEDGE TO VALUE: UNDERSTANDING THE LINK BETWEEN THE INTELLECTUAL CAPITAL & THE ORGANIZATIONAL PERFORMANCE OF THE FIRM: A LITERATURE REVIEW

TRANSFORMER LA CONNAISSANCE EN VALEUR : LIEN ENTRE LE CAPITAL IMMATERIEL ET LA PERFORMANCE ORGANISATIONNELLE DE L'ENTREPRISE : REVUE DE LITTERATURE

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ABSTRACT

In an era where the knowledge-driven economy is highly prioritized, intangible assets have emerged as key performance indicators for companies, experiencing significant growth. Within this context, intangible capital has emerged as a key driver of organizational performance. This capital encompasses human, organizational, and relational capital. This decomposition includes intellectual property, organizational knowledge, customer relationships, brand equity, and other related elements. Each of these components contributes to the overall performance of the organization. Based on these foundations, investing in intangible assets creates a bridge to sustainable competitive advantages and financial success, thereby enhancing sustainable organizational performance and strategic long-term capitalization of key performance indicators (KPIs). Contemporary organizations seek to create value and secure a long-lasting strategic position in the market in order to sustain their competitiveness. However, the definition of intangible capital has long sparked researchers' interest, aiming to identify its core elements in a universally accepted definition. The components of intangible capital have consistently attracted scholarly attention as researchers seek to understand their true impact on organizational performance.

Keywords: performance; intangible capital; human capital; organizational capital; relational capital.

RÉSUMÉ

À une époque où la connaissance est de plus en plus priorisée, les actifs immatériels relevant de l'économie du savoir se manifestent comme des indicateurs clés de la performance des entreprises. Dans ce contexte, le capital immatériel s'impose comme un facteur déterminant de la performance organisationnelle. Il se compose du capital humain, du capital organisationnel et du capital relationnel. Ces composantes regroupent les savoirs intellectuels, les connaissances organisationnelles internes, les relations clients, la notoriété de la marque, etc. Lesdites composantes contribuent significativement à la performance des organisations auxquelles elles appartiennent. Partant de ce constat, investir dans ces actifs immatériels conduit à des avantages concurrentiels durables et à une performance financière pérenne, favorisant ainsi une performance organisationnelle stable et une valorisation durable des indicateurs clés de performance (KPI). Les organisations modernes cherchent donc à créer de la valeur tout en consolidant leur position stratégique sur le marché, afin de préserver leur compétitivité.

Mots clefs : Performance; capital immatériel; capital humain; capital organisationnel; capital relationnel.

1. INTODUCTION

Over the past few decades, the modern business environment relies not only on tangible assets but also on the intangible resources of the organization. At this stage, achieving sustainable and competitive advantages is increasingly associated with intellectual resources, notably intellectual capital (IC). Consequently, the value creation process in business has been fundamentally transformed by the emergence of intellectual capital.Traditionally, tangible assets such as machinery, buildings, and inventory once dominated the corporate landscape. Yet, nowadays, intangible assets are increasingly recognized as a crucial driver of organizational success, have gradually overshadowed these tangible assets.

Intangible capital also referred to as intellectual capital or knowledge-based capital is primarily defined as the non-physical assets that contribute to value creation, wealth, and the firm's competitive advantages. This capital includes many aspects such as intellectual property (patents, trademarks, etc.), human capital (skills, expertise, etc.), structural capital (processes, systems, etc.), and relational capital (brand reputation, customer loyalty, etc.).

Intellectual capital is a key driver of organizational performance, encompassing the knowledge, skills, competencies and capabilities of the organization's employees. In addition, it includes relationships with stakeholders and proprietary assets that the organization develops over time, such as patents, databases, and software. These components are the drivers of the value creation process, innovation, and are included in strategic decision-making.

As firms transition from traditional asset-based strategies to a knowledge-based economy, they increasingly recognize the importance of intellectual capital in enhancing organizational performance exponentially. In this context, numerous researchers suggest that firms that effectively manage and leverage their intellectual capital are better positioned to innovate, adapt to market changes and challenges, and make sound strategic decisions. Thus, the importance of intangible capital has been widely acknowledged.

