Open innovation in services

in private and public sector organisations

Ruusa-Maria Ligthart

Churchill College
Department of Engineering
University of Cambridge

This thesis is submitted for the degree of Doctor of Philosophy
December 2021

Declaration

This thesis is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the preface and specified in the text.

It is not substantially the same as any work that has already been submitted before for any degree or other qualification except as declared in the preface and specified in the text.

I declare that this dissertation does not exceed the word limit approved by the Degree Committee of the Department of Engineering.

It does not exceed the prescribed word limit of 65,000 for the Department of Engineering Degree Committee.

Ruusa Ligthart

Helsinki, December 2021

Open innovation in services

in private and public sector organisations

Ruusa-Maria Ligthart

Abstract

Organisations can use innovation to exploit new opportunities and respond to threats. 'Open innovation' is an approach that has been shown to help organisations in managing innovation, particularly due to its emphasis on stakeholder collaboration. While the body of knowledge on the management of open innovation has developed substantially in recent years, much of this has been driven by the observation of practice in large, private sector, product-based organisations. Fewer studies have been conducted on open innovation in service-based organisations, despite the fact that economic activity in many nations is dominated by service design and delivery. In addition, much less research has investigated whether open approaches to service innovation differ between private and public sector organisations.

In this dissertation, a review of the literature and an exploratory review of practice demonstrate three specific knowledge gaps. Firstly, there is a lack of a strong conceptualisation of what open innovation means for service innovation and if and how this differs from open innovation for physical products. Secondly, these reviews confirmed that the vast majority of research on innovation management focuses on private sector organisations, as is also apparent in the literature on open innovation. This is a significant point to emphasise as approaches designed for the management of innovation in the private sector cannot be assumed to be transferable to the public sector given the fundamentally different nature of these two types of organisations. Thirdly, exploratory interviews with managers in large service-focused organisations in the private and public sectors identified a strong interest in open service innovation but also revealed that they found the design of processes for developing and implementing open innovation for new services extremely challenging.

To address these gaps, this study implemented a three-step methodology. First, the literature was drawn upon to develop an initial framework for conceptualising open service innovation. This framework was then used to structure the analysis of data captured from three in-depth, longitudinal qualitative case studies of the development and use of open service innovation processes in one private

and two public sector organisations. Finally, the open service innovation framework was modified to reflect additional issues emerging from the case studies, which were in turn linked back to the relevant literature.

This exploratory research provides insights that both build upon and, in some cases, contradict current literature on open service innovation. Specifically, the research reveals that openness in organisational culture is a particularly fundamental issue underpinning open service innovation process design. However, the results also show that co-creation does not seem to be such a dominating concept in open service innovation as previously suggested by service innovation literature, and a systematic and transparent process is a key enabler in open service innovation in the organisations analysed for this research.

This study makes two main contributions. Firstly, it delivers an open service innovation framework that identifies the key elements and interdependencies for implementing open service innovation. Since the framework is an initial conceptualisation of open service innovation, it provides a platform for further research and may support practitioners in structuring the design of their open service innovation processes. Secondly, the cases reveal many commonalities between the approaches to design and use of open service innovation processes in the public and private sector organisations, but also specific features of open service innovation management in the public sector that warrant further investigation.

Acknowledgements

This wonderful PhD journey would not have been possible without the help, support and guidance of numerous people. I would like to express my gratitude to each of them.

I am particularly grateful to my brilliant supervisor Professor Tim Minshall, who patiently guided me through this journey and endeavoured me to help me reach my full potential. Also, I would like to thank my advisor, Dr Letizia Mortara, who was always willing give feedback on my work and provide new angles to my research.

It was delightful to learn with and through a number of people at the University of Cambridge, particularly in the friendly and open environment in the Institute of Manufacturing. The University of Cambridge has offed me exceptional and quality support through many skilful and talented people, such as Nicola Cavaleri, Anthony Haynes and Dr. Mohamed Zaki. Overall, being a PhD student at the University of Cambridge has been an inspiring educational experience.

I would like to thank the organisations Business Finland and the Foundation for Economic Education in Finland that not only believed in me but also provided me with financial support over the years. Furthermore, I also wish to thank the personnel of Laurea University of Applied Sciences for their support and encouragement. I extend my special thanks to all USCO project members, Dr. Krista Keränen, Riitta-Liisa Larjovuori, Dr. Kirsi Heikkilä-Tammi and many others.

