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Knowledge management and hybridity of institutional logics in public sector

Harri Laihonen ^a and Petra Kokko ^b

^aFaculty of Social Sciences and Business Studies, Department of Health and Social Management, University of Eastern Finland, Kuopio, Finland; ^bFaculty of Management and Business, Tampere University, Tampere, Finland

ABSTRACT

This article analyses national policies, strategies, and programmes formulating knowledge management as a factor of national-level competitiveness. The article analyses a project, which aims to develop a service operator responsible for collecting and co-ordinating well-being data on the Finnish population. We present an in-depth analysis of an almost ten-year period in Finland, which is one of the leading societies in terms of public sector efficiency and governance. The article calls for a major shift in perspective and shows how hybridity of institutional logics significantly guides the perception of knowledge management, the measures taken and the development and selection of concrete methods and tools in knowledge management. We see the essence of public sector knowledge management in a combination of national-level knowledge governance and processes, where public institutions, private organisations and third-sector actors create, store and utilise a shared information base to convert knowledge into action in their everyday operations.

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Knowledge management; institutional logics; public sector; government information; hybrid governance

1. Introduction

Knowledge is central to policy-making and management of public services (Pee & Kankanhalli, 2016; Wiig, 2002). However, two recent literature reviews have highlighted the research gap regarding public sector knowledge management (Dumay et al., 2015; Massaro et al., 2015). These studies also show an extensive focus on “public service entities” (Massaro et al., 2015) when the need for managerial knowledge in the public sector is increasingly inter-organisational (Laihonen, 2015; Laihonen & Mäntylä, 2018). Further, public sector knowledge management literature has been dominated by sectoral studies focusing on certain public services, such as the police (e.g., Filstad & Gottschalk, 2011; Seba & Rowley, 2010), education (e.g., Gertner et al., 2011; Hautala, 2012), or healthcare (e.g., Lunden et al., 2017; Nicolini et al., 2008). In this article, we approach public sector knowledge management from the hybrid governance viewpoint (e.g., Battilana & Dorado, 2010; Denis et al., 2015; Johanson & Vakkuri, 2017; Skelcher & Smith, 2015) and study how institutional complexity (Greenwood et al., 2011) is addressed by public sector knowledge management.

Hybridity arises from the presence of multiple institutional logics that may be competing or even contradicting (Thornton & Ocasio, 2008) and hybrid organisations “combine institutional logics in unprecedented ways” (Battilana & Dorado, 2010). This induces shifts in coordination, management, and

governance in organisations (Denis et al., 2015). From this arises the objective of this study – we aim to better understand what the specific requirements for managing knowledge are when different institutional logics are present in the public sector. The public administration and management literature so far has thoroughly discussed institutional logics (e.g., Saz-Carranza & Longo, 2012; Van den Broek et al., 2014) and also public sector knowledge management has been increasingly studied (e.g., Laihonen & Mäntylä, 2018; Massaro et al., 2015; Mischen, 2015). However, few studies have explicitly addressed the impacts of distinct institutional logics on public sector knowledge management (e.g., Currie & Suhomlinova, 2006). Therefore, the article contributes first, by extending the unit of analysis from an individual organisation to system-level policies and structures enabling knowledge-driven management in the public sector. Second, we contribute by analysing the presence and influence of distinct institutional logics on public sector knowledge management. Our analysis shows how different institutional logics and governance mechanisms have significant impacts on settings where individual public organisations define and develop their knowledge management practices.

In the empirical part of the article, we study a major national-level initiative to build a shared knowledge base for social and health care data in Finland. Our qualitative and descriptive analysis makes two contributions. First, by describing the presence and impact of

distinct institutional logics on knowledge management, we show how hybridity entails re-consideration of public sector knowledge management. Second, through this analysis, we are able to reformulate the answer to the question as to what the essential components of public sector knowledge management are in the specific context of hybrid governance. The analysis is carried out with special reference to the implications of two institutional logics, “social and health care management” and “health sector growth”, to managing knowledge and attempts to create a shared knowledge base that would enable overcoming those tensions arising from different logics (see Figure 1). In this article, we do acknowledge the presence of financial sustainability and financial control as an underlying system-level logic but focus mainly on the two aforementioned field-level logics (cf. Thornton & Ocasio, 2008). The former logic builds on better use of social and health data for both management and citizens. This logic considers citizens as active participants and highlights cost-efficiency as well as access to and effectiveness of care. The second logic focuses on economic growth by harnessing social and health sector data.

The remainder of the article is organised as follows. Section 2 defines the key concepts of public sector knowledge management, institutional logics, and hybrid governance and builds the conceptual basis for our analysis. Section 3 describes our research design and section 4 introduces our empirical case. Section 5 analyses the Finnish case in light of the hybrid governance framework. Finally, section 6 concludes the discussion by answering the research question posed and proposing some guidelines for managing knowledge in the specific case of hybrid governance.

2. Public sector knowledge management, institutional logics and hybrid governance

The knowledge management discipline has its origins in the knowledge-based view, which considers knowledge

as a critical input in production and a primary source of value (Grant, 1996; Spender, 1996). Knowledge management refers to the identification and leveraging of an organisation’s knowledge resources (Von Krogh, 1998) and involves processes such as creating, storing, transferring, and applying knowledge (Alavi & Leidner, 2001). Most importantly, knowledge management is aimed at improving an organisation’s overall performance (Kalling, 2003).

