

A theoretical exploration of the perception of intellectual capital in a public context: Evidence from the literature

Exploration théorique de la perception du capital immatériel dans un contexte public : Evidence de la littérature

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Abstract

A specific source of wealth declined in several forms; intellectual capital constitutes the essence of today's economy. In recognition of its importance, the present contribution is conceived to highlight the concept of intellectual capital in a particular context that is increasingly focused on knowledge and information management.

Now more than in any other circumstance, the public sector is forced to reiterate its management process and reorganize the public ecosystem, hence, the need to take an innovative approach, taking in consideration new factors in which immateriality is taking on a very significant importance.

In this vein, we present an exhaustive discussion of the fundamental theoretical perspectives concerning intellectual capital, in order to identify theoretically its most relevant components for a public structure, while highlighting its importance. This is followed by an analysis of the main empirical studies, aiming to visualize the development of research in managing intellectual capital in public organizations and its effect on the performance of these entities.

Keywords: Review; Intangible/Intellectual Capital; Public sector; Economics of the intangible; Performance of public sector organizations.

Résumé :

Source de richesse spécifique, décliné sous plusieurs forme, le capital immatériel forme l'essence de l'économie actuelle. En raison de son importance, la présente contribution a été conçu en vue de mettre en lumière le concept du capital immatériel dans un contexte spécifique qui est de plus en plus axé sur la gestion des connaissances et de l'information.

Aujourd'hui, plus qu'en toute autre circonstance, le secteur public est appelé à réitérer son processus de gestion et réorganiser l'écosystème public, d'où la nécessité d'emprunter une voie novice en prenant en considération de nouveaux facteurs dans lesquelles l'immatériel prend une ampleur très marquante.

Dans ce sillage, nous avons présenté une discussion approfondie sur les perspectives théoriques fondamentales autour du capital immatériel en vue de détecter théoriquement les composantes les plus pertinentes pour une structure publique tout en soulignant son importance. Puis, une analyse des principaux travaux empiriques est réalisée dans le but de visualiser le développement de la recherche sur la gestion du capital immatériel dans les organisations publiques et son effet sur la performance de ces entités.

Mots clés : Revue ; Capital immatériel ; Secteur public ; Economie de l'immatériel ; Performance des organisations publiques.

Introduction

The volatility associated with the emergence of new paradigms has engaged the debate on the values that characterize today's ecosystem. The knowledge-based economy is one of the most recent perspectives, based mainly on intangible components, which form a crucial capital that needs to be managed in the most advantageous and optimal manner.

The value of the intellectual capital, described as an organization's collective knowledge embedded in its people, organizational routines and network relationships (Bontis et al., 2002; Kong, 2008), has been clearly confirmed by several studies revealing that intellectual capital represents a significant asset for organizations. However, understanding the conceptualization of this construct, its various acceptances, and its theoretical framing remain difficult in the light of the existing literature. The latter has evolved over time through several phases, at present the researches are axed on « intellectual capital in practice», and more precisely on intellectual capital actions and its managerial implications rather than on its measurement (Khan & Nouman, 2019; Secundo et al., 2018). This stage also corresponds to the ideology of Guthrie et al (2012), which states that there is growing interest in the comprehension, adaptation and application of intellectual capital as a strategic management tool by organizations (Secundo et al., 2018).

Indeed, the growing interest in intellectual capital can be explained by its specificity, considering that each organization has different types of resources, thus the mapping and the measurement of intellectual capital is highly dependent on the context in which an organization operates. And in the words of Hanine (2017), this invisible capital can be approached as a global concept that can be adapted to all types of organization, even those in public sector.