I would also like to express my gratitude to Churchill College for providing my family with a wonderful place to live in Cambridge. Also, I would like to thank my husband Frank, and children Siiri and Lucas for being so supportive throughout my studies.

Publications

Ligthart, R. (2021). The development of open service innovation at public sector. Druid22 Conference. Copenhagen, Denmark, October 18-20, 2021.

Ligthart R., and Minshall T. (2020). The development journey of open service innovation in the public and private sector. Digital Living Lab Days Conference 2020. Online, September 2-4, 2020.

Larjovuori, R., and Ligthart, R. et.al, (2020). Digimuutos tehdään yhdessä. University of Tampere, Faculty of Management and Business.

Ligthart R., and Minshall T. (2019). Conceptual framework for open service innovation. WOIC Conference. Rome, Italy. December 12-13, 2019.

Ligthart R., Keränen K., and Minshall T. (2018). An initial framework for open service innovation adopting digital co-creation. ISPIM Conference 2018. Stockholm, Sweden. June 17-20, 2018.

Keränen K., and Ligthart R. (2017). Digital open innovation and co-creation in service organisations: Enablers and barriers. The 21st annual Cambridge International Manufacturing Symposium – Globalisation 2.0. Cambridge, UK. September 28-29, 2017.

Table of Contents

Appendices

List of Tables

List of Figures

1 Introduction

1.1 Research context

This study explores the management of open innovation in services in the context of private and public sector organisations. The open innovation approach combines internal and external knowledge from diverse stakeholders to deliver innovation (Chesbrough, 2003). Service innovation tends to mainly focus on collaboration with customers (Feller et al., 2011; Mina et al., 2014; Edvardsson et al., 2018). When organisations involve a wider group of stakeholders in the service innovation process beyond customers, a variety of opportunities arise for both the customers and organisations involved (Hakanen & Jaakkola, 2012; Mačiulienė and Skaržauskienė, 2016). Thus, an open approach to service innovation offers potential benefits.

However, there is little research on the extent of the use of open approaches to innovation from the service perspective (Randhawa et al., 2018; West & Bogers, 2017) because research on open innovation tends to focus on product-based innovation (Battisti *et al.*, 2015; West & Bogers, 2017). Hence, there is a lack of research on if and how service differs from physical products of open innovation. Several scholars acknowledge that open innovation can enhance service innovation (e.g. Randhawa et al., 2018; Virlée et al., 2015; West & Bogers, 2017). Improving our understanding of service innovation is also particularly important as services constitute a significant percentage of employment and income for organisations in the most developed economies (Battisti et al., 2015), where typically around 70% of GDP is derived from service-based activities (Gallouj & Djellal, 2010; The World Bank, 2019). The successful development and delivery of innovation in services (Berry et al., 2006) has the potential to make substantial contributions to the wealth of major economies (Battisti et al., 2015; Foroughi et al., 2015).

Open innovation research has tended to focus on the analysis of large private sector organisations (Chesbrough, 2017) and there is less awareness of open innovation processes used in public sector organisations (Feller et al., 2011; Kankanhalli et al., 2017). Despite this, some public sector organisations are using open innovation approaches (Lee et al., 2012; Mergel, 2015; Tate et al., 2018), for

instance, to design and deliver services[1] (Moore & Hartley, 2008), since public organisations aim to be responsive to the needs of citizens and contribute to the welfare of individual people (Moore & Hartley, 2008). In contrast, in the private sector, the main purpose of innovation is usually to increase competitiveness and financial benefit (Albury, 2005; Cankar & Petkovšek, 2013). As the aims of innovation in the private and public sectors differ, it cannot be assumed that approaches to managing innovation in the private sector are necessarily readily transferable to the public sector (Al-Mansour, 2021), since the characteristics of different types of organisations influence innovation management (Fagerberg et al., 2005).

In summary, the current literature indicates that there is a lack of research on the management of open service innovation, and conceptualisation is missing. Furthermore, there is an almost complete absence of research on whether open service innovation differs in private and public sector organisations. In addition, exploratory interviews with managers in large private and public sector organisations who have attempted to develop open service innovation processes show that they have found it complex and challenging. Therefore, the intention of this study is to address the following main research question:

How is open service innovation managed in large private and public sector organisations?

