

Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.

## Relevance and the Future of Intellectual Capital Management in the Public Sector

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### Abstract

The public sector is among the least addressed areas in intellectual capital (IC) research, and in this chapter our aim is to better understand the specific needs of the public sector context regarding IC management. We argue that by better understanding these contextual characteristics it is possible to develop both the theory and practice of IC. Our analysis shows that most IC research does not justify its choice of the public sector as its context. The reasons evinced in those studies choosing the public sector were mainly related to the use of public funding to create public value, a strong claim for transparency, complexity of objectives, and, more recently, the ecosystemic role of the public sector and its obligation to support sustainable development. The central argument of the chapter is the need to better understand the special characteristics of public value creation when applying IC theory in the public sector to support the management of public organizations and in managing public services.

**Keywords:** Public Sector; Public Management; Public Governance; Intellectual Capital Management

### 1. Introduction

Intellectual capital (IC) theory stems from efforts to prove and explain the higher valuation of companies' equity value in the market (e.g., Edvinsson & Malone, 1997; Roos et al., 1997; Sveiby, 1997). Various measurement methods have been developed, but their ability to capture the intangible capital of firms has proven inadequate and their validity questionable (Kujansivu & Lönnqvist, 2007). Also, managers seem to struggle with the problems of applying theoretical IC models in the real world (Kujansivu, 2009). Recently, Kianto et al. (2023) argued that normative approaches to conceptualizing IC and its performance relevance would benefit from updating due to large-scale changes in companies' operating environments and working life.

In this chapter, we focus on public sector management and highlight the specific needs of IC management that have not been thoroughly discussed and dealt with in earlier literature. The chapter presents an overview of the public sector IC literature, and based on this review, discusses the relevance and future needs of IC management research in the public sector context, the area where least research on IC has been conducted (Dumay et al., 2015; Guthrie et al., 2012). Nevertheless, due to its significant societal role, the public sector provides an intriguing context for exploring the relevance of IC theory, and the possible contextual implications for theory development.

Many governments have recently emphasized the potential of various data-driven approaches and pursued evidence-based decision-making (cf. Laihonen et al., 2023; Federal Data Strategy, 2022;

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Government of the United Kingdom, 2022), but the intangible value drivers and the capabilities needed to tackle wicked societal problems have been less discussed recently. In the IC management literature, the evidence-based trend is illustrated by the strong focus on IC accounting, IC indicators, and IC disclosure instruments (see Hussinki et al. (2024) for a review). This raises the important and profound question of whether IC management, and other knowledge-based management approaches, are perceived more as a managerial toolbox than as a strategic approach to organizational value creation. Answering this question is critical when considering the future of IC research and the development of IC theory.

In this chapter, we consider IC management more as a theoretical lens for analyzing what (public) organizations do and what justifies their existence. According to the public management literature, public managers must balance competing values and expectations (Christensen & Lægred, 2011; Torfing & Triantafyllou, 2013), and the classic dilemma between efficiency and effectiveness (Lipsky, 1980). The aim of this chapter is to ascertain what kind of an empirical context public management sets for IC management and discuss the specific needs of the public sector context regarding IC management.

The chapter is organized as follows: section 2 provides an overview of the IC literature in the public sector. In section 3, we discuss some of the public sector's critical contextual characteristics for IC management. In section 4, we discuss the relevance and future of IC management research in the public sector and propose some avenues to enhance the relevance of IC research in the public sector.

## **2. An overview of the intellectual capital literature on the public sector**

To understand the status of IC research in the public sector, we conducted a systematic search to survey the literature on IC within the public sector and in public administration. Our focus was on peer-reviewed empirical research papers, aiming to elucidate the practical implications of IC in the public sector and how the specificities of the public sector are presented. The search yielded 125 results, of which 18 were retained for further analysis, with a focus on IC and clear justification for public sector research (see Table 1).

Seven articles were published in *the Journal of Intellectual Capital (JIC)* and two in *the Journal of Management and Governance*. The remaining articles were published in various other scientific publications. While earlier reviews by Dumay et al. (2015) and Guthrie et al. (2012) emphasized aspects of IC and how these have been studied in the public sector context, with a marked emphasis on accounting, our research focuses more on the peculiar nature of the public sector as the context of

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IC management, that is, why it is interesting and essential to study IC in the public sector in the first place.

Turning our attention to the geographical distribution of the studies, the majority were authored by researchers from Italy (6 studies), Australia (4 studies) or Spain (3 studies). A total of 11 studies were from Europe, four from Australia and three from developing countries totaling seven different nations. We further classified the literature into seven groups to describe the public context according to Wall's previous classification (2005). The context for most of the publications was "government department" (4 studies), followed by "local authority" (4 studies), "education" (3 studies), "executive agency & non-departmental public body" (2 studies), "health" (1 study) and "other" consisting of four studies with several groups of contexts, and one study which examined the national intellectual capital in European countries. Surprisingly, our results did not show as strong an emphasis on universities and the education field as the earlier review by Bellucci et al. (2021).

The study of IC has undergone several stages, concurrently rather than successively (Petty & Guthrie, 2000). Previous reviews have pointed out that public sector IC research has bypassed stages of *raising awareness* and *legitimizing IC research* and jumped straight to *performative* stage (Guthrie et al., 2012; Guthrie & Dumay, 2015) examining how IC works in organizations (e.g., Veltri & Silvestri, 2015; Massingham & Tam, 2015). Our results corroborate these findings. In our review, only a few recent studies reached the fourth stage by considering *IC ecosystems* (cf. Guthrie & Dumay, 2015), while most emphasis has been on case study research investigating how IC works in organizations.