Although, the recognition of intellectual capital in a public environment remains relatively under-developed, however, this field turns out to be particularly well favorable to the study of this indiscernible concept. This aligns with Kong's (2006) statements regarding the contribution of intellectual capital as a distinctive asset that public sector organizations must develop in order to acquire a sustainable competitive advantage. Thus, there are several drivers that can give rise to the development of intellectual capital in public sector, among the most major reason is the modernization project that challenge organizations to adopt managerial tools inspired by the New Public Management approach with an emphasis on performance. Consequently, the reorientation of public organization management philosophy has contributed to the emergence of new managerial reflections, and it is in this context that intellectual capital management in the public sector has been highlighted in the literature (Serrano Cinca et al., 2003).

However, in contrast to the efforts made by private-sector organizations to identify and evaluate intangible resources, public-sector organizations have been less involved in this area. This is due to the gap in terms of the number of scientific contributions made in the two sectors, which can be seen as unexplained by the fact that immateriality is more prevalent in the public sector and can be used as a means of providing products and services endowed with performance enhancing functionalities.

Based on the foregoing, this contribution seeks to explore the following questions, which forms the basis of our theoretical and empirical review: **From the perspective of the public sector, what are the implications and the components of intellectual capital that are considered to be relevant? And how intellectual capital is conceptualized in the empirical evidence?**

In an attempt to answer these questions, we present an exhaustive discussion of the fundamental theoretical perspectives concerning intellectual capital, in order to identify theoretically its most relevant components for a public structure, while highlighting its importance. This is followed by an analysis of the main empirical studies, aiming to visualize the development of research in managing intellectual capital in public organizations and its effect on the performance of these entities. And, in order to complete the overview, a synthetic table of the most important and consulted contributions is presented.

1. Reflection related to the notion of intellectual capital in public context

1.1. Demystification of the concept of intellectual capital: Theoretical basis

The conceptualization, definition and theorization of intellectual capital form an abundant corpus within the literature. Indeed, the concept, described as novel, has its roots in several approaches, owing to its holistic nature and the fact that it can be applied to all forms of organization, which makes it difficult to define.

In their research, Kaufmann & Schneider (2004) confirm that the literature presents a large number of very different definitions and points of view. In accordance with historical findings, the term " intellectual capital " was first introduced by John Galbraith (1969), although the interest in the internal resources of companies goes back much further than that.

The first reflections on this theme were inspired by the work of Penrose (1959) on « The Theory of the Growth of the Firm», with its emphasis on the firm's resources, which led to the development of « Resource Based Theory» (Yasemin Y & Joseph T, 2000).

The resource-based theory is among the most prominent approaches, owing to its contribution in explaining the significance and importance of an organization's internal resources which, according to Barney (1996), must be rare, inimitable and non-substitutable (Barney, Clark

2007). It also explains their impact on value creation and the achievement of high levels of performance (Szymaniec-Mlicka, 2014).

This perspective has been the subject of a consensus between several authors, generating a number of related theoretical extensions, including the core competency theory of Hamel & Prahalad (1994), the dynamic capabilities theory of Helfat & Peteraf (2003) and Teece et al. (1997), and most recently the knowledge-based theory of Grant (1996). Cited in (Kraaijenbrink et al., 2010). The main purpose of these latter is to understand the various resources that an organization may have. But how can they be precisely defined?

As previously stated, the academic corpus reveals a diverse series of interpretations of intellectual capital, as a resource. At present, there is no agreed conceptual framework that can demystify the construct as a whole including its components and sub-dimensions, because each author describes it differently. Some refer to it as "intangible capital" or "intellectual capital", while others use the following terms: "intangible assets, immaterial assets, resources or even "intangible investments".

Given this notable terminological ambiguity, in its simplest terms, intellectual capital can be presented as « the possession of knowledge, concrete experience, organizational technology, customer relationships and professional skills that give a company a competitive advantage in the market » (Edvinsson, 1997).

In the sense of Teece (2000), «Intellectual capital refers to knowledge, competencies and intellectual property. Also includes other intangible assets such as brands, reputations and customer relationships». From another perspective, Petty & Guthrie (2000), present intellectual capital as an indicator of two categories of the firm's economic value which are respectively organizational value and human value. Moreover, intellectual capital is seen as the knowledge assets that can be transformed into value. It's about establishing and sustaining the nexus between knowledges, experience and competencies, simultaneously on the inside and outside the companies (Cabrita & Bontis,2008).