To understand the key features and enablers affecting the development of open service innovation, and to overcome challenges in practice, the following sub-questions provide additional perspectives for this study, within the specific context of the main research question:

Sub-question 1: How are open service innovation processes developed?

Sub-question 2: What are the enablers for open service innovation?

To answer these research questions the research approach focuses particularly on gaining an in-depth understanding of the managers' perspectives of operational details of designing and implementing open approaches to service innovation. The research involves accessing the views of people from different teams, different disciplines and roles, and explores their individual and role-specific

---

[1] In the public sector, products can also be platforms for services or mechanisms for service offerings (Edvardsson et al., 2005) such as healthcare (e.g. vaccines), so innovation in the public sector can be related to both services and products (Ţigănaşu et al., 2019).

behaviours. This research investigates the organisational aspects of internal processes in supporting open service innovation. Throughout the research, any differences between the approaches used in private and public sector service organisations in open service innovation are actively sought out and reflected upon.

1.2 Research approach

Exploratory interviews conducted at the start of this research project with managers identified that they had a strong interest in open service innovation development. However, these interviews also showed that managers found it a complex and challenging process throughout. A review of the literature in Chapter 2 reveals little in the way of theory to support the understanding of these complexities and challenges. Therefore, an abductive approach, which is exploratory and alternates between theory and empirical data in arriving the conclusions, was chosen for this research as it proved helpful in navigating this multifaceted and under-researched context (Dubois & Gadde, 2002).

This research used multiple, in-depth, longitudinal case studies as the main research method (Yin, 2009), particularly because case study evidence can be drawn from diverse sources (Yin, 2009) and multiple cases can provide a range of empirical evidence for theory-building (Eisenhardt, 1989b). Theory-building research typically combines multiple data collection methods (Eisenhardt, 1989a). In this research, triangulated data collection was adopted to counter any potential bias that might have emanated from a single data source (Denzin, 1989) and to develop a holistic picture of open service innovation development. Therefore, this study's three main data sources were interviews, observations and documentation. Furthermore, a longitudinal real-time research frame (two years of data collection) was chosen, because a longitudinal study provided a detailed view of observed patterns and their evolution over time (Leonard-Barton, 1990).

The research included the following stages:

Stage 1: Development of an initial open service innovation framework based on the literature, development of a research collection protocol and selection of cases according to this study's needs. Three well-established, large service-focused organisations were chosen from Finland: The Finnish Tax Administration, Keva (the administrators of public sector employees' pensions), and K-Group (a private sector trading company).

Stage 2: Preparation, collection and analysis of data, and preparation individual case reports. The initial framework was used to structure the analysis of data captured from the three in-depth, longitudinal qualitative case studies on the development and use of open service innovation processes.

Stage 3: Cross-case analysis and introduction of a revised framework based on the rich case study results, linked back to the literature, providing a conceptualisation of open service innovation in large private and public sector organisations.

1.3 Thesis structure

This thesis is divided into five chapters and appendices, as illustrated in Figure 1. Chapter 1 introduces the study in terms of context, approach and structure. Chapter 2 reviews the relevant literature. The first part of this chapter introduces the concept of innovation. The second part of the chapter approaches the topic from an open innovation perspective. The third part of the chapter concentrates on service innovation. The fourth part of the literature focuses on innovation management in private and public sector organisations. The literature review ends by drawing these four strands together, defining the research gap and proposing an initial conceptual framework. Chapter 3 outlines the research methodology, discussing the philosophical background and the research approach. Chapter 4 presents the findings from the three in-depth case studies in terms of how open service innovation processes develop in large private and public sector organisations. This chapter also provides cross-case conclusions from the findings and modifications to the conceptual framework based on the results. Finally, Chapter 5 concludes the thesis by presenting the implications for theory and practice. The limitations of the current study are acknowledged as well as the potential avenues for future research. Appendices provide supporting material concerning research methodology.