The understanding of the direct cause-and-effect relationship between intangible assets and organizational performance has been an area of active research to explore this multi-faceted link as firms strive for competitive differentiation, achieve long-term sustainability, and wisely manage intellectual capital as a critical strategic priority. Researchers and scholars such as Edvinsson and Malone (1997), Bontis (1998), and Sveiby (1997) have introduced and developed the concept of intellectual capital. These researchers recognize that human capital (knowledge, soft skills of employees), structural capital (processes, systems, software), and relational capital (relationships, stakeholders, and networks) are the key drivers of organizational performance. The purpose of this article is to examine and explore the growing importance of intellectual capital in enhancing organizational performance by highlighting the cause-and-effect relationship between intellectual capital and performance.

Ultimately, the paper seeks to contribute to the growing body of literature by highlighting insights into the intellectual capital components, how they harness organizational performance as the main tool to make strategic decisions, and maintain the wealth and growth of the organization.

2. UNVEILING INTELLECTUAL CAPITAL AND DEFINING ITS CORE ELEMENTS

Intellectual capital stands out as a crucial asset that contributes significantly to the firm's competitive advantage and long-term sustainability. It refers to the knowledge and soft skills (human capital), relationships with customers and stakeholders (relational capital), and software and patents (structural capital).

The increasing challenges of knowledge-driven economies are pushing organizations to recognize how important intellectual capital and its core elements are as the main drivers of sustainability and value creation in order to adapt to market changes and challenges.

Generally, scholars agree that intellectual capital is commonly divided into three main components: human capital, structural capital, and relational capital.

Edvinsson and Malone (1997) introduced the concept of intellectual capital as the main value of intangible assets, focusing primarily on human, structural, and relational capital. They emphasized that intellectual capital, especially human capital, should be effectively managed to improve firm performance. For these authors, human capital includes the knowledge, skills and creativity of employees. In addition, structural capital encompasses organizational processes and systems, while relational capital includes external relationships with customers and stakeholders.

On the other hand, Bontis (1998) identified the same components of intellectual capital: human, structural, and relational capital. Additionally, based on a survey he conducted, Bontis proposed that intellectual capital should be measured and managed. The results were significant and highlighted the remarkable impact of intellectual capital on business performance, including innovation levels and financial performance. In the same context, Subramaniam and Youndt (2005) continued to study the definition of intellectual capital and its effect on the innovation capabilities of firms. For these authors, the same categorization of intellectual capital is valid, including human, structural, and relational capital. They conducted an empirical study with U.S.-based firms to assess the impact of intellectual capital. The study revealed that human and relational capital are key drivers of innovation capabilities, which significantly affects firm performance.

Table 1: Comparative Review of Intellectual Capital Definitions.

Authors	Definition of intellectual capital
Youndt, Subramaniam, and Snell (2004).	The combination of human and structural capital contributes to organizational performance and competitive advantage. The dimensions of intellectual capital, mainly human and structural capital, improve business performance, particularly in terms of market share and profitability. As a result, intellectual capital supports the implementation of a competitive strategy.
Marr and Moustaghfir (2005).	Intellectual capital, when correctly identified, significantly influences performance outcomes such as profitability, innovation, and customer satisfaction. Their study proposed a three-dimensional model of intellectual capital, based on human, structural, and relational capital.

Sveiby (1997).	Firms that focus on intellectual capital, mainly human and structural capital, are likely to improve their business performance, gain customer loyalty, and emphasize innovation outcomes.
Lev and Daum (2004).	Intangible capital is composed of intellectual property, human resources, and organizational knowledge. Accordingly, the firm's market value increasingly depends on intangible assets than on physical capital.
Marr and Schiuma (2003).	Firms with higher intellectual capital, mainly human and structural capital, are more likely to have better financial performance and higher levels of innovation. As a result, intangible assets play a crucial role in long-term competitive advantage.
Mäkelä and Nätti (2009).	Firms with effective management of intellectual capital, especially human and relational capital, have demonstrated higher customer satisfaction, increased sales rates, and improved financial outcomes.
Chaminade and Vang (2008).	Firms that effectively manage their intellectual capital, particularly structural and relational capital, achieve better innovation and performance levels in global markets. All three components of intellectual capital effectively contribute to enhancing performance.