Throughout these clarifications, we note that intellectual capital is a heterogeneous construct that differs between entities and combines multiple components. In this vein Bessieux-Ollier & Walliser (2010) affirm that intellectual capital can be defined in terms of its constituent elements. Similarly, Kaufmann & Schneider (2004) in their literature review, concluded that “since there is no universally accepted definition, there is no universally accepted classification”.

There are three main aspects of intellectual capital that are covered by the vast majority of academic research, namely relational, structural and human capital (Bontis, 1998; Subramaniam & Youndt, 2005) However, some researchers refer to intellectual capital in different ways, using terms such as internal, external and customer capital, while others recognize that it can have additional dimensions such as organizational, process, innovation, customer and social capital (Chen et al., 2004).

The term of human capital refers to the intangible assets and qualities possessed by individuals that can be used to enhance their productivity, contribute to economic growth and create value for organizations and society as a whole. It includes the knowledge, skills, experience, education and health of individuals, as well as their ability to innovate, adapt and collaborate effectively. In the words of Becker's (1964) human capital theory, it's a critical component of the overall wealth and competitiveness of a nation or organization.

By definition, structural capital represents the collective knowledge that goes beyond the skills and capabilities of individual employees, such as databases, process manuals, strategies, routines, organizational culture...that create value for organizations (Bontis et al., 2000) and enable them to function effectively and efficiently.

And given that organizations operate in a changing environment, good stakeholder relations are essential, and hence relational capital represents another relevant element of intangible capital, which includes all the resources involved in the relationship between the entity and its partners, and all the knowledge embedded in external relationships (R. Mazzotta et al. 2011).

Notwithstanding these classifications, intellectual capital refers to what is suggested by resource-based theory, which sees it as a valuable and unique strategic resource for any organization that can contribute to value creation and the generation of competitive advantage if is properly identified and managed. We limit ourselves to these definitions, which are considered to be global, as the purpose is to identify the meaning and the taxonomy of the subcategories of intellectual capital in the public context. Thus, from the private to the public sector, how can we demystify this capital and recognize its importance?

1.2. Intellectual Capital in public context

Under the impulse of New Public Management practices, public organizations are challenged to adopt management techniques that may not be adapted to the specificities of their sector and to develop an appropriate vision to align their inefficient methods with these advances.

In such circumstances, public organizations need to use their resources more effectively. And because of its heterogeneous, adaptive nature, intellectual capital is able to adapt to the needs

of the public sector. This observation is in line with Kong (2007); Kong & Prior (2008) ; Mouritsen et al. (2005) statements that acknowledges that good management of intellectual capital can be seen as a new management approach in public organizations (Kong & Prior, 2008; Ramírez, 2010) and suggests that intellectual capital is the most appropriate strategic management conceptual framework for these entities.

The intellectual capital approach is process-based rather than financial results-based; it emphasizes the improvement of capabilities and competencies rather than the enhancement of financial flows; and it focuses on intangible rather than tangible resources.

This is in line with public organization's management philosophy, mission and organizational objectives. Moreover, the applicability of the above-mentioned capital in a public context is motivated by several factors. One of the main reasons, as we have already mentioned, was the introduction of a series of public sector restructuring reforms, which implied a significant change in the strategies of the existing organization. The aim of public sector restructuring projects is to make public organizations effective and efficient. Accordingly, intellectual capital can support these projects by redirecting the strategies of these organizations towards effective management of their internal resources, while preserving their values, identity and specificity. Secondly, the intangibility behind the concept of intellectual capital is present in the day-to-day activities of public organizations as they provide public services to a wide range of stakeholders, especially citizens. And in addition to their financial objectives, the vast majority of their objectives are social in nature, their results are intangible as they aim to satisfy general interests, and their resources are mainly based on a strong presence of human capital.