From the viewpoint of this chapter, the most interesting observation is that in most studies no explicit reasons were provided for selecting the public sector as a research context. In some studies, the selection was solely justified by referring to existing literature reviews recognizing the public sector as the most neglected area of IC research. Several articles also noted that the public sector had been transformed by the New Public Management (NPM) reform in a private-sector direction and considered organizations as if they were enterprises. These studies apply private sector solutions directly, mostly ignoring the fact that the public sector undeniably differs from the private sector. We found only 18 studies including a clearly articulated reason for choosing the public sector as the context of the study. These studies and their justifications for public sector research are summarized in Table 1.

**Table 1. IC theory and public sector research.**

<b>Author</b>	<b>Justification for public sector research</b>
Iacuzzi & Pauluzzo, 2023	Economic and social value creation for the public sector; ecosystem-view; role as a promoter of value co-creation with multiple stakeholders
Ramírez et al., 2022	Need for participation and transparency
Melo & De la Gala Velásquez, 2022	Complex and dynamic environment; need for transparency; criticism of public administration; accountability; major national problems in developing countries; sustainable development
Belmonte da Silva et al. 2021	Value for society; bureaucratic environment
Veltri & Puntillo, 2020	International recommendations and national legislative requirements
Iacuzzi et al., 2020	Stewardship responsibility; participation of citizens; value co-creation at ecosystem level; stakeholder engagement; promotion of values
Matos et al., 2018	Need for transparency, innovativeness, effectiveness, and efficiency; scarce resources; complex political, economic and social context; need for trust
Martin-Sardesai & Guthrie, 2018	Public funding and need to create public good
Cavicchi, 2017	Responsibility to support sustainable development at societal level
Manes Rossi et al., 2016	Social reporting; public values; open data policy
Massingham & Tam, 2015	Limited opportunities to reward, attract, and retain staff, due to salary regulations in the public sector
Veltri & Silvestri, 2015	Demand for transparency to satisfy stakeholders' needs; opportunity to differentiate from others by integrated reporting; obligation to report non-financial information
Joia, 2008	Societies' increasing call for more accountable public administration for economic reasons; need to measure performance with other than market value
Cuganesan et al., 2007	Value creation for stakeholders and public; communication of value creation
O'Connor et al., 2007	Multiple stakeholders; corporate control; different perspectives in value relationships; cultural aspects
Bueno Campos et al., 2006	The legitimacy of public entities; economic, social, political-institutional, and cultural context
Wall, 2005	Need for external reporting; multiplicity of goals; intangible outcomes of public services
Serrano Cinca et al., 2003	Distinctive features of intangible assets in the public sector; difference in IC models; difference between IC components

As shown in Table 1, the public sector as the research context has been justified through the use of public funding to create public value (Cuganesan et al., 2007; Bueno Campos et al., 2006), with a strong claim for transparency (Veltri & Silvestri, 2015; Matos et al., 2018; Ramírez et al., 2022), which further implies external reporting (Wall, 2005; Veltri & Silvestri, 2015). It has been noted that external

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reporting in the public sector must consider both economic and more complex objectives in contrast to the private sector (Manes Rossi et al., 2016). A few studies also mentioned the role of regulatory factors and international recommendations (e.g., at the EU level) as a juridical discourse (Manes Rossi et al., 2016; Veltri & Puntillo, 2020). Researchers from developing countries highlighted the complexity of the public context and the multiple pressures on the public sector caused by societal changes (Matos et al., 2018; Melo & De la Gala Velásquez, 2022).

The public sector obligation to support sustainable development is an emerging theme in IC research (e.g., Cavicchi, 2017). Otherwise, there was surprisingly little discussion on values, despite the political nature of the public sector and the growing need for a debate on values in the light of recent societal changes acknowledged in the recent public sector accounting literature (Bracci et al., 2021). The literature also noted the limited opportunities for public sector organizations to reward, attract, and retain staff due to regulations in the public sector (Massingham & Tam, 2015). This is a concrete example of the impact of the bureaucratic and rigid nature of the public sector affecting the practice of IC management. Recent studies (Iacuzzi et al., 2020; Iacuzzi & Pauluzzo, 2023) highlight the ecosystemic role of the public sector and the co-creation of value with stakeholders.

Overall, the literature review shows that the literature focusing on IC in the public sector is evolving but still fragmented in terms of journals, authors, and subject areas, as well as of the justifications for studying IC in the public sector. Next, we will analyze what specific requirements the public sector imposes for IC management.

### **3. The public sector as the context of IC management**

As shown in the previous section, the focus of public sector IC research has been predominantly on how public organizations do accounting and reporting, and thus, many of the special characteristics of public management have not been thoroughly discussed in relation to IC management. These characteristics relate to fundamental questions of how the public sector is defined, and what the level and unit of analysis are.

The purpose of this chapter is not to define the public sector or public administration, but to illustrate some of their special characteristics that should be considered by IC scholars and developers when applying IC theory in the public sector. Most importantly, it is crucial to understand and clearly articulate what makes the public sector public and what the task of public administration is in the given context.