To sum up, intangible capital is commonly defined through three main categories:
- **human capital**: includes employees' skills, knowledge, creativity, expertise, abilities, etc.
- **structural capital**: includes organizational processes, intellectual property, ERPs, IT systems, etc.
- **relational capital**: includes external relationships, strong networks, customer loyalty, suppliers, stakeholders, etc.

Studies consistently prove that human capital, structural capital, and relational capital have a significant impact on organizational performance and lead to higher innovation rates, profitability, and market value.

Thus, firms with high levels of intangible assets are generally better positioned to innovate and adapt to market changes. They are also able to achieve a long-term competitive advantage that positions them favorably in comparison to their competitors.

For a firm, the aim is to guarantee a strategic position and adapt to market fluctuations and challenges. To achieve this, it is essential to blend both tangible and intangible assets to strengthen the firm's resilience. The three intangible components strongly qualify the firm in the competitive race to seek performance. Human capital is the intellectual capability that drives innovation, problem-solving, and decision-making processes. It includes knowledge, soft skills, competencies, and experience of the organization's employees. Structural capital, on the other hand, is the sum of systems, processes, intellectual property, patents, copyrights, databases, and all the structural mechanisms that enable the firm to function correctly. This capital includes intangible elements such as the firm's culture, reputation, and proprietary knowledge.

Relational capital, in turn, encompasses the external relationships of the firm, networking power, client loyalty, suppliers, partners, and stakeholders.

This capital strengthens the firm's reputation and builds trust within the market. It also drives opportunities to collaborate and leverage external knowledge and resources. Various studies show that the strategic management increasingly relies on the knowledge economy and intangible capital. Thus, the management of intellectual capital has become intrinsic to firms seeking to improve their competitive advantages and boost their performance. The market is facing accelerating rates of technological advancements, and market conditions seem to shift rapidly. In this context, managing intellectual capital has become a crucial determinant of sustainable performance.

The impact of intellectual capital on performance is undeniable, and it serves as both a strategic and organizational performance driver. Intellectual capital has attracted significant attention from researchers to define it and attribute a universal meaning. However, despite the researches conducted, the concept of intangible capital remains intriguing.

Considering all the attempts to define this concept, it has been agreed that intangible capital consists of human capital, structural capital, and relational capital. These three components are linked to organizational performance and are at the core of creating the organization's continuous value. However, the key question remains: how do these components affect the firm's performance and through which mechanisms do they enhance it?

Having established a clear understanding of intellectual capital and its core elements, it is important to now examine how its dimensions contribute to organizational performance. The following section aims to investigate this relationship by highlighting key insights and strategic mechanisms.

3. LINKING INTELLECTUAL CAPITAL TO PERFORMANCE: UNVEILING KEY INSIGHTS AND IMPLICATIONS

The theoretical framework highlights that several theories and models suggest that intangible capital plays a significant role in shaping the firm's organizational performance.

Starting with the Resource-Based View (RBV) introduced by Barney (1991), this theory suggests that firms with valuable intangible assets achieve competitive advantages that are difficult for competitors to replicate. Intellectual capital creates barriers to entry and strengthens the firm's ability to innovate and adapt to market fluctuations.

On the other hand, Sveiby (1997) intellectual capital theory focuses on the impact of the components of intellectualcapital (human, structural, and relational) on the value creation process.At this stage, intellectual capital is regarded as the driving force of organizational capabilities, creating new product lines, improving processes, and positioning the firm strategically. In this context, intellectual capital represents the firm's ability to integrate into markets and remain well-positioned in the face of fluctuations and competition. Furthermore, the three components of intellectual capital enable companies to quickly manage changes in the environment and build internal and external trust and competencies to address market needs.