Two recent literature reviews have pointed out the state-of-the-art in public sector knowledge management (Dumay et al., 2015; Massaro et al., 2015). Both reviews recognise the special nature of the public sector as a context. Indeed, Massaro et al. (2015) state that the ‘public sector is organisationally specific, has different effectiveness concerns and has different levels of representativeness, accountability and responsiveness’. Wiig (2002) has earlier recognised four areas for public sector knowledge management: first, it aims to enhance decision-making; second, supports public participation in public decision-making; third, builds societal intellectual capital and fourth, develops a knowledge-capable workforce. The literature has also recognised several obstacles to the application of knowledge management in the public sector. For example, extensive technological foci (Beynon-Davies & Martin, 2004; Edge, 2005; King & Cotterill, 2007) and cultural challenges related to resistance to change and knowledge hoarding (Sveiby & Simons, 2002) challenge public sector knowledge management. In addition, incompatible information systems, hierarchical and bureaucratic organisations, and unarticulated managerial information need pose further challenges (Behn, 2003; Liebowitz & Chen, 2003).

Massaro et al. (2015) point out that the unit of analysis in most studies is a “public service entity”, which refers to publicly funded organisations that perform a specific public service (education being the prominent sector). Within the given entity, the studies have focused on KM as a process and knowledge strategies (Massaro et al., 2015). This organisational

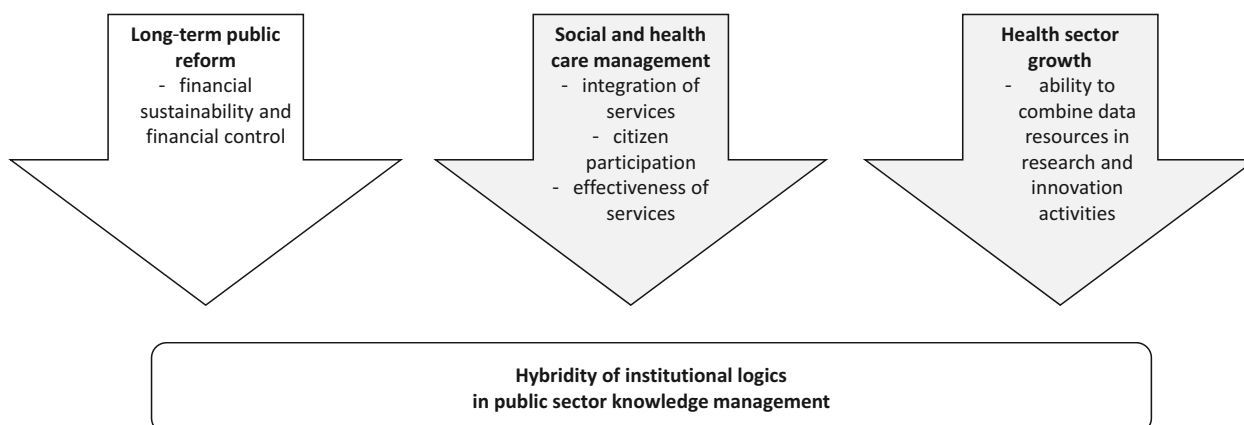


Figure 1. Distinct institutional logics and national-level knowledge management.

focus is natural considering the background of the knowledge-based theory of the firm (Grant, 1996), which aims to understand knowledge as the most strategically important resource of a firm (Zack, 1999). However, the public sector is increasingly dependent on inter-organisational and inter-sectoral collaboration in its service provision and the organisation focus may not be enough when considering the critical knowledge resources (Laihonen & Mäntylä, 2018). Government-owned corporations, public–private partnerships, social enterprises, commissions, public procurement, purchaser-provider models, and contracting out are typical examples of so-called hybrids that combine private and public interests (e.g., Johanson & Vakkuri, 2017; Skelcher & Smith, 2015). This hybridity raises many questions regarding the impacts of governance mechanisms, like legislation, organisation structures, and job design, on organisations' knowledge strategies and processes (Foss, 2007; Grandori, 2001; Schroeder et al., 2012).

In this article, we approach those governance questions from the viewpoint of hybrid governance. We are interested in hybridity because it induces shifts in coordination, management, and governance (Denis et al., 2015). Hybrid governance literature considers the ambiguity of objectives inherent in hybrids (Battilana & Dorado, 2010; Greenwood et al., 2011). This challenges organisation-centric knowledge strategies because those represent organisations' objectives (Laihonen & Mäntylä, 2018; Zack, 1999). Ambiguity of objectives, like in the case of ambidexterity, may pose challenges also at the organisational level (Filippini et al., 2012) but here our focus is especially on the public service system and public sector knowledge management. At the system-level, it becomes even more difficult to build a coherent knowledge strategy because actors' objectives and values differ, and they value different kinds of information and knowledge (Kurunmäki & Miller, 2010). This means that different institutional logics drive their operations. Institutional logics are defined as “institutional forces that determine how organisations should be structured, how they should be steered and how they should be controlled” (Bacharach & Mundell, 1993). Further, Haveman and Gualtieri (2017) define institutional logics as “systems of cultural elements by which people, groups, and organisations make sense of and evaluate their everyday activities, and organise those activities in time and space”. These definitions indicate that institutional logics have a significant impact also on knowledge management and therefore it is important to further investigate what these impacts are and how they should be considered in public sector knowledge management. The literature has recognised various strategies to cope with competing institutional logics but these strategies have not been discussed in relation to

public sector knowledge management before. Later on in this article, we will discuss the coping strategies of decoupling (Meyer & Rowan, 1977), compromising (Oliver, 1991), combination (Battilana & Dorado, 2010), and selective coupling (Pache & Santos, 2013) in the context of public sector knowledge management.

To summarise, the following conclusions can be drawn from the literature. First, knowledge strategies typically originate from organisations' business strategies and do not consider the specific needs of hybrid governance where distinct institutional logics impose different types of managerial knowledge needs. Second, although the literature on hybrid governance and institutional logics has studied strategies for coping with multiple institutional logics, there are only a few explicit references to issues of managing knowledge in these settings. Thus, there is an urgent need for empirical studies where managing knowledge is the prime focus of analysis.