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One distinctive characteristic of the public sector relates to the perception of value and value creation processes. Moore (1995) states that the aim of public managers is to create public value, meaning the value that an organization or activity contributes to society. Moore's well-known strategic triangle connects the authorizing environment, operational capability, and delivering of public value at reasonable cost. Later, Moore relates his public value theory to democratic values, institutions, and processes (Moore, 2014). Public Administration as an academic discipline has a long history in studying "how the public sector serves the public good through developing and implementing public policies and what is needed to conduct this business in an efficient, effective, legitimate and rational way, in order to optimize serving the public good" (de Vries 2016, 6).

From the aim of creating public value and serving the public good there arises the question that should be posed for IC theory and management: how can IC theory and management contribute to the understanding and generation of public value? This question conceals an intriguing corollary: how does IC management in the public sector differ from that in the private sector? If there is indeed a difference, as this chapter argues, what are the distinguishing features? Next, we approach these questions from three perspectives critical for IC theory and management to consider: 1) multi-level governance and policymaking, 2) complexity of institutional framework, and 3) management of public services.

*Multi-level governance and policymaking* are present at different administrative levels (national, regional, and local), all of which have interested IC scholars in recent decades. However, IC studies have mostly left the political-administrative interface without further investigation. IC management at the national level deals with the national competitiveness and recognition of national IC resources (e.g., Ståhle & Bounfour, 2008; Käpylä et al., 2012). The management of society's intellectual capital aims to improve the effectiveness of decision-making and situation handling (Wiig, 2002). Wiig (2002) notes that at the national level the participation of the public and building of societal IC capabilities and competitive workforce are essential tasks of public administration. However, policymakers are not always familiar with the concept of national IC even though the elements of national IC are identified and highly valued and IC measurement models are considered to produce potentially valuable information for policy-making (Salonius & Lönnqvist, 2012). In our search, only Matos et al. (2018) concentrated on a national level, found evidence of a relationship between national intellectual capital (NIC) and trust perception, and concluded that NIC scores can be used in strategic planning and in the formulation of national policies.

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The levels of regional (Lerro & Carlucci, 2007; Lönnqvist et al., 2014) and local government (e.g., Yigitcanlar & Lönnqvist, 2013; Manes Rossi et al., 2016) have also interested IC scholars. The earlier literature highlights the idiosyncratic nature of regional and local knowledge assets (e.g., Lönnqvist et al., 2014); regions must not only adjust their local economies but also invest in their society, environment, and institutions to maintain competitiveness (e.g., Yigitcanlar & Lönnqvist, 2013). There is a call for further research to explore how IC could influence strategic planning to support innovation managerialism among local authorities (Manes Rossi et al., 2016). Moreover, managing regional knowledge assets involves accessing national and international assets in addition to developing a region's internal knowledge assets (Lönnqvist et al., 2014).

Multi-level governance and policymaking are phenomena conspicuous by their absence from the current research agenda of IC despite the recent and significant changes in public organizations' external and internal environments. Notably, the viewpoints of democratic decision-making and public value(s) have not aroused interest among IC scholars, even though they significantly affect national policy planning and implementation, as well as regional and local policies and strategies, resource allocation, and further, IC management. Thus, a more profound understanding of the collective knowledge formation underlying public sector decision-making is needed (cf. Laihonen et al., 2023). Public sector IC research has so far paid very limited attention to the need for and implications of participation and transparency in managing IC (e.g., Ramírez et al., 2022). Moreover, the literature shows how value for society aspect is essential in managing public services, and that investments in structural capital (processes, structures, organizational philosophy) in the bureaucratic public environment may go far to meet the social demands of the local communities (Belmonte da Silva et al., 2021).

Together with multi-level governance and policymaking, the *complexity of the institutional framework* affects IC management in many ways. This often goes unaddressed in IC literature and only a few studies have connected knowledge-based management and institutional complexity (e.g., Currie & Suhomlinova, 2006; Laihonen & Kokko, 2020). As noted above, societal values, democratic decision-making, and public policies define the objectives of public administration, which determine the overall starting point for IC management in public organizations. Based on these, limited public resources are allocated to various administrative sectors (e.g., education, health, or infrastructure). These allocative decisions and the underlying preparatory work are critical elements in the building of societal IC and managing public sector IC, because these determine what knowledge resources are considered the most valuable for the wellbeing of present-day citizens and future generations.

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According to recent global policy agendas, values like social, financial, and ecological sustainability, are to be considered when allocating public resources. These policy objectives call for long-range planning in terms of IC, which differs from the rules of the quartile economy followed by private companies. In IC literature, Kianto et al. (2023) have acknowledged this by describing organizational performance consisting of environmental, economic, and social sustainability aspects. Whereas private managers are committed to creating value for shareholders, public managers should be driven by the aim of producing public value for the citizens of today and tomorrow (cf. Moore, 2014). This is also evident in the recent IC literature, where sustainable development is raised as one justification for public sector research (e.g., Melo & De la Gala Velásquez, 2022; Cavicchi, 2017).