As a result, intellectual capital becomes an important element in the strategic decision-making process for public entities. The latter must identify their intangible assets and know how to exploit them by developing effective management models adapted to the specificities of the non-market environment.

Furthermore, the structure of public intellectual capital appears close to that in the private sector. Andrieux (2009) confirms this statement and discusses the sub-categories of intellectual capital in the third sector, taking into account the specific characteristics of each one, noting that the difference results from the way they exploited.

Human capital is perceived as the most important and complex resource, requiring highly qualified public managers. It refers mainly to skills, employee satisfaction and training. Other authors (Campos et al.2006, Caba et Sierra. 2001) include other dimensions such as employee attitudes and behaviors, leaderships, their ability to innovate, etc.

The second revealing category for public organizations is structural or organizational configuration. It can be defined as the supporting infrastructure for human resources (Benevene and Cortini, 2010) and includes, among other things, corporate knowledge, organizational structure, procedures, management philosophies, organizational process systems and information resources.

And as public organizations have multiple stakeholders, relational capital is another significant component of intellectual capital. It includes all the resources involved in the relationship between the organization and its external relations (R. Mazzotta et al. 2011), in particular citizens in general, service users, suppliers, businesses, government authorities, collaborations, agreements and alliances.

On the basis of these definitions, it can be seen that the dimensions that are most studied in a public sphere are the traditional tripartite classification of intangible capital, as summarized in Table N°.

Table N°1: A taxonomy of intellectual capital in public sector

Authors	Intellectual capital dimensions	Context of study
Kamaruddin & Abeysekera (2021)	Internal, External and Human capital.	Malaysian public sector
Serrano Cinca et al (2003)	Internal organization; External structural capital; Human capital; Social and environmental commitment.	Spanish municipalities
Benevene et al (2017)	Human capital, organizational capital, relational capital.	Italian Social enterprises
Budiarso (2019)	Human capital, structural capital physical capital.	Indonesian state-owned enterprises
Campos et al (2006)	Public human capital, public organizational capital, public social capital, public technological capital and public relational capital.	Public units at the National Tax Authority in Spain: The Fiscal Studies Institute and the Tributary Agency

Queiroz (2003)	Human resources, internal processes and external relations, transparency, quality.	Spanish City Councils
Khan & Jamal (2013)	human capital, structural capital, relational capital.	Knowledge-Based Public and Private Sector Organizations in Pakistan
Bronzetti et al (2011)	Human capital, structural capital, relational capital.	Non-profit organizations
Rija & Bronzetti (2012)	Human capital, structural capital, organizational structure, relational capital.	Knowledge based non-profit organizations

Source: Personal elaboration

Beyond these numerous acceptances, Ramírez (2010) confirms that only the combination of intellectual capital components will help administrative managers in their activities and achieve efficiency and effectiveness in the public sector.

2. Empirical literature review

A vast corpus of literature has focused on the concept of intellectual capital and its valuable contribution to improving corporate performance in a variety of contexts. However, there has been little emphasis on this conceptualization in the public sphere. Consequently, an analysis of the main contributions to this field is required.

2.1. Development of intangible capital research in the public sector

The structured literature review authored by Dumay et al. (2015) covered an overview of published articles and studies related to intellectual capital in the public sector over a five-year period. They propose a theoretical corpus conducted on the basis on Guthrie et al.'s (2012) review to further the development of intellectual capital research in the public sector.

In the light of the obtained results, there is a need to promote the management of intellectual capital in the public sector, this is owing to the volume of articles analyzed, which is limited to 53 contributions. The majority of these studies seek to understand how intellectual capital operates within public organizations, with a focus on central government and educational institutions, mainly universities.

Therefore, the study suggests that it is necessary to experiment with the practice of intellectual capital, which will contribute to the realization of a conceptual framework for the latter across sectors in many sectors, beyond education.