3. Research methods and data

Our analysis is based on an in-depth analysis of an almost ten-year period in Finland, one of the leading societies in terms of public sector efficiency and governance. During the studied period, Finland has taken major steps in the areas of government information and public sector knowledge management. More specifically, we examined a project in Finland called *Isaacus* to better understand what kind of knowledge management hybrid governance requires. *Isaacus* aimed to create “a new, one-stop-shop operator that would collect and co-ordinate well-being data on the Finnish population” (Sitra, 2019). This ambitious aim of creating a shared national information base goes far beyond traditional organisation-specific knowledge management because it aims simultaneously to fulfil the needs and expectations of various user groups, which brings the competing and contradicting institutional logics into a play. Indeed, *Isaacus* aimed to create a basis for enhanced public policy and decision-making, support organisational learning and enable the development of new data-driven business models and service innovations.

We chose a case study approach to obtain detailed information on the conditions, critical events, and processes related to timely events in public sector knowledge management in Finland (cf. Stake, 1994; Yin, 2009). We expected that a thorough understanding of the context would lead to generalisable findings and theoretical implications (e.g., Eisenhardt, 1989; Jensen & Rodgers, 2001; Stake, 1994). Our empirical study involved two phases of data collection. First, we reviewed relevant national strategies leading to the *Isaacus* project and second, we interviewed three experts, two of whom participated in the project in

key roles while the third closely monitored the project in his role as a ministry representative. Isaacus was chosen as a unit of analysis because it represents novel thinking in the field of public sector knowledge management not only in Finland but also more generally. Our purpose was originally to focus specifically on Isaacus as an entity. However, during the process, we realised that in order to make our point clear, we needed to understand and elaborate the role of the project in a wider context and to start from an earlier point in its history. Therefore, [section 4.1](#) will first elaborate national policies and strategies leading to the project, before [section 4.2](#) focuses on the project itself. Our analysis covers the timeframe 2011–2019 although Isaacus officially ran 2015–2017. Within our timeframe, four important documents were published. These documents form our secondary data:

- Programme of Prime Minister Jyrki Katainen's Government (Prime Minister's Office, 2011)

- Information to support well-being and service renewal. eHealth and eSocial Strategy 2020 (Ministry of Employment and the Economy [MEE], 2014)

- Health Sector Growth Strategy for Research and Innovation Activities (MEE, 2014)

- Strategic Programme of Prime Minister Juha Sipilä's Government (Prime Minister's Office, 2015)

These documents are strategic documents of central government bodies. The Government Programme is an Action Plan agreed by the parties in Government setting out the Government's main areas of activity. The other two documents are strategic documents by The Ministry of Social Affairs and Health and The Ministry of Economic Affairs and Employment. From these documents, we sought to identify objectives, the major principles, and recommendations guiding the development of public sector knowledge management in Finland. Indeed, we analysed the documents to find out how different institutional logics manifest themselves in policy-level goal setting. To enhance the consistency and validity of interpretations, both authors first reviewed the documents independently and then individual findings, perceptions, and interpretations were reviewed together to categorise the data (cf. Patton, 1999). The results are summarised in [section 4.1](#).

We next carried out three interviews to enhance and deepen our understanding of the events leading up to Isaacus and to validate the preliminary findings of the document analysis. Further, we aimed to recognise the essential components of public sector knowledge management in the specific case of the Isaacus project to better understand how it aimed to overcome the challenges posed by the distinct institutional logics. We found interviews an efficient method for gathering rich and extensive empirical data on the complex phenomenon (cf. Eisenhardt & Graebner, 2007). The interviews were semi-structured and were

carried out face-to-face in the period January–March 2019 (see [Appendix 1](#) for an interview guide). The duration of the interviews was 1.5–2 hours. The interviews were audiotaped and transcribed verbatim producing a total of 25 pages of transcripts. The interviewees gave their permissions to use the selected quotations in this article. We used purposeful sampling to select the interviewees (Palinkas et al., 2015; Patton, 1999) and they represent key actors from three organisations closely connected to the Isaacus project. The first interviewee represented Sitra and acted as the project director for Isaacus. Sitra was originally a gift in the form of a fund given by Parliament to Finland to mark the 50th anniversary of Finland's independence in 1967. This independent fund was tasked with probing the future and promoting qualitative and quantitative economic growth. Sitra reports directly to the Finnish Parliament. The second interviewee is the head of information resource services at The National Institute for Health and Welfare (THL), which studies, monitors, and develops measures to promote the well-being and health of the population in Finland. THL gathers and produces information based on research and statistics. The third interviewee was an enterprise architecture specialist at The Ministry of Social Affairs and Health (MSAH), which is responsible for the legislation, strategic steering as well as international and horizontal collaboration in healthcare and social welfare. All interviews addressed the same three main themes: (1) background and aims of Isaacus, (2) what happened within the project and (3) the outcomes of the project.

4. Empirical case

4.1. Institutional logics in social and health care knowledge management

This section describes the institutional context where the Isaacus project was prepared and carried out. Document analysis of two government programmes and two ministry-level strategies illustrates how knowledge management in the public sector is strongly governed and guided by various institutional actors and logics. Public service entities as well as private and third-sector organisations are required to meet the requirements set by the governing bodies and this may significantly guide their knowledge strategies and knowledge management practices.

In 2011, the programme initiated by the government of former Prime Minister Jyrki Katainen stated that "Productivity in the public sector will be boosted through better utilisation of business intelligence, more compatible information systems, and by bringing together information management data and procurement resources data in public administration. Shared use of public administration information will

be facilitated” (Prime Minister’s Office, 2011, pp. 137–138). This programme made explicit the important role of knowledge-driven decision-making, raised knowledge management to the national agenda and was followed by a large number of development projects throughout the public sector.