As mentioned earlier, the literature shows that the interest of IC scholars in public organizations has at least partly followed the ideology of NPM that introduced management ideas, such as customer orientation and managing by results, from the private sector into the public sector (e.g., Martin-Sardesai & Guthrie, 2018; Cuganesan et al., 2007). The recent literature on public administration paints a more ambiguous picture of public governance, which may open up very different views on the management of IC. Digital era governance, public value management, and new public governance are only some examples and conceptualizations of the public governance paradigms that have followed NPM (cf. Torfing et al., 2020), and there would be a need to also analyze the implications of these management paradigms for IC management.

Modern public governance models challenge the organization-specific management models in many ways. In networked and hybrid organizational structures knowledge assets are scattered among government organizations, private businesses, civil society, and service users, which entails new requirements for IC management (Laihonen & Huhtamäki, 2020). IC management is then challenged by different expectations and objectives, multiple and sometimes conflicting objectives, mixed accountabilities, and the difficulty to compose the evidence-base for evaluating the success of public policies and strategies (Laihonen & Kokko, 2020; Rajala et al., 2024). Our review highlighted the public sector's responsibility to engage different stakeholders in value co-creation at ecosystem level (Iacuzzi et al., 2020; Iacuzzi & Pauluzzo, 2023). Also, Kianto et al. (2023) recognize the growing role of ecosystems as a part of relational capital reflecting the large-scale changes in the operating environment. All these perspectives highlight the need for clearly defined roles in IC management as the traditional institutional boundaries are changing, and, for example, legitimacy and accountability for managing IC become confused.

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Finally, the *management of public services* needs to be capable of harnessing the potential of IC and turning it into something of value for service users and the public workforce. This is the most familiar arena for many IC scholars. However, some characteristics distinguish public organizations and services from their private counterparts. For example, Serrano Cinca et al. (2003) list distinctive features of intangible assets in the public sector: lower motivation for the adoption of new management practices, multiple non-financial objectives, social responsibility and concern for the environment, managers facing more constraints and limitations, and having less room to maneuver and less urgency to quantify the intangible assets. Wall (2005) highlights that private sector organizations only measure performance that reflects their improvement priorities, whereas in the public sector performance is measured to report externally to satisfy the information requests of several stakeholders. Further, sub-optimization is a common phenomenon in today's public environments and may result from the lack of congruence between multiple and partly contradictory public interests (e.g., Vakkuri & Meklin, 2006).

IC theory can help public managers to better understand the intangible and specific nature of value creation in public services. Intangibility is a key characteristic of public services, and therefore, IC theory can enhance the understanding of the value creation processes where service provider's and customer's intangible resources are combined and transformed into services and customer value (e.g., Laihonen & Lönnqvist, 2010; Serrano Cinca et al., 2003). Public service organizations co-create value in interaction with service users through dynamic relationships (Osborne, 2021). Osborne (2018) illustrates the distinctive context and nature of public service management with four examples. First, customer retention is more likely to be a sign of service failure rather than of success. Second, coerced customers contradict the notion of voluntary agency and participation in value creation. Third, public services may have multiple end-users and stakeholders with different and conflicting definitions of a successful outcome of a service. Fourth, public service users are both the users of public services and citizens who may have a broader societal interest in the outcomes of public services. Still, according to Grönroos (2019), there are no inbuilt barriers to service-oriented and user-friendly operations in a public service organization; it is about effective service management.

To conclude, when considering the future of IC management in the public sector, it is important to briefly consider the future of the most important resource of public services, that is, the public workforce. Well-trained and motivated staff contribute to better service delivery and societal outcomes. It has been argued that the future public workforce will be smaller and focused on policy, not service delivery (Dickinson & Sullivan, 2014), which may significantly change capability and

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competence requirements in the public sector. Also, the shifting boundaries of public services are affecting ethics and values, which raises concern as to whether the public sector ethos – an intrinsic motivation to serve the public – can survive in the context of increased outsourcing (Dickinson & Sullivan, 2014). These issues are also imperative for IC theory and management to gain a more profound understanding of the multifaceted capabilities and incentives that drive individuals to serve the public.

#### 4. Futurizing IC management in the public sector

The central message of this chapter is that IC theory offers valuable tools and perspectives for public sector leaders and managers to optimize their intellectual assets, drive innovation, and create meaningful impact for citizens and communities. However, harnessing this potential entails considering certain distinguishing characteristics of the public sector when applying IC models developed in other contexts. So far, it seems that IC scholars have not very thoroughly considered these characteristics, which may partly explain the modest application of IC models in this context. In Table 2 we name three themes and several possible research questions for futurizing IC management in the public sector.

**Table 2. *Futurizing IC management in the public sector – themes and possible research questions.***

<b>Theme</b>	<b>Possible research questions</b>
1. IC management to support pluralistic dialogue on public value(s)	<ul style="list-style-type: none"> <li>- What will the future relationships be between societal values and IC management in the public sector?</li> <li>- How do IC theory and management take account of the growing pluralism and diversity of society?</li> <li>- How to manage IC for sustainable development considering economic, environmental, and social perspectives?</li> </ul>
2. IC management to enable hybrid governance and systemic renewal	<ul style="list-style-type: none"> <li>- How can IC theory and management support systemic renewal, new ways of thinking, and social innovations?</li> <li>- How does IC management enable and support dialogue reconciling disparate values and institutional logics in hybrid governance of multi-stakeholder networks?</li> <li>- What are the effects of new organizational models and new forms of work on IC management, or vice versa?</li> </ul>
3. IC management as an administrative capability	<ul style="list-style-type: none"> <li>- What administrative capability is needed to harness the potential of IC (human, structural, or relational capital)?</li> <li>- What organizational and technical solutions can be used to avoid siloing and sub-optimization of IC or, conversely, to promote inter-organizational and cross-disciplinary cooperation?</li> <li>- What are the competences and motivational factors driving the public workforce to serve the public good?</li> </ul>