Chapter 1 - Introduction

| Introduction | *Provides an overview of the thesis with context, approach and structure.* | **Chapter 1** |

| Literature review | *Introduces key literature and based on the literature develops the initial conceptual framework.* | **Chapter 2** |

Innovation

Open innovation

Service innovation

Innovation management in the private and public sector

Concludes by defining the literature gap and identifying the initial conceptual framework

| Research methodology | *Outlines the research methodology, which addresses the research question in light of the initial conceptual framework.* | **Chapter 3** |

| Case studies | *Presents the data collected from case study organisations in Finland.* | **Chapter 4** |

K Group

Keva

Tax Administration

Concludes by cross-case analyses to build the revised framework

| Discussion and conclusion | *Summarises the findings, discusses the implications for theory and practice, limitations, options for future research.* | **Chapter 5** |

| Appendices | *Provides supporting material for Chapters 3 and 4.* |

Figure 1 Thesis structure.

2 Literature review

The purpose of this chapter is to position the research topic within current knowledge, to provide a theoretical foundation for this thesis, and to identify the key elements of a conceptual framework for addressing the research question. Therefore, this chapter reviews the relevant literature on innovation in the context of this study and investigates the theory of innovation as it relates to open innovation, services and organisations. It defines the nature of open innovation in relation to stakeholder collaboration and services, as well as explores service innovation and the role of customer centricity and customer collaboration. The nature of co-creation, service-dominant logic and service design are investigated to provide a deeper understanding of the service innovation concept. This chapter also describes innovation management in the private and public sector organisations and considers how the management of innovation is influenced by the geographical location within which innovation takes place. Finally, this chapter clarifies the research gap and draws together concepts from the literature to develop an initial framework for addressing the research question.

2.1 Innovation

Innovation is important for economic growth, competitiveness, productivity and quality of life (Fagerberg et al., 2005; Moreira et al., 2020). It enables organisations to keep up with social changes (Fagerberg et al., 2005), to secure and sustain a competitive advantage (Porter, 1980), to exploit the opportunities offered by technology and to respond to customer demands (Baregheh et al., 2009). The changing nature of society requires constant development within which innovation can represent the core process of renewal (Cooper, 1998; Teece, 1999). Environmental pressure from outside an organisation requires innovation that is in harmony with an organisation's strategic goals (Bossink, 2004; Goffin & Mitchell, 2017).

The importance of innovation was well-known when Schumpeter (1934) explained that economic development is driven by innovation and that organisations need to innovate to renew their value (Porter, 1980). Today, innovation is referred to as increasing the competitiveness of organisations, contributing to sustainable economic growth, creating job opportunities and improving the quality of life (Eurostat, 2021). Innovation has reached a high level of priority on the strategic agenda of organisations of all sizes, sectors and locations (Ţigănaşu et al., 2019). Overall, innovation can be seen as an organisational phenomenon that plays a significant role in economics and in the development of society (Fagerberg et al., 2005).

2.1.1 Defining the nature of innovation

There is no universally accepted definition of innovation. However, most scholars agree that innovation involves the generation and realisation of novel ideas (Bessant & Tidd, 2020; Hartley, 2005; Thompson, 1965). It involves a process of learning through experiments or improved understanding (Fagerberg et al., 2005). It is an uncertain process (Govindarajan & Trimble, 2010), involving change (Damanpour, 1991) and can involve different types of changes, such as those related to strategy, organisational resources, requirements or capabilities (Baregheh et al., 2009). Therefore, innovation is of interest to researchers and organisations from a multidisciplinary perspective (Baregheh et al., 2009).

There are multiple perspectives on innovation. Schumpeter (1934) highlights the role of innovation from the perspective of economics, and his work provides a common foundational reference point for numerous innovation researchers from different research disciplines (e.g. Barras, 1986; Cohen & Levinthal, 1990; Gassmann et al., 2010; Pisano & Teece, 2007; van de Vrande et al., 2009; Mention, 2011; Edvardsson et al., 2013). In the field of business management, building on one aspect of Schumpeter's work on 'creative destruction' (Schumpeter, 1934), Drucker (2002) cites entrepreneurship as being a specific function of innovation. Berthon et al. (2004) describe the marketing aspect of innovation, with customers as the main focus. The business model concept also has been addressed from the innovation perspective (Zott et al., 2011). Damanpour (1996) discusses the business management perspective in organisations, and Thompson (1965) relates the organisational aspects of innovation. Innovation is therefore perceived in many areas, which all approach the subject from slightly different perspectives. Thus, it is challenging for literature to offer a commonly held definition. Furthermore, organisations may implement various types of innovations as their performance is connected to the adoption of different types of innovation (Damanpour & Evan, 1984).