In 2015, Prime Minister Juha Sipilä and his government also highlighted the importance of knowledge-driven decision-making and linked this to the digitalisation, experimentation, openness, and integration of services. This strategic programme stated as one of its government term objectives that “Bold steps have been taken to reform management and implementation by strengthening knowledge-driven decision-making and openness and by making use of experiments and methods that encourage civic participation” (Prime Minister’s Office, 2015, p. 27). Further, among the five key projects of this programme was the improvement of management and implementation, which includes the following: “Government and central government management processes will be reconciled with the Government’s strategy work. Knowledge-based management and implementation reaching across administrative branches will be strengthened” (Ibid., p. 29).

These two of the Prime Minister’s programmes show a strong political commitment to developing knowledge management in Finland. Knowledge management became a central approach by which Finnish society and public administration at all levels sought more productive ways of providing public services. Within this wider frame, two distinct institutional logics have driven the development of knowledge management in social and health care.

4.1.1. Social and health care management: integration of services, citizen participation and effectiveness of services

Knowledge management in the social and health care sector is naturally influenced by the practice of social and health care management. Here, the main driver of development was the aim of a more effective service provision. Although this is in part independent of the political trends, there are points where the two paths converge in the form of programmes and projects. Integration of services and information has been on a joint agenda. In 2014, the MSAH launched its ‘Information to support well-being and service renewal. eHealth and eSocial Strategy 2020’ (Ministry of Social Affairs and Health [MSAH], 2015). The objective of the strategy was to support the renewal of the social welfare and health care sector and the active role of citizens in maintaining their own well-being by improving information management and increasing the provision of online services. To achieve these ends, the strategy considered it essential to make active use of information related to social welfare and

health care services and to refine it into knowledge that would support both the service system and individual citizens’ engagement in their own care.

The strategy was evaluated by an independent evaluator and the report was published at the beginning of 2019 (Seppälä & Puranen, 2019). The evaluation pointed out that “the contents and goals of the strategy are topical but the biggest problems are related to the implementation of the strategy” (Ibid.). The evaluation criticised the lack of a joint roadmap and the fact that although the strategy focused mainly on implementation, it still lacked concrete mechanisms. Nevertheless, it was concluded that “the strategy has strengthened the understanding of the importance of data management among stakeholders in healthcare and social welfare services” (Ibid.). As its recommendations, the evaluation calls for a reorganisation of implementation and a definition of clear responsibilities for implementation as well as better connection to the public sector reform. These findings seem to be well in line with the approach of this study.

The strategy was also related to the reform of the legislation. New legislation was listed as a concrete measure in the eHealth and eSocial Strategy. We will get back to this in the next section.

4.1.2. Health sector growth: ability to combine data resources in research and innovation activities

Likewise, in 2014, another strategy led the way towards the Isaacus project. The roots of Isaacus lie decidedly in the health sector growth strategy for research and innovation activities (MEE, 2014). This strategy was adopted by the Ministry of Economic Affairs and Employment (MEE). The strategy aimed to identify those sections in the health sector’s innovation ecosystem that could be developed in order to create an international competitive advantage for Finland as a health sector research and innovation partner and target country for investment.

From the perspective of this study, the growth strategy was an important document because it took a very different stand on knowledge management and data governance than the previous national discussions. A significant change in thinking took place when the value of knowledge resources and related processes was acknowledged in a national growth strategy: “The seamless joint access to personal health data and patient documents will be enabled for research purposes. A national operations programme and rules for the application of genome data will be drawn up. (responsibility: MSAH, Sitra)” (MEE, 2014). As noted, the recommendation also defined the responsibilities and linked the discussion to genome data. As a curiosity, in 2015, a separate strategy “Improving health through the use of genomic data. Finland’s Genome Strategy” was published. Figure 2 summarises the discussed initiatives behind Isaacus.