All these key performance indicators develop dynamic capabilities and enhance long-term performance. To better understand the effect of intangible capital on performance, it is necessary to examine the specific impact of each of its three components-human, structural, and relational-on performance. Human capital is linked to higher organizational productivity, stronger rates of profitability, and innovative ideas. Firms that invest in training employees and protecting their well-being are more likely to retain talent and be better positioned to outperform competitors.

Secondly, structural capital drives firms to operate effectively and efficiently. An efficient organization is one that is well-developed, with processes effectively aligned with its objectives. This efficiency-effectiveness link is more likely to drive higher productivity and stimulate the seamless flow of knowledge within the firm. In addition, intellectual property provides a competitive advantage by protecting the organization's innovations and granting exclusive rights to its technological advancements.

Thirdly, relational capital plays a crucial role. Maintaining strong relationships with customers, suppliers, partners, institutions, and other external stakeholders is key to gaining a strategic position within the market. This can directly affect the organization's procedures and processes.

Consequently, strong customer relationships, well-positioned brand equity, and a good reputation are drivers of long-term performance. These factors foster customer loyalty and strengthen the firm's market position. They also create opportunities for new strategic collaborations and partnerships that enhance the company's portfolio in marketing and financial terms.

Having strong relational capital builds trust and loyalty among customers and partners, which improves their satisfaction rates, ultimately contributing to stronger financial and organizational performance. The cause-and-effect mechanisms are mainly demonstrated by the effect of intangible capital on the firm's performance. This link is not only correlative but also involves underlying mechanisms. How the components of intangible capital drive performance outcomes is a question any firm should ask itself in order to emphasize its intangible assets.

Below, this paper outlines some of the mechanisms by which intangible capital drives the organizational performance of the firm.

Table 2: Strategic Mechanisms of intellectual capital in Driving Firm performance

Mechanisms of intellectual capital	**Details of the mechanism**	**Results on firm performance**
Innovation, employees' engagement and loyalty	Many studies have proven that investing in human capital includes culture, knowledge, and creates a fertile ground for creativity and innovation. Innovation, thus, leads to new products and production processes. It also improves internal services and processes, which create differentiation from other competitors. The intellectual property of the firm is further strengthened and provides a competitive position with legal protection for innovation. This step therefore provides a competitive advantage and facilitates market leadership. On the other hand, human capital integrates employees into the organization, leading to their satisfaction and retention and strengthens their loyalty. Investing in training, career development, and guaranteeing a positive work environment helps reduce turnover rates and increase employees' productivity. Engaged and well-trained employees contribute to higher innovation efforts and long-term strategic goals.	✓ Competitive advantage ; ✓ Market leadership ; ✓ intellectual property legaly protected ; ✓ Employees' engagement.
Efficiency and productivity	Efficient systems, processes, and advanced technological enable firms to achieve higher operational efficiency and stronger productivity rates. The structural capital, which encompasses systems, ERPs, and processes, is a key enabler of efficiency. The optimization of workflows and advanced automation reduces costs, which enhances productivity and increases profitability. Effective management systems help streamline operations and reduce and control costs.	✓ Productivity ; ✓ Profitability ; ✓ Rationalized costs ; ✓ Better streamlined operations.

	Consequently, firms with strong structural capital can better manage resources and improve scalability.	
Customer loyalty and brand equity	Relational capital enhances customer loyalty and brand equity. Firms that focus on building strong relationships based on trust and loyalty are able to gain brand loyalty, which increases market share and boosts business and profits. Positive brand equity affects pricing strategies and allows direct access to new markets even under volatile market conditions.	✓ Loyalty ; ✓ Customer retention ; ✓ Managing market volatility.

Many studies have empirically tested the relationship between intangible capital and performance. For instance, Bontis (1998) demonstrated that, by measuring return on assets (ROA) and profitability ratios, firms possessing higher intellectual capital tend to achieve better financial performance. Similarly, Edvinsson and Malone (1997) demonstrated that managing intangible assets leads to better organizational outcomes, higher market value, and boosted revenue growth.