Innovation can be defined as the adoption of an idea or behaviour, relating, for instance, to an administrative or technical system, a process, a product, or a service that is new to the adopting organisation (Damanpour et al., 1989). However, it should be noted that innovation is not a synonym for invention; invention exists when creating a new idea for the first time while an innovation can be an improvement or significant contribution to an existing idea or something that has already been invented (Schumpeter, 1976). Innovation can be radical or, by contrast, it can involve small-scale, incremental changes (Hartley, 2005). For the purpose of this research, we use Thompson's (1965, 2) definition, explaining that '*innovation is the generation and implementation of new ideas, processes, products or services*'. The key point is that this definition clearly states that innovation is not only an idea but

also needs to be implemented; invention needs to be put into practice (Fagerberg et al., 2005). Thompson's offers a definition that represents well the organisational perspective on innovation and can be adapted to various types of innovation. Overall, the common element across all definitions of innovation is that it is a new idea that is being put into practice.

The distinction between different types of innovation is necessary to gain meaningful insights into what drives and impedes innovation and how organisations may best use innovation (Buchheim et al., 2020). Scholars have suggested categorising innovation into different types (Osborne & Brown, 2011). This study focuses on two types of innovation: *open innovation* and *service innovation*. Therefore, these concepts are introduced in the following section.

2.2 Open innovation

The concept of open innovation was first introduced by Chesbrough (2003). However, prior to Chesbrough (2003), other scholars also identified the importance of openness in enhancing innovation and approached it from different angles. Utterback (1971) focused on technical innovation and found that implementing technical innovation calls for a flow of information between a firm and its environment. In contrast, von Hippel (1976) introduced the concept of user innovation by identifying users as innovation creators to draw attention to the importance of using external knowledge sources in successful organisations. Later, von Hippel (1986) introduced the concept of 'lead users' who are key users familiar with conditions which lie in the future for most others; they can serve as a need-forecasting laboratory for marketing research. In addition, Teece (1986) mentioned that external factors could influence an organisation's ability to profit from innovations. Cohen and Levinthal (1990) introduced the notion of absorptive capacity, which allows organisations to identify, absorb and use external knowledge.

Today, the concept of open innovation has been adopted widely in various organisations (Giannopoulou et al., 2010; Huizingh, 2011). However, the open innovation literature has primarily been developed through analysis of large private sector organisations, though a small but growing number of studies have focused on SMEs (Ahn et al., 2015; Brunswicker & Vanhaverbeke, 2015; van de Vrande et al., 2009). The research on open innovation in the public sector is even more limited (Feller et al., 2011; Kankanhalli et al., 2017; Mu & Wang, 2020; Ooms & Piepenbrink, 2021; Pedersen, 2020; Randhawa et al., 2019). Despite this, the public sector has also started to use the open innovation approach (Heimstädt & Reischauer, 2019), attempting to exploit the extensive knowledge

of citizens for the development of innovations in services (Loukis et al., 2017). Mu and Wang (2020, 10) explain that open innovation is '*as an important strategy for public service improvement, public value creation, and public policymaking*'. The public sector in open innovation is also referred to in a few studies under the concept of 'open social innovation' whose focus is to develop new ways to address social problems (Chalmers, 2013; Chesbrough & Minin, 2014; Randhawa et al., 2019). Chesbrough defines open social innovation as *'the application of either inbound or outbound open innovation strategies, along with innovations in the associated business of the organisation, to social challenges'* (Chesbrough & Minin, 2014, 170). Despite the limited studies focusing on open innovation in the public sector, several scholars agree that the public sector is playing an important and growing role in open innovation (Cankar & Petkovšek, 2013; Lee et al., 2012; Mergel, 2015; Pedersen, 2020; Tate et al., 2018; Venturini & Verbano, 2017) and in using open innovation to pursue innovation in society (Pedersen, 2020).