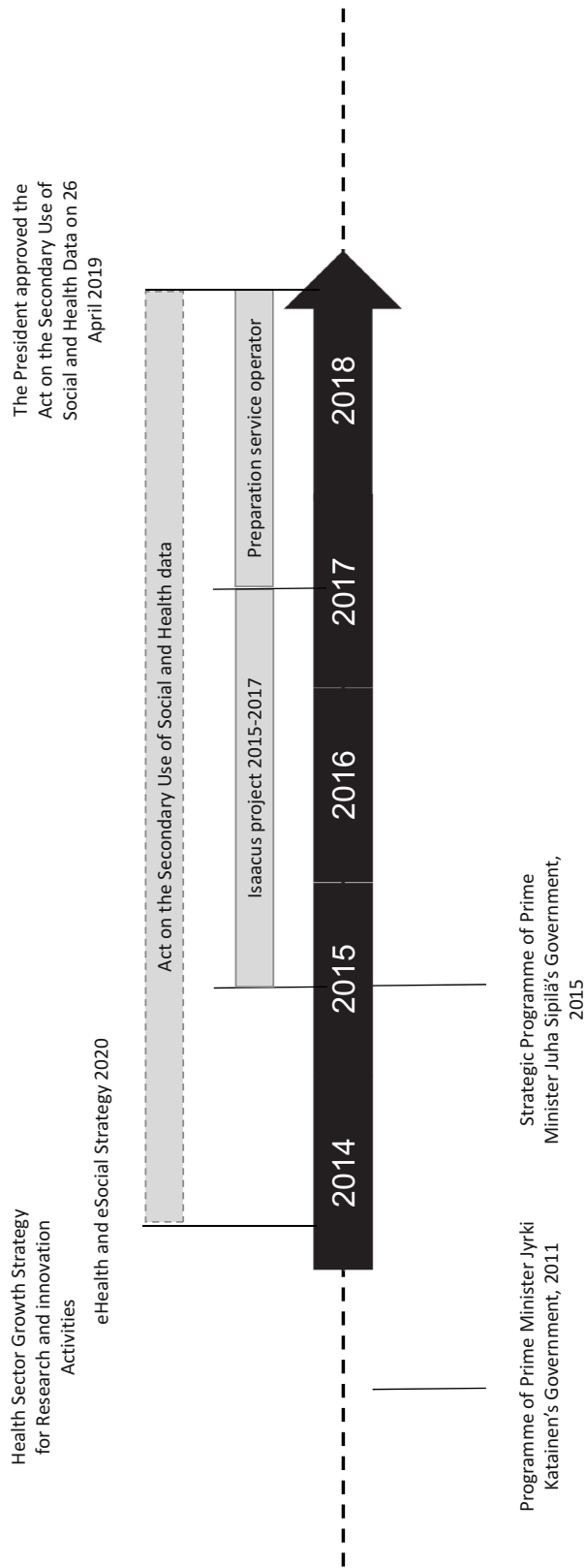


Figure 2. Summary of the key drivers of the Isaacus project.

We do acknowledge that there have also been many other development projects and events that have influenced the phenomenon studied here but we are not able to review them exhaustively. Nevertheless, the above description illustrates the environment in which Isaacus was launched and where it operated from 2015 to 2018. The project would not have been realised without strong political support and a significant change in the perception of the value of data and knowledge management that would enable the value of data to be harnessed. In consequence, Isaacus was able to follow-up on the opportunities afforded by the technological development.

4.2. Isaacus and secondary use of social and health data

As mentioned, our case deals with national social and health care data produced by all public, private, and third-sector service providers in each customer encounter throughout Finland. The purpose of the Isaacus project was to make this data accessible and available for different uses. It was expected to improve the efficiency and effectiveness of the Finnish health care sector through improved decision support, and at the same time, to bring international competitive advantage for Finland as a health sector research and innovation partner. The societal importance of the project was high. The Isaacus project was led by Sitra and the objective of the project was to enable the data-secure use of well-being data for various purposes, such as scientific research, statistics, public administration and control, knowledge-based management and development and innovation projects. The initial argument of the project was that more efficient use of data requires new operating models and operators (see Figure 3). Indeed, the overarching idea of Isaacus was to break away from organisational information silos and move towards platform-based thinking where health data would be accessible for citizens as well as public, private, and third-sector actors in a timely and secure manner. Thus, for us, solutions created in Isaacus represent responses to increased institutional complexity in public sector knowledge management.

The project aimed to solve practical problems related to the utilisation of extensive and high-quality data resources in social and health care. For example, the use of data is considered complex because it is dispersed in a number of different information systems managed by different authorities. Further, the licencing process has been found to be slow and laborious. Those interested in using data for secondary purposes (other than the primary reason for which they were originally saved) need to apply for a permit and then submit requests separately to each authority concerned. There were also legislative obstacles to using the data – integration of social and health

information was not possible without changes in the legislation.

Our interviewee at MSAH pointed out that the focus of the project was on “one time” use of the data. By this, he meant that scientific research and innovations were underlined as the main purposes of use. This entails handling of permits and the new service operator was considered to be the actor gathering the data and allowing researchers access to it. The interviewee stated that MSAH is more interested in so-called “continuous” use of the social and health data. By this, he referred to a process where an organisation or some other legitimate actor gathers the data on a daily basis and uses it for knowledge-driven decision-making. Although initially Isaacus aimed to solve both of these use cases, it subsequently emerged that the focus was primarily in R&D and in the one-time use of the data and the development of a new service operator dominated the development work. Here, the two different institutional logics guiding the use of health data can be clearly detected.

Regarding the actual Isaacus project, Sitra was an operative project organisation. Sitra was not originally involved in the preparation of the legislation and the process of improving the secondary use of social and health data. The project director took the view that Isaacus “*was there to bridge the gap between enacting and implementing the new legislation – when some development work needs to be done but when there is no budget to do anything*”. Implementation of the new legislation was delayed and Sitra was seen as an actor that could operate in the interim. The beginning was not easy. As a new, external and temporary operator, Sitra needed to justify its role. As noted by the interviewee, the working style was very different from in traditional research funding:

We were able to force actors to collaborate because we financed their pilot projects. Our practices were different from what many actors were used to. Normally research funding provides a lot of freedom. We went to steering groups, we had weekly reviews and funding was based on results.

During Isaacus, Sitra arranged many workshops and co-opted major organisations into the work. This created commitment and shared understanding. Afterwards, the project director considered that there could have been more interaction with small companies and a closer connection with other funding bodies. Nevertheless, during the two years, Sitra funded several sub-projects and participated in the development of various tools to improve the use of health data. These ranged from common metadata descriptions to new user interfaces. In addition, a data-secure environment for the use of well-being data was designed as well as a one-stop-shop permitting service. Researchers could apply to the service for authorisation to use the data.