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As summarized in Table 2, this chapter highlighted three viewpoints to consider when studying or managing IC in the public sector. These connect to the fundamental question of what makes the public sector public and to acknowledging the increasing institutional complexity creating new demands for managers, personnel, and also for citizens. These viewpoints are conducive to the further development of IC management in the public sector to support co-creation of public value, citizen participation, and strategic workforce planning to ensure the essential role of a public service for the future well-being and functioning of society.

First, we raised the need for connecting IC theory to discussions on public value (and public values) that is considered to be the purpose of public managers (cf. Moore, 1995). This is where IC management needs to take a wider perspective than in the business world. In the public sector, IC management cannot only consider the organizational goals of efficiency, cost minimization or profit maximization; it must also consider aspects such as fairness, accessibility and benefits to society. Without understanding the plurality of values in societies and the ambiguity of public value creation, it is almost impossible to develop managerial approaches and tools to serve the needs of public managers. The COVID-19 pandemic further highlighted the diversity within our societies and the trade-offs between values, the expansion of digital platforms, particularly social media, further amplifying these differences by allowing diverse expressions of interests and values (Bracci et al., 2021). Therefore, the first task for IC management in the public sector is to identify the societal values that drive the development of the public sector. Only then is it possible to define and develop IC – human, structural, and relational capital – to enable the creation of public value and the pluralistic dialogue required to tackle wicked problems such as sustainability (cf. Sinervo & Laihonen, 2024).

Second, the complexity of the institutional framework requires that the unit of analysis, also in public sector IC management, needs to change from individual organizations and the mapping of their IC to hybrid value creation (cf. Vakkuri & Johanson, 2020) combining the IC of public (government), private (business), and the third (civil society) and fourth sectors (combining elements of the public, private, and non-profit sectors with social and environmental aims). Therefore, IC management in the public sector must look at IC as well as the processes of its development and utilization across organizational boundaries at the ecosystem level (cf. Laihonen, 2012; Guthrie & Dumay, 2015; Kianto et al., 2023). In the public sector, the choices of individual organizations are subordinate to the political will and the objectives set in the political decision-making processes. In practice, IC management in the public sector may confront obstacles that relate to the power structures, legitimacy and accountability issues recently discussed in the hybrid governance and value creation literature

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(cf. Vakkuri & Johanson, 2020; Rajala et al., 2024). It is not always clear whose values and objectives should drive the development and management of IC.

Third, highlighted by the changes in both the expectations towards public services and the ways of organizing such services, we perceive an urgent need to gain new insights into public sector IC management. In our view, a more profound understanding of administrative capabilities enabling the utilization of IC is needed. Inter-organizational and cross-disciplinary collaboration in public sector IC management must acknowledge the processes of integrating, reconfiguring, gaining, and releasing knowledge resources (cf. Teece, 1997; Eisenhardt & Martin, 2000). Also, publicly funded services are being increasingly called upon to justify their existence and the IC literature provides frameworks and practices for measuring and reporting intangible assets (e.g., Hussinki et al., 2024). By systematically assessing their IC, public organizations can gain insights into their knowledge-related strengths and weaknesses, and transparent reporting enhances accountability and informs effective decision-making, thereby contributing to organizational learning and public value. In addition to organizational capabilities, that is, structural and relational capital, it is essential also to manage human capital and attract and retain competent employees having shared and clear objectives.

What seems inevitable is that IC management in the public sector calls for multi-disciplinarity. This is not to say that in the private sector the challenges of IC management could or should be resolved within a certain discipline but to underscore that, especially in the public context, IC management is more than a matter of accounting or reporting. More importantly, it is a question of value judgement – what does society consider valuable? These value judgements are made in the democratic decision-making processes necessitating collective knowledge formation (Laihonen et al., 2023). Thus, knowledge-based management becomes a dialogue where participants make sense of different types of information, interpret, and attach meanings to each other's viewpoints (Laihonen & Mäntylä, 2018). These processes are always value driven and represent a timely policy environment. Therefore, to be relevant to public managers, IC theory must recognize and appreciate these contingencies defining the public sector.

Finally, we want to close the discussion by acknowledging the potential that we perceive in applying IC theory in the public sector. The IC literature provides public managers with many simple and easy-to-apply managerial frameworks, practices, and tools, like Intellectual Capital Statements (Mouritsen et al., 2003) or the Meritum Guidelines (Meritum, 2001), to guide them in the application and development of their organization's knowledge resources. By systematically managing IC and leveraging intangible resources effectively, public organizations can enhance their capacity to address

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societal challenges and deliver valuable services. IC theory encourages innovation and creativity that are indispensable for public organizations when harnessing their IC to develop novel solutions, improve processes, and create value for citizens. Further, IC theory underscores the importance of collaboration and partnerships, and thus relational capital, critical for addressing complex issues collectively. Public organizations can serve as platforms or ecosystems and pool national, regional, and local IC to enhance collaboration and create public value. Also, IC theory calls for continuous learning and capacity building that results in a capability perspective, which provides an interesting avenue for approaching IC in the public sector.