It is important to note that the public sector differs from the private sector in various ways (see Sections 2.4.1-2.4.2). Therefore, it cannot be taken for granted that the open innovation approaches are transferable from the private sector to the public sector (Cankar & Petkovšek, 2013; Venturini & Verbano, 2017).

Having provided the background context for open innovation in this section, the following section defines open innovation in more depth, honing in on stakeholder collaboration and open innovation in services in line with the research focus.

2.2.1 Defining the nature of open innovation

The basic premise of open innovation is the opening up of the innovation process (Huizingh, 2011). Chesbrough's definition of open innovation is the most common in the literature, and it is the definition used in this study: '*the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the market for external use of innovation*' (Chesbrough, 2003, 1). Chesbrough's definition highlight that valuable ideas emerge and can be commercialised from inside or outside an organisation. Thompson's (1965) previously mentioned innovation definition (page 19) offers a wider explanation, but the open innovation definition offers a more precise definition for the purposes of this study's focus.

In contrast to open innovation, closed innovation implies that successful innovation requires control (Chesbrough, 2003). In the closed approach, organisations control the creation and management of

ideas. Closed paradigms often lead to the 'not invented here' syndrome: everything coming from outside is suspicious and not reliable (Chesbrough, 2003). However, researchers note that organisations need to find the right balance between an open and a closed approach (Dahlander & Gann, 2010), as open innovation activities can vary in their degrees of openness between different stages of a project, or between different projects (Huizingh, 2011). Since success in innovation is based not only on openness of innovation but also on an organisation's comprehensive understanding of closed and open innovation activities (Enkel et al., 2009), excessive openness can negatively impact long-term innovation success and lead to loss of control over core competencies (Enkel et al., 2009). '*The outcome of the innovation process is either proprietary (closed) or available to others (open)…or both the innovation process and the outcome are open*' (Huizingh, 2011, 31). Marques (2014) explains that, depending on the strategy of an organisation, innovation can be closed or open, or semi-closed or semi-open because such a separation between open or closed innovation does not allow something to be partly right and wrong at the same time.

To utilise open innovation successfully organisations' business models should be at least partly reorganised (Saebi & Foss, 2015) and opened to actively search for and exploit outside ideas, allowing, for instance, unused internal technologies to flow to the outside, where other organisations can utilise their latent economic potential (Chesbrough, 2007). A business model can be defined as the content and structure of connections inside an organisation and between its external partners in support of the organisations' value creation and value capture (Zott & Amit, 2008, 2010). In short, the business model describes two important functions: value creation and capture (Gay, 2014). Laczko et al. (2019, 214) explain that *"capturing value is more difficult than its creation"*. Open innovation literature typically focuses on value creation (Chesbrough et al., 2018) where open-innovation activities must create value to sustain their purpose (Chesbrough and Appleyard, 2007). The open innovation approach enables organisations to create value by leveraging many more ideas because they include a diversity of external concepts and ideas. The open innovation approach also allows greater value capture by utilising, resources or positions not only inside organisations but also in other organisations (Chesbrough, 2007).

In open innovation, there are three core processes: *outside-in process, inside-out process and coupled process* (Enkel et al., 2009). Chesbrough, (2003) originally identified two separate processes but organisations also engage in collaborations that combine these inbound and outbound flows in a coupled mode of open innovation (Enkel et al., 2009). Each of these processes can be more or less open. In the *outside-in process,* the aim is to enhance an organisation's knowledge base by sourcing external

knowledge, thereby introducing an external viewpoint (Enkel et al., 2009). The *inside-out* open innovation process refers to making profits by bringing ideas to the market, selling IP and increasing technology by transferring ideas outside of the organisation, thereby enabling other organisations to exploit unused innovations (Chesbrough & Bogers, 2014). The *coupled process* combines the *outside-in* and *inside-out* processes by working in tandem with complementary partners, whereby give-and-take is central to success (Gassmann & Enkel, 2004). This research focuses on the *outside-in* process by researching how private and public organisations processes are developed internally when working with internal and external stakeholders. In these open innovation processes, several stakeholder interactions are crucial for the organisation (Grönlund et al., 2010).