In the same vein, a review of the literature reveals that the public sector's increased interest in intellectual capital is driven by the impetus of theories, concepts and associated values around the New Public Management, Public Governance and Public Value paradigms (Guthrie & Dumay, 2015). Based on their research, we conclude that the most effective manner to manage public services, to ensure a greater understanding of public services' internal functioning, and to meet citizens' expectations is through intellectual capital management.

As a final consideration, the majority of the research follows a normative approach, which places the contributions in the second phase and seeks to develop models and measures for the management and valuation of intangible capital. Otherwise, the process continued to move forward until the third phase. This third impulse aims to highlight the managerial implications of intellectual capital management in all types of organizations and to gain a more detailed understanding of the underlying relationships between their people, processes and intellectual capital (human, structural and relational capital).

Dumay and Garanina (2013) note that the third wave of research on intellectual capital has been visible since the 2010s, particularly with the contributions of Mourtisen et al (2000) Guthrie et al (2012), John Dumay and Garanina (2013) and others, and concerns a critical examination of intellectual capital in practice and how effectively this capital works within organization (Khan & Nouman, 2019). The following section provides a non-exhaustive overview of the main practical contributions.

2.2. Overview of empirical research

Kamaruddin & Abeysekera's (2021) study attempts to explore the theoretically grounded relationship between the constructs of intellectual capital and those of sustainable economic performance. The authors first conducted focus groups with members of the Malaysian public sector to identify the components of intellectual capital that are essential for promoting sustainable economic performance. The three elements of intellectual capital identified by the authors are internal, external and human capital representing a total of 54 items. They also identified efficiency, effectiveness and reputation as three characteristics of sustainable economic performance listing 61 items. Secondly, to test the interrelationship between the constructs, they conducted a questionnaire survey among public sector employees involved in resource decision-making and then analyzed the results using structural equation modelling.

The outcomes supported the developed hypothesis and showed a significant theoretical and empirical relationship between intellectual capital and sustainable economic performance.

Budiarso (2019) explored the nexus amid intellectual capital and financial performance of public companies, comparing the perceived impact of this relationship within 18 state-owned and 18 non-state-owned companies. Based on a multiple regression model and an independent t-test for data analysis, the findings indicate that the components of intellectual capital measured by Value Added Intellectual Capital (VAICTM), in particular the coefficient of human and physical capital reflect a significant importance in the profitability of public companies with different proportions, implying that public companies are still highly dependent on physical capital compared to human and structural capital.

Benevene et al. (2017) employed an exploratory qualitative method to understand the ways in which senior managers describe the human, organizational and relational capital of their organization. Therefore, the authors conducted semi-structured interviews with senior managers of Italian Social Enterprises, which were subsequently transcribed and analyzed using content analysis. The main findings prove that there is a huge gap and hiatus between academic literature and practice. The participants' vision of intellectual capital components and their management was described as limited and underdeveloped. However, they specified that human capital is the most important component, despite its interdependence with organizational capital. Furthermore, the conceptualization of relational capital seems to be similar to the theoretical statements, linking it to the development of an external relationships.

Farah & Abouzeid (2017) studied the interrelationships between intellectual capital components (human, organizational and social capital) in the public sector and their impact on organizational performance among employees of two public institutions. Using regression analysis, the authors found that organizational performance is positively impacted by human, social and organizational capital. Thus, various associations have been validated, arguing that there is a positive correlation between human, social, human and organizational capital in public institutions.

The aims of **Maria Morariu's (2014)** research is to examine the relation amid intellectual capital performance and the traditional performance of Romanian public enterprises and to analyze the relative importance of different intellectual capital components on this performance. It turns out that only human capital has an impact on productivity variation, the other components are negatively correlated - for firms that create value based on immaterial resources.