## References

- Bellucci, M., Marzi, G., Orlando, B. & Ciampi, F. (2021). Journal of Intellectual Capital: a review of emerging themes and future trends. *Journal of Intellectual Capital*, 22(4), 744-767. <https://doi.org/10.1108/JIC-10-2019-0239>
- Belmonte da Silva, R., Fernández Jardón, C. M., & Veiga Avila, L. (2021). Effects of Structural Intellectual Capital on The Innovation Capacity of Public Administration. *Journal of Technology Management & Innovation*, 16(3), 66–78. <https://doi.org/10.4067/S0718-27242021000300066>
- Bracci, E., Saliterer, I., Sicilia, M., & Steccolini, I. (2021). Accounting for (public) value(s): Reconsidering publicness in accounting research and practice. *Accounting, Auditing & Accountability Journal*, 34(7), 1513–1526. <https://doi.org/10.1108/AAAJ-06-2021-5318>
- Bueno Campos, E., Salmador, M. P., & Merino, C. (2006). Towards a model of intellectual capital in public administrations. *International Journal of Learning and Intellectual Capital*, 3(3), 214–232. <https://doi.org/10.1504/IJLIC.2006.011311>
- Cavicchi, C. (2017). Healthcare sustainability and the role of intellectual capital: Evidence from an Italian Regional Health Service. *Journal of Intellectual Capital*, 18(3), 544–563. <https://doi.org/10.1108/JIC-12-2016-0128>
- Christensen, T., & Lægreid, P. (2011). Complexity and hybrid public administration—Theoretical and empirical challenges. *Public Organization Review*, 11, 407–423. <https://doi.org/10.1007/s11115-010-0141-4>

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Currie, C., & Suhomlinova, O. (2006). The impact of institutional forces upon knowledge sharing the UK NHS: The triumph on professional power and the inconsistency of policy. *Public Administration*, 84(1), 1–30. <https://doi.org/10.1111/j.0033-3298.2006.00491.x>
- Cuganesan, S., Boedker, C. & Guthrie, J. (2007). Enrolling discourse consumers to affect material intellectual capital practice, *Accounting, Auditing & Accountability Journal*, 20(6), 883-911. <https://doi.org/10.1108/09513570710830281>
- De Vries, M.S. (2016). *Understanding public administration*. Palgrave Macmillan: London, New York.
- Dickinson, H. & Sullivan, H. (2014). *Imagining the 21st Century Public Service Workforce*. Melbourne School of Government, Melbourne, Australia.
- Dumay, J., Guthrie, J. & Puntillo, P. (2015). IC and public sector: a structured literature review. *Journal of Intellectual Capital*, 16(2), 267-284. <https://doi.org/10.1108/JIC-02-2015-0014>
- Edvinsson, L. & Malone, M. S. (1997). *Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower*. New York: Harper Business.
- Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10–11), 1105–1121. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11%3C1105::AID-SMJ133%3E3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11%3C1105::AID-SMJ133%3E3.0.CO;2-E)
- Federal Data Strategy (2022). *FDS FRAMEWORK Mission, Principles, Practices, and Actions*. Available at: <https://strategy.data.gov/assets/docs/2020-federal-data-strategy-framework.pdf> (Accessed May 10, 2024).
- Government of the United Kingdom (2022). *Data saves lives: reshaping health and social care with data*. Available at: <https://www.gov.uk/government/publications/data-saves-lives-reshaping-health-and-social-care-with-data/data-saves-lives-reshaping-health-and-social-care-with-data> (Accessed May 10, 2024).
- Grönroos, C. (2019). Reforming public services: does service logic have anything to offer? *Public Management Review*, 21(5), 775-788. <https://doi.org/10.1080/14719037.2018.1529879>
- Guthrie, J. & Dumay, J. (2015). New frontiers in the use of intellectual capital in the public sector. *Journal of Intellectual Capital*, 16(2), 258-266. <https://doi.org/10.1108/JIC-02-2015-0017>

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Guthrie, J., Ricceri, F. & Dumay, J. (2012). Reflections and projections: a decade of intellectual capital accounting research. *The British Accounting Review*, 44(2), 68-92.  
<https://doi.org/10.1016/j.bar.2012.03.004>
- Hussinki, H., King, T., Dumay, J. & Steinhöfel, E. (2024). Accounting for intangibles: a critical review. *Journal of Accounting Literature*, Vol. ahead-of-print No. ahead-of-print.  
<https://doi.org/10.1108/JAL-05-2022-0060>
- Iacuzzi, S., Massaro, M., & Garlatti, A. (2020). Value Creation Through Collective Intelligence: Managing Intellectual Capital. *The Electronic Journal of Knowledge Management*, 18(1), 68-79.
- Iacuzzi, S., & Pauluzzo, R. (2023). Looking for missing outcomes: Accounting for intellectual capital and value creation in ecosystems. *Journal of Management and Governance*.  
<https://doi.org/10.1007/s10997-023-09688-3>
- Joia, L. A. (2008). The impact of government-to-government endeavors on the intellectual capital of public organizations. *Government Information Quarterly*, 25(2), 256–277.  
<https://doi.org/10.1016/j.giq.2007.06.004>
- Kianto, A. Cabrilo, S. & Hussinki, H. (2023). Futurizing Intellectual Capital Theory to Uncover Pertinent and Unexplored Horizons. In. Bratianu, C., Handzic, M. and Bolisani, E. (Ed.) *The Future of Knowledge Management*. Springer: Cham, Switzerland (pp.67-90).  
[https://doi.org/10.1007/978-3-031-38696-1\\_4](https://doi.org/10.1007/978-3-031-38696-1_4)
- Kujansivu, P. (2009). Is there something wrong with intellectual capital management models?. *Knowledge Management Research & Practice*, 7, 300–307.  
<https://doi.org/10.1057/kmrp.2009.23>
- Kujansivu, P. & Lönnqvist, A. (2007). Investigating the value and efficiency of intellectual capital. *Journal of Intellectual Capital*, 8(2), 272-287. <https://doi.org/10.1108/14691930710742844>
- Käpylä, J., Kujansivu, P. & Lönnqvist, A. (2012). National intellectual capital performance: a strategic approach. *Journal of Intellectual Capital*, 13(3), 343-362.  
<https://doi.org/10.1108/14691931211248909>
- Laihonen, H. (2012). Knowledge structures of a health ecosystem, *Journal of Health Organization and Management*, 26(4), 542-558. <https://doi.org/10.1108/14777261211251571>