In addition, Lev and Daum (2004) focused on the intrinsic importance of intangible assets in a firm's market value. With effective intangible capital management, the firm gains a larger share of value creation compared to tangible assets. Consequently, intangible capital, when effectively and efficiently managed, leads to superior performance across a variety of business dimensions.

Organizational success is also a measure of organizational performance. At this stage, Teixeira (2014) explored the role of intellectual capital in knowledge management practices for organizational success. Teixeira's papers found that firms integrating knowledge management practices into their daily operations are better positioned to boost their intellectual capital, which results in increased innovation capabilities and organizational performance. Human and relational capitals are key to increasing productivity and competitiveness. Firms that capitalize on both of these forms of capital outperform competitors through higher profitability and customer satisfaction (Bontis, 2001).

Moreover, human capital creates innovation and adaptability in employees, leading to superior market performance. Empirical research has consistently highlighted the importance of intangible capital in driving organizational performance across various sectors. Several studies have explored how the three components of intangible capital-human, structural, and relational-contribute to boosting financial and operational outcomes, including profitability, innovation, and market share.

Table 3: Empirical Evidences on the Relationship between intellectual capital and organizational performance.

Authors	Link between IC and performance
Hislop (2005).	Organizations with effective knowledge management strategies, such as promoting knowledge sharing between teams and cultivating a learning culture, experience higher innovation and productivity. These organizations are able to convert intangible assets, such as employees' expertise and brand reputation, into concrete outcomes, leading to better overall performance.
Zohar and Luria (2005).	The aspects of relational capital, such as employees' relationships, trust, and communication, are associated with performance outcomes. Organizations that foster a strong safety climate, which is considered a

	type of relational capital, experience higher levels of employee satisfaction and loyalty, lower turnover, and improved organizational performance.
Wang and Ahmed (2007).	Organizations with high levels of intellectual capital, especially human and structural capital, demonstrate superior capabilities and innovate more effectively to respond to market changes. They also enhance competitive performance.
David (1991).	Investing in human capital through enhancing education, training, and developing skills enhances productivity and profitability. Organizations that invest in knowledge gain advantages through their human capital investments.
Inkpen and Dinur (1998).	Joint venture firms with strong knowledge-sharing systems and robust intellectual capital experience better performance outcomes, increased innovation, faster time-to-market, and stronger relationship networks. Relational and human capital are especially crucial for enhacing collaboration.
Sveiby (1997).	Firms with strong intellectual capital, especially human and structural capital, outperform their competitors in terms of profitability and market share. Intangible capital, such as employees' capacities and organizational knowledge, is an important contributor to long-term organizational performance.
Schultz (1961).	Investing in human capital through education, skill development, and continuous training leads to higher productivity and performance.
Kaufmann and Todtling (2002).	Regions that develop research and development, innovation networks, and human resources demonstrate superior economic performance and innovation outputs. The importance of structural capital, through R&D capabilities, and relational capital, through strong networks, contribute to organizational success.

To sum it all up, intellectual capital is essential for achieving higher performance across all levels necessary for a firm to secure a competitive position in the market.

IC acts as a performance booster, strengthening the firm's competitive position and securing long-term sustainability. Below, this paper provides a demonstration of how the three components of IC interact and generate performance:

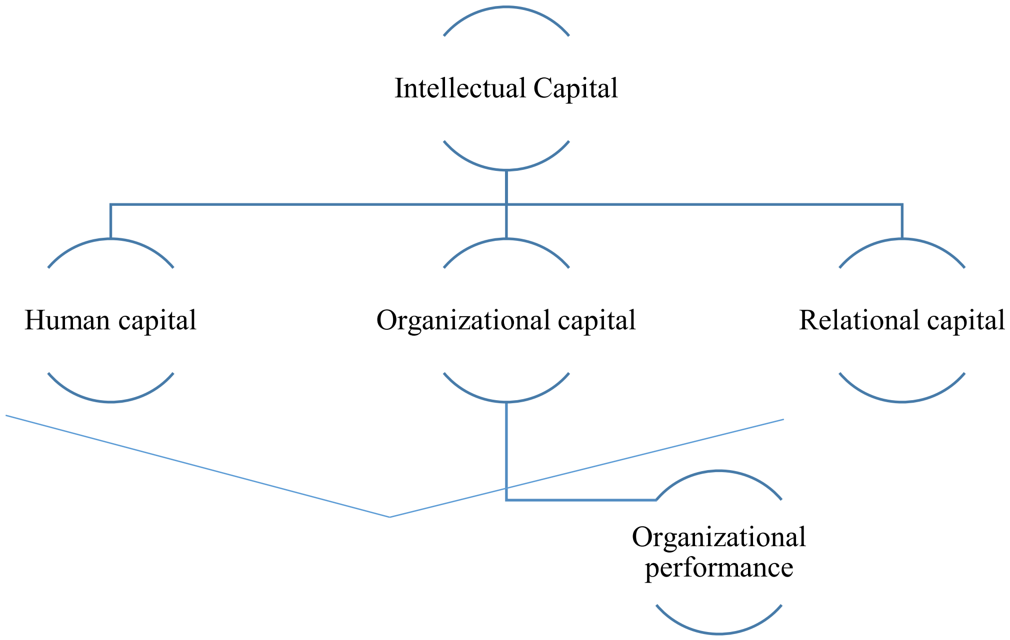

Fig-1: Conceptual framework of the Intellectual capital.

The proposed conceptual framework highlights the central role of intellectual capital in enhancing long-term performance. This framework is based on the three fundamental elements of intellectual capital: human, structural, and relational capital. These elements are key drivers of organizational performance. Human capital, which includes employees' skills, experiences, knowledge, innovation abilities, and creativity, forms the foundation for innovation and continuous development.

Structural capital includes internal processes, ERPs, databases, information systems, and organizational culture that drive operational efficiency and enhance knowledge and skills. Relational capital reflects external relationships with stakeholders, customers, partners, and institutions. Each of these elements affects performance and plays a crucial role in driving the entire organization. The combination of these three components is essential for the company's performance. It is important to note that each component affects performance through its specific impact, which is enhanced when combined with the effects of the other elements.

The interaction among these three elements creates synergy, enhancing performance and innovation, and allowing the organization to adapt and maintain a sustainable competitive advantage.

4. CONCLUSION

Empirical studies consistently show that intangible capital significantly determines organizational performance.

Many studies have shown that firms with stronger levels of intellectual capital are likely to achieve superior financial outcomes, higher profitability, a stronger market share, and greater customer loyalty. At this stage, investing in intangible assets such as human capital, internal systems, and customer relationship management contributes to outperforming competitors and gaining a competitive advantage.

Across various sectors, from banking and manufacturing to technology and services, studies have demonstrated that intangible capital affects innovation rates, efficiency, and customer satisfaction. It also drives productivity and improves performance metrics by enhancing customer relationships.

In most of these studies, human capital is often considered the most important driver of innovation and productivity, while relational capital is seen as the key driver of customer loyalty and satisfaction, which in turn boosts market share and financial ratios. In third place, structural capital empowers firms to operate effectively and efficiently by protecting their innovations through organizational processes, ERPs, and intellectual property.

The cause-and-effect relationship between intangible capital and performance is mainly demonstrated through higher profitability rates, innovation, market share, customer loyalty and satisfaction, employee engagement, and many other aspects clearly linked to the organization's performance.

As firms continue to transition into an increasingly knowledge-driven economy, managing intangible capital will be crucial for achieving sustainable success and competitive advantage.

All of the empirical studies collectively reinforce the idea that intellectual capital plays a pivotal role in driving organizational performance.

Thus, organizations that focus on developing and efficiently managing their intellectual capital can leverage it to improve innovation, profitability, and long-term performance sustainability.

To conclude, intellectual capital is the key driver of organizational performance. Thus, managing intellectual capital through strategic investments in human capital, optimization of internal structural processes, and empowering relational networks can significantly enhance the firm's innovation, profitability, productivity, efficiency, and competitive positioning.

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