Khan & Jamal (2013) used a qualitative approach to examine the global perception of public and private managers regarding intellectual capital. The results show that participants in both types of organization understand the concept of intellectual capital and its composition, also point out that there are differences and similarities between the latter in both contexts. Their analysis reveals that the three components exist (human capital, structural capital, relational capital), but the sub-categorization of each component is perceived differently, which can be explained by the specific nature of this capital in different contexts.

Benevene & Cortini's (2010) study represents a qualitative contribution to the study of intellectual capital in a public field, investigating the interactions between human and structural capital within Italian non-profit organizations. Three hypotheses were retained, according to which Italian non-profit organizations are unfamiliar with the use of intellectual capital as a strategic management instrument, secondly, they have insufficient human resource management skills and thirdly, their organizational culture has a rather limited representation of training and its potential. As a conclusion, the authors acknowledge that their organizational culture doesn't provide a concrete infrastructure for human capital development, as Italian nonprofit-organizations lacks a structured procedure and strategy for developing training programs based on the organization's necessities.

Figure N°2: Summary of consulted articles

Authors	Methods	Entities	Result
Benevene & Cortini (2010)	Qualitative	Italian non-profit organizations	There is not a strong correlation between human and structural capital.
Khan & Jamal (2013)	Qualitative	Knowledge-Based Organizations in Pakistan	Intellectual capital components exist but are perceived differently in the private and public sector
Maria Morariu (2014)	Multiple regression analysis	Romanian public companies	Human capital plays an important role in the variation in productivity growth.
Dumay et al. (2015)	Structured literature review	Public sector	Research needs to adopt more longitudinal approaches and focus on other contexts beyond the boundaries of education.

Guthrie & Dumay (2015)	Literature review	Public sector	A greater part of contributions and aim to develop models and measures for the management and valuation of intangible capital.
Farah & Abouzeid (2017)	Quantitative	Gulf Cooperation Council public sector	There is a significant correlation among the components of intellectual capital, and the dynamics of the latter have a positive impact on organizational performance.
Benevene et al. (2017)	Qualitative	Italian Social Enterprises	Public sector managers have a limited perception of intellectual capital and recognize the importance of human capital in their organization
Budiarso (2019)	Multiple regression model and an independent t-test for data analysis	Indonesian State and non-Owned Enterprises in	Human and physical capital play a significant role in the profitability of public companies, but in different proportions.
Khan & Nouman (2019)	Literature	Public sector organizations in Pakistan	The authors propose a theoretical conceptual framework for understanding the role and implications associated with intellectual capital in knowledge contexts.
Kamaruddin & Abeysekera's (2021)	Qualitative	The Malaysian Public sector	There is a remarkable correlation between intellectual capital and sustainable economic performance, both theoretically and empirically.

Source: Personal elaboration

The examination of the literature review shows an increasing interest in intellectual capital within public organizations and demonstrate that intellectual capital can be used to improve the performance of these organizations while ensuring quality service.

Conclusion

To summarize, the aim of our contribution is to highlight the phenomenon of intellectual capital in a specific research context, namely the public sector. Compared to the private sector, the literature on this subject remains limited, despite the contributions that have been made.

Throughout this latter, public sector appears to be well placed to implement intellectual capital management. On the one hand there are significant performance challenges for public enterprises and on the one hand, its missions and objectives, which are mainly dedicated to satisfying the public interest. In spite of these drivers, the application of the intellectual capital approach is still in its embryonic stages.

The non-existence of a universal model is an evidence of its complexity in terms of identification, measurement and management. In this direction, efforts have been made, Ramírez (2010) provided guidance to public sector entities to develop their capacity to identify, measure and manage their intangible assets by examining intellectual capital models in the Spanish public sector. These models were designed to adapt to the specificities of the Spanish public sector, which further illustrates the theoretical and empirical gap.

From this review, it can be concluded that research on intellectual capital needs to be extended to other public contexts, particularly in emerging economies.

This requires a detailed analysis of the specific characteristics of public organizations, their strategic objectives and their intangible resources, which are generally grouped into three main categories: human, relational and organizational capital.

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