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Laihonen, H., Kork, A-A. & Sinervo, L-M. (2023). Advancing Public Sector Knowledge Management: Towards an Understanding of Knowledge Formation in Public Administration. *Knowledge Management Research & Practice*.  
<https://doi.org/10.1080/14778238.2023.2187719>
- Laihonen, H. & Huhtamäki, J. (2020). Organizational Hybridity and Fluidity: Deriving New Strategies for Dynamic Knowledge Management. *Knowledge Management Research & Practice*, 21(2), 216-228. <https://doi.org/10.1080/14778238.2020.1794993>
- Laihonen, H. & Kokko, P. (2020). Knowledge Management and Hybridity of Institutional Logics in Public Sector. *Knowledge Management Research & Practice*, 21(1), 14-28.  
<https://doi.org/10.1080/14778238.2020.1788429>
- Laihonen, H. & Mäntylä, S. (2018). Strategic knowledge management and evolving local government. *Journal of Knowledge Management*, 22(1), 219-234. <https://doi.org/10.1108/JKM-06-2017-0232>
- Laihonen, H. & Lönnqvist, A. (2010). Knowledge-based value creation: grasping the intangibility of service operations in Finland. *J. Knowledge-Based Development*, 1(4), 331–345.  
<https://doi.org/10.1504/IJKBD.2010.038042>
- Lerro, A. & Carlucci, D. (2007). Intellectual capital and regions: origins, theoretical foundations and implications for decision-makers. *International Journal of Learning and Intellectual Capital*, 4(4), 357–376. <https://doi.org/10.1504/IJLIC.2007.016333>
- Lipsky, M. (1980). *Street-level bureaucracy: Dilemmas of the individual in public services*. Russell Sage Foundation.
- Lönnqvist, A. Käpylä, J. Salenius, H. & Yigitcanlar, T. (2014). Knowledge That Matters: Identifying Regional Knowledge Assets of the Tampere Region. *European Planning Studies*, 22:10, 2011-2029. <https://doi.org/10.1080/09654313.2013.814621>.
- Manes Rossi, F., Citro, F., & Bisogno, M. (2016). Intellectual capital in action: Evidence from Italian local governments. *Journal of Intellectual Capital*, 17(4), 696–713.  
<https://doi.org/10.1108/JIC-01-2016-0011>

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Martin-Sardesai, A., & Guthrie, J. (2018). Human capital loss in an academic performance measurement system. *Journal of Intellectual Capital*, 19(1), 53–70. <https://doi.org/10.1108/JIC-06-2017-0085>
- Massingham, P. R., & Tam, L. (2015). The relationship between human capital, value creation and employee reward. *Journal of Intellectual Capital*, 16(2), 390–418. <https://doi.org/10.1108/JIC-06-2014-0075>
- Matos, F., Vairinhos, V., & Matos, A. J. (2018). Intellectual capital management and trust in public administration in European countries. In Kožuch, B., Magala, S.J. Paliszkievicz, J. *Managing Public Trust* (pp. 273–289). [https://doi.org/10.1007/978-3-319-70485-2\\_17](https://doi.org/10.1007/978-3-319-70485-2_17)
- Melo, N. A. P., & De la Gala Velásquez, B. (2022). The mediating role of structural capital in the relationship between human capital and performance in the public administrations of Mexico and Peru. *Estudios Gerenciales*, 38(164), 320–333. <https://doi.org/10.18046/j.estger.2022.164.5087>
- Meritum (2001). *Guidelines for managing and reporting on intangibles, intellectual capital report*, Final Report of the Meritum Project.
- Moore, M. (1995). *Creating public value: Strategic management in government*. Harvard University Press.
- Moore, M. (2014). Public Value Accounting: Establishing a Philosophical Basis. *Public Administration Review*, 74(4), 465–77. <https://doi.org/10.1111/puar.12198>
- Mouritsen, J., Bukh, P.N., Flagstad, K., Thorbjørnsen, S., Johansen, M.R., Kotnis, S., Larsen, H.T., Nielsen, C., Kjærgaard, I., Krag, L., Jeppesen, G., Haisler, J. and Stakemann, B. (2003). Intellectual Capital Statements – The New Guideline, Danish Ministry of Science Technology and Innovation, Copenhagen.
- O'Connor, A., Roos, G. & Vickers-Willis, T. (2007). Evaluating an Australian public policy organization's innovation capacity. *European Journal of Innovation Management*, 10(4), 532–558. <https://doi.org/10.1108/14601060710828817>
- Osborne, S. (2018). From Public service-dominant logic to public service logic: organizations capable of co-production and value co-creation? *Public Management Review*, 20(2), 225-231. <https://doi.org/10.1080/14719037.2017.1350461>