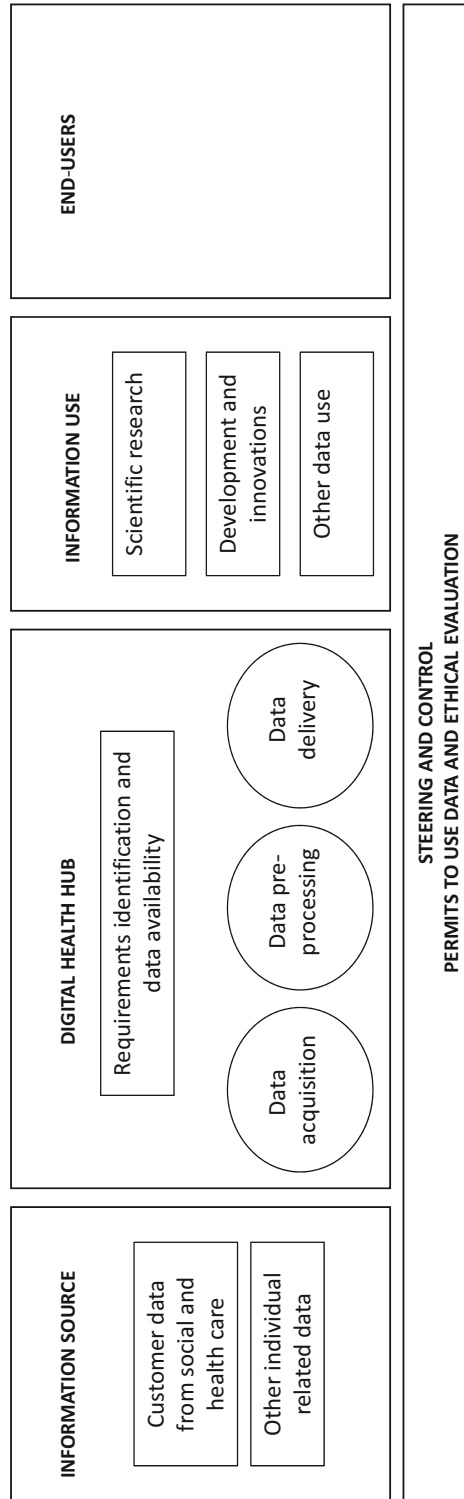


Figure 3. Isaacus – the Digital Health HUB (Sitra, 2017).

Finally, the project implemented a portal offering information about the access limitations of social welfare materials and the prerequisites for using data. For present purposes, the most interesting pre-production projects were those related to the “data lake” technology, which was piloted in three hospital districts.

The Hospital District of Helsinki and Uusimaa (HUS) ran one of these pre-production projects. HUS applied for funding from Sitra, which recognised the novelty value of the proposed approach and funded the HUS Data Lake project. The Project Director at Sitra stated:

We thought that the future would not deal only with structured data and register research. Instead, the database would be something very different. Therefore, we wanted to test this almost real-time information and see what these data lakes enable.

Sitra also financed two other pre-production projects related to data lakes, although many thought that there should be only one national data lake in Finland. By definition, a data lake is “a collection of storage instances of various data assets additional to the originating data sources. These assets are stored in a near-exact, or even exact, copy of the source format” (Gartner, 2019). Indeed, a data lake is a new way of storing information in a format where the existing data structures do not restrict the availability and use of the data. A national data lake for health and social data together with a one-stop-shop operator would enable efficient utilisation of national data. In addition to the technological aspects, it is important to remember that at the same time there was an ongoing process in which new legislation was prepared. The Government passed a new act on the secondary use of social and health data (Finnish Parliament, 2019), aiming to streamline the process of data requests allowing faster access to data and improving data security. In addition, this act established a licencing authority for licencing the use of data in the Institute of Health and Welfare. The President approved the Act on the Secondary Use of Social and Health Data on April 26 2019 and it entered into force on May 1 2019. Our THL interviewee was of the opinion that there was something special in the situation:

It was a special case that there was an ongoing legislation process with very limited resources, and suddenly there was Isaacus with its own budget and these started to collaborate. The legislation process got new resources and was able to utilise Sitra’s strengths in running these kinds of projects (e.g., using consultants, running surveys and using various kinds of panels to gather information). Sitra also financed development projects developing the infrastructure that the new legislation was aiming to support.

Isaacus (and the new legislation) would certainly appear to represent a significant change in attitudes

towards the (secondary) use of social and health data. Together, Isaacus and the work on new legislation re-created national-level objectives, re-thought organising and responsibilities and also created commitment among actors. Our interviewee at THL acknowledged Isaacus by stating that it has been “*maybe the most transformative project that I have participated in; it turned my thinking in a new direction*”.

Our interviewee at MSAH agreed with the significance of the project but was genuinely surprised about the central role eventually assigned to the data lake technology. In his view, focusing on data lakes leads the discussion onto a side-track. Instead, more attention should be paid to the layers that combine and report the data. From the Ministry’s viewpoint, an important topic is also the sharing of responsibilities. This relates to the debate between centralisation and decentralisation agendas, and deciding on the division of labour between central, regional, and local governments. According to the interviewee, there seems to be surprisingly strong interest at the regional and local levels to build their own data lake solutions. This conflicts with the idea of having only one centralised data lake.

As the main results of the Isaacus project, the interviewees listed the following concrete results: prototype of the “one-stop-shop operator” service model, technical infrastructures, and a lot of experience. From the technical viewpoint, Isaacus built three data lake solutions and a metadata editor, all of which are offered to the service operator. Additionally, there were tools for analysing and visualising data in the researcher’s workspace. Isaacus also analysed data in new ways to examine the efficiency of care paths and conducted a text analysis of written narratives in social services. In addition, researchers at Aalto University evaluated data lake solutions in 2017 (Darst et al., 2017). At the same time, however, while the focus had been extensively on building the service operator and database to support research and innovation, resources to further the continuous use of health data according to the objectives of eHealth and eSocial Strategy 2020 were insufficient. According to our MSAH interviewee, “*we are now in the phase where it is time to really implement this strategy*”.

From the learning perspective, all interviewees highlighted that the participating parties learned a lot. Isaacus showed that new technical capabilities are needed and that there are limitations in the existing technologies. Further, the increased collaboration and the international networks created were considered to be the major outcomes of the project. Overall, our interviewees found Isaacus to have been a successful project. At the end of 2018, Sitra reported: “The work leading up to the establishment of a permitting service and a digital health hub has been handed over to the MSAH for finalisation,

where the culmination of the project will result in the creation of a new operator”.