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Osborne, S. (2021). *Public Service Logic: Creating Value for Public Service Users, Citizens, and Society Through Public Service Delivery*. Routledge, New York.
- Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of Intellectual Capital*, 1(2), 155–176.  
<https://doi.org/10.1108/1469193001034873>
- Rajala, T., Kokko, P., Laihonen, H. & Pekkola, E. (2024). Manifestations of Hybrid Accountability in Horizontal Network Governance. In: Grossi, G. and Vakkuri, J. (eds.) *Handbook of Accounting and Public Governance – Exploring Hybridizations*. Edward Elgar Publishing. (68-94). <https://doi.org/10.4337/9781800888456.00014>
- Ramírez, Y., Tejada, Á., & Sánchez, M. P. (2022). Determinants of online intellectual capital disclosure by Spanish local governments. *Journal of Intellectual Capital*, 23(2), 249–289. Scopus. <https://doi.org/10.1108/JIC-03-2020-0086>
- Roos, G., Edvinsson, L., Roos, J. & Dragonetti, N.C. (1997). *Intellectual Capital: Navigating the New Business Landscape*, Macmillan Publications, London.
- Salonius, H. & Lönnqvist, A. (2012). “Exploring the policy relevance of national intellectual capital information. *Journal of Intellectual Capital*, 13(3), 331-342.  
<https://doi.org/10.1108/14691931211248891>
- Serrano Cinca, C., Mar Molinero, C., & Bossi Queiroz, A. (2003). The measurement of intangible assets in public sector using scaling techniques. *Journal of Intellectual Capital*, 4(2), 249–275.  
<https://doi.org/10.1108/14691930310472857>
- Sinervo, L.M. & Laihonen, H. (2024). New development: Public Managers Between a Rock and a Hard Place – Social-Financial Sustainability in Local Government. *Public Money & Management*. <https://doi.org/10.1080/09540962.2024.2351133>
- Stähle, P. & Bounfour, A. (2008). Understanding dynamics of intellectual capital of nation. *Journal of Intellectual Capital*, 9(2), 164-177. <https://doi.org/10.1108/14691930810870283>
- Sveiby, K. (1997). *The New Organizational Wealth: Managing & Measuring Knowledge-Based Assets*, United States of America: Berrett-Koehler Publishers Inc.

- Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.
- Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
- Torfiing, J., Andersen, L.B., Greve, C. & Klausen, K.K. (2020). *Public Governance Paradigms. Competing and Co-existing*. Edward Elgar Publishing. Cheltenham, UK.
- Torfiing, J., & Triantafyllou, P. (2013). What's in a name? Grasping new public governance as a political-administrative system. *International Review of Public Administration*, 18(2), 9–25. <https://doi.org/10.1080/12294659.2013.10805250>
- Vakkuri, J. & Johanson, J.-E. (Eds.). (2020). *Hybrid Governance, Organisations and Society: Value Creation Perspectives* (1st ed.). Routledge. <https://doi.org/10.4324/9780429286247>
- Vakkuri, J. & Meklin, P. (2006). Ambiguity in Performance Measurement: A Theoretical Approach to Organisational Uses of Performance Measurement. *Financial Accountability & Management*, 22(3), 235-250. <https://doi.org/10.1111/j.0267-4424.2006.00401.x>
- Veltri, S., & Puntillo, P. (2020). On intellectual capital management as an evaluation criterion for university managers: A case study. *Journal of Management and Governance*, 24(1), 135–167. <https://doi.org/10.1007/s10997-019-09461-5>
- Veltri, S., & Silvestri, A. (2015). The Free State University integrated reporting: A critical consideration. *Journal of Intellectual Capital*, 16(2), 443–462. <https://doi.org/10.1108/JIC-06-2014-0077>
- Wall, A. (2005). The measurement and management of intellectual capital in the public sector: Taking the lead or waiting for direction? *Public Management Review*, 7(2), 289–303. <https://doi.org/10.1080/14719030500091723>
- Wiig, K.M. (2002). Knowledge management in public administration. *Journal of Knowledge Management*, 6(3), 224-239. <https://doi.org/10.1108/13673270210434331>
- Yigitcanlar, T. & Lönnqvist, A. (2013). Benchmarking knowledge-based urban development performance: Results from the international comparison of Helsinki. *Cities*, 31, 357-369. <https://doi.org/10.1016/j.cities.2012.11.005>

Laihonen, H. & Pusenius, P. (Accepted). Relevance and the Future of Intellectual Capital Management in the Public Sector. In Kianto, A., Čabrilo, S. & Užienė, L. (Eds.) *Futurizing intellectual capital - Insights on navigating knowledge-based value creation*. Springer. Cham.

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