5. Hybridity of institutional logics in public sector knowledge management

As shown in the empirical part, the use of national data resources has been an important topic in Finland in recent years. This has underlined the importance of knowledge management as a managerial approach supporting not only organisations but also society in general in exploiting the value of social and health data. It was shown how the political will was operationalised at the national-level into two major projects aiming to overcome the prevailing obstacles to data use. These programmes represented two field-level institutional logics (cf. Battilana & Dorado, 2010; Skelcher & Smith, 2015; Thornton & Ocasio, 2008) that we named “social and health care management” and “health sector growth”. The main argument arising from the study is that public sector knowledge management should not consider only knowledge strategies and processes of individual public service entities but be increasingly interested in institutional complexity and governance mechanisms to adjust and cope with competing and contradicting institutional logics present in the public sector. Institutional complexity clearly requires new kinds of organisational responses also from public sector knowledge management (cf. Greenwood et al., 2011).

The literature discusses various ways of coping with competing institutional logics. Our empirical case showed signs of decoupling (Meyer & Rowan, 1977) because initially the two logics were primarily fostered by different institutions. On the other hand, the system also necessitated compromise (Oliver, 1991) because with limited resources the public sector was not able to simultaneously provide the needed support for both logics. This was shown by the dominance of the growth logic in the Isaacus project. Nevertheless, the MSAH interviewee took the view that in the near future, the focus would shift to continuous use of data in health and social management. This evidences how the underlying “public reform” logic continuously affects the formulation of public sector knowledge management. From this, we can recognise a continuum where the different logics are not in conflict but follow each other. Indeed, the work done on the Isaacus project was considered useful and necessary for the continuous use of health and social data, which can be considered an example of the “logics combination” strategy discussed by Battilana and Dorado (2010). Moreover, this can be considered as “selective coupling”, where the hybrid system combines competing logics by selecting the most suitable aspects from each of the dominant logics (cf. Pache & Santos, 2013). In this article, the focus was on social

and health care, but it is arguable that similar drivers can also be recognised in other spheres of public administration.

Further, the study showed how different institutional logics look at knowledge management from very different perspectives and lead to different types of knowledge needs. This finding can be considered as an important contribution to knowledge management discussion where focus has been mostly on individual organisations and in one particular institutional logic (cf. Schroeder et al., 2012; Zyngier & Burstein, 2012). In order to balance or cope with the distinctive logics, there is a need to change the unit of analysis from individual organisations or public service entities to a public service system. As shown, this may necessitate major changes in the system. Coupling the different logics necessitated new legislation removing obstacles to knowledge flow. It also required a legitimate and neutral actor to take responsibility for running the transformation project. In our case, it was described how a new and very different working style was implemented. Funding was available for pilot projects testing new kinds of technological approaches and workshops were arranged to build trust and commitment among actors. Nevertheless, the data also showed that within the project it was not possible to fully combine the logics. The development focus tended towards growth logic and the creation of a service operator. In addition, the interviewees were afterwards surprised at the important role assigned to the data lake technology. This may be a “selective coupling” strategy (cf. Pache & Santos, 2013). Something concrete, such as a new technical approach, needs to be developed in order to have an impact on people and organisations and how they make sense and organise their actions (Haveman & Gualtieri, 2017). The new information structure may challenge the existing institutional order and change power structures, organising, and organisational identities. It may even lead to reconsideration of organisational boundaries (cf. Santos & Eisenhardt, 2005) if new organisations are constituted and actor’s responsibilities change. This may have long-ranging implications on organisational values, objectives, cultures, and collaboration if actors prioritise these aspects very differently. Indeed, whereas the institutional structure has previously determined the information structure, it will be interesting to see, to what extent new information structures are able to challenge the roles and power structures of prevailing institutions in the future.

The literature enumerates shared objectives, commitment, trust, flexibility, and seamless knowledge flow as important components of hybrid governance (D’Aunno et al., 2018; Johanson & Vakkuri, 2017). As a contribution to this discussion, our study suggests that a shared knowledge base and efficient

knowledge management are important enablers for all these. Data lake is a technological solution but the interviewees also emphasised many intangible aspects and benefits that have followed from this technology. The shared database creates new opportunities for shared learning and knowledge creation. Further, our document analysis illustrated how Prime Ministers' programmes created shared objectives and a shared language and how the strategies of two ministries operationalised policy-level objectives and shared responsibilities as well as pinpointing a need for legislative reform. The idea of shared and open data may significantly change the discussion on the impacts of organisational form on knowledge processes because organisational form may not be the main defining factor for knowledge processes in the future.

All the above are initiatives creating national-level enablers for hybrid governance and knowledge management within the public service system. It is also important to acknowledge that the development has also strengthened the potential for national information-steering, which may reinforce the impact of the institutional logics discussed. Isaacus and new legislation enable public management based on coherent data. Without a shared knowledge base, actors would continue to focus on their own data, which has led to sub-optimisation and problems in knowledge flow. Here lies the answer to our second research question; what are essential components of public sector knowledge management? We contend that the development in Finland described here represents a significant change in public sector knowledge management and offers a way to see its role in a very different light than an organisation-specific approach would allow. As discussed, hybrid governance has to find ways to overcome the ambiguity of objectives and develop structures for efficient collaboration (cf. Johanson & Vakkuri, 2017; Lowndes & Skelcher, 1998). In light of our study, we perceive a shared data (or knowledge) base as a necessity not only for organising but also for engagement and commitment. In addition, a shared database generates transparency, accountability, and trust, which enable management control, organisational learning, and continuous development of governance mechanisms. [Figure 4](#) summarises our understanding of public sector knowledge management as a combination of national-level knowledge governance, that is, creating and maintaining national-level enablers and processes where public institutions, private organisations, and third-sector actors at the different levels of the public service system create, store, and utilise a shared knowledge base to turn knowledge into action in their everyday operations.

Finally, we want to emphasise that here we consider a data lake not only as a technical solution but more as

a mental model that creates a very different interpretation of public sector knowledge than the one that created those organisational siloes that inhibit inter-organisational knowledge transfer today. We see this as a significant shift towards something new in public management. Data lakes may create the basis for open and transparent dialogue between researchers, private companies, and public sector organisations (cf. Laihonen & Mäntylä, 2017).

6. Conclusions

This article contributes to knowledge management literature by extending the analysis to hybridity of institutional logics in the public sector, and by analysing national-level policies, strategies, and programmes that have shaped and formulated the understanding of knowledge management as a factor of national-level competitiveness. Instead of focusing on individual institutions and their knowledge management, the unit of analysis was a national project aiming to create a new type of service operator responsible for collecting and co-ordinating well-being data on the Finnish population. This can be considered as a coping strategy in a situation where distinct institutional logics set very different expectations and objectives for public sector knowledge management. The article links the theoretical discussions on knowledge management, hybridity, and institutional logics and provides a new perspective on knowledge-driven public management.

Based on the presented analysis and discussion we see hybridity of institutional logics as a natural element of the environment where public sector knowledge management needs development. This means that the organisation-specific focus of knowledge management needs to be complemented with a whole service system perspective. Only in this way is it possible to harness the potential in terms of both research and innovation as well as knowledge-driven decision-making and development. After all, these are enabled by the same data that is generated in service encounters. This brings us to the customer's or citizen's perspective. When services are increasingly purchased from different actors, it becomes a necessity to integrate the data in order to gain a holistic view of the service processes to ensure high-quality and effective service. The new knowledge structure also enables service-users to participate as information providers and users.

There are of course some limitations in our approach. We only interviewed a limited number of actors, which may provide an incomplete view of the world. We do acknowledge that other informants might have raised different aspects of the Isaacus project. However, we chose to interview the key persons in charge of the project because we wanted to understand how the objectives were set and how they assess the

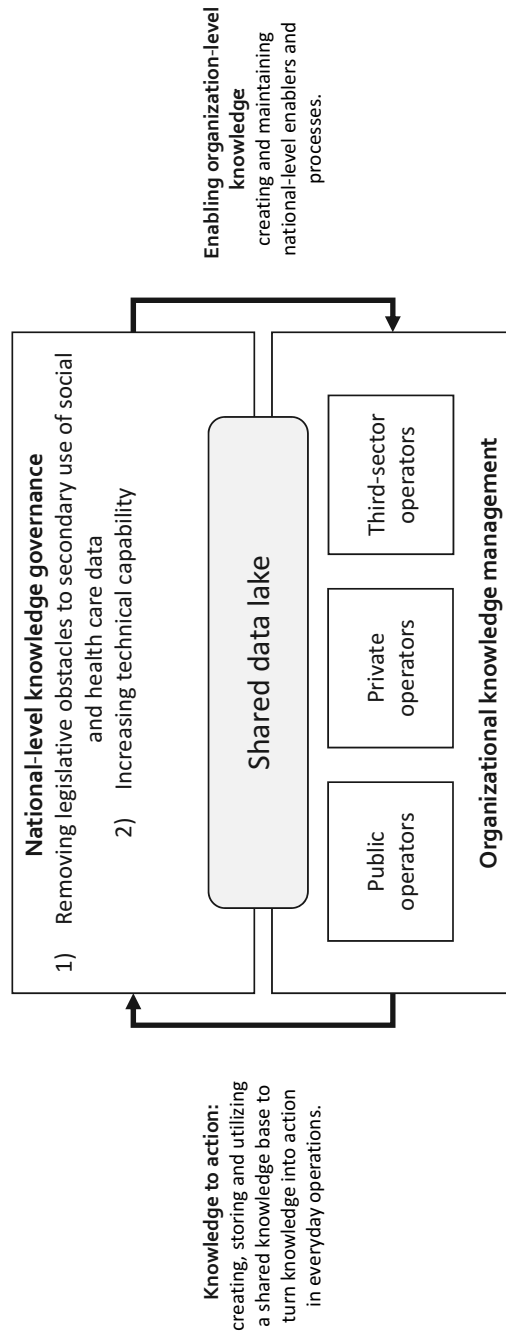


Figure 4. Public sector knowledge management.

project's main outcomes. This was because we saw in practice how data lakes and the legislation on the secondary use of health data are changing the way actors talk about data and knowledge management. Later on, it would be interesting to ask a wider group of participants how they see the role of Isaacus in shaping organisations' rhetoric and objectives. The ideas related to future research are numerous. For example, many interesting national-level knowledge management projects have recently been launched in the field and these should be studied carefully. The new legislation and its impacts in particular call for in-depth analysis. Further, the linkages between national-, regional- and local-level knowledge management are worth studying. We also perceive a need for international comparisons and further investigation and development of a (knowledge) governance model capable of combining the distinct institutional logics studied in this article.

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ORCID

Harri Laihonen  <http://orcid.org/0000-0002-5836-5649>
 Petra Kokko  <http://orcid.org/0000-0002-6451-3433>

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Appendix 1. Interview guide

Background and objectives

- Why Isaacus?
- Who were the key actors in the beginning? How did the idea start to develop?
- What were the main goals of the project? (to support national steering, shared situation awareness; building of shared understanding)
- What kind of change was aspired? What were the original objectives and have those changed during the project?

What has been done?

- What has been done? What were the major innovations? What about the major failures?
- What steps can be recognised afterwards?
- Have there been new actors involved? Have any actors quit during the project?
- What kind of problems did the project face? How have these been solved? What were the main reasons for these problems?

Links to other projects and situation now

- What else relates to Isaacus (legislation on the secondary use, etc.)?
- Where are we now? What was achieved with Isaacus? What has happened since?
- How does the information management work done by the Social Insurance Institution of Finland and The Finnish Institute for Health and Welfare relate to Isaacus? What about the regional reform and the roles of SoteDigi and Vimana?
- Who will be responsible for running the service operator?