2.2.2 Stakeholder collaboration in open innovation

Stakeholder collaboration in open innovation can be defined as interactions among individuals or organisations affected and impacted by their collaboration on innovations (Grama-Vigouroux et al., 2020). Organisations engage with stakeholders to reach across boundaries to access necessary information (Gould, 2012) and to benefit from the knowledge of external and internal partners (Chesbrough & Crowther, 2006; Gassmann et al., 2010). Open innovation is collaborative in nature, having a positive impact on value creation and value capture for the organisation and its stakeholders (Grama-Vigouroux et al., 2020).

Stakeholder collaboration can be internal or external (Grama-Vigouroux et al., 2020). The role of external sources of knowledge from internal or external stakeholders is highlighted in the literature on open innovation (Chesbrough, 2003). Internal stakeholders are those that manage internal organisational functions such as marketing, HR, IT, legal and finance. The term internal stakeholders can refer to an organisation's personnel in different business units, teams or labs. External stakeholders could be universities, consultants, competitors, R&D partners, start-ups or customers, whereby external knowledge flows into the organisation (Huizingh, 2011). External stakeholders can provide organisations with access to a wide range of resources different from those available within the organisation, including information, insights and ideas (Iglesias et al., 2013; Markovic & Bagherzadeh, 2018). The ability to manage collaborations between internal and external stakeholders represents a key resource in innovation value creation (Austin & Seitanidi, 2012).

Laursen and Salter (2006) state that searching widely and deeply across several stakeholders can provide ideas and resources to harvest and exploit innovation opportunities. However, the

involvement of stakeholders might require a modification to the structure and processes of an organisation, thereby allowing innovation to move easily from the external environment into the organisation innovation process (Chiaroni et al., 2011). Therefore, in the following section enablers in organisations relating to stakeholder collaboration are discussed.

Enablers in open innovation stakeholder collaboration

Several types of enablers in open innovation stakeholder collaboration have been identified in various kinds of organisations to enable successful outcomes. One of the enablers in the literature is openness and organisational culture. An organisation's culture can be defined as '*the collective programming of the mind which distinguishes the members of one organisation from another*' (Hofstede et al., 2010, 6). It is a characteristic of the organisation and not of the individuals within it. An organisation's culture is defined by the verbal and non-verbal behaviour of individuals within the organisation (Hofstede, 1998). The definition, 'openness' includes the organisations' '*openness towards employees' attitudes about innovation, frequently expressed as innovation culture and the institutional openness towards external relationships and partnerships*' (Kratzer et al., 2017, 129).

The culture of an organisation plays a role in the implementation of open innovation and the encouragement and facilitation of stakeholder collaboration (Dodgson et al., 2006; Heimstädt & Reischauer, 2019; Kratzer et al., 2017; Mortara & Minshall, 2011; Naqshbandi et al., 2015; van der Meer, 2007; West & Bogers, 2014). Indeed, openness in organisational culture is an enabler in striving for open innovation (Kratzer et al., 2017) by expanding knowledge (Formica & Curley, 2018). Cultural changes are often needed to successfully utilise innovation from external knowledge sources (West & Bogers, 2014). Aquilani et al. (2017) found that insufficient openness in organisational culture or aversion to risk-taking can inhibit successful open innovation. Gassmann et al., (2010, 214) explained that '*creating a culture that values outside competence and know-how is crucial for open innovation practice*'.

Organisational structure can also have an impact on open innovation implementation (Aquilani et al., 2017; Chiaroni et al., 2011). Burcharth et al. (2014) show that it can be crucial that personnel are willing to share and receive knowledge from others, such that organisational structure can support multidisciplinary working for open innovation to succeed in the outcome (Burcharth et al., 2014). The persistence of a hierarchical structure which leads to hierarchical thinking can undermine the collaborative environment (Traitler et al., 2011). It has been observed that the higher the level of negative attitude is to external knowledge, the lower the level of inbound open innovation practices

(Burcharth et al., 2014). Training programmes can be used to diminish the impact of defensive attitudes to open innovation (Burcharth et al., 2014). Furthermore, a visible effort is needed in organisations to align stakeholder collaboration to support innovation activities, i.e. so that the structure can be supportive (Traitler et al., 2011). This might require adaption to an organisational structure (Ahn et al., 2015).

Managerial involvement has been found to be a prerequisite for effective stakeholder collaboration (Brunswicker & Vanhaverbeke, 2015; Chesbrough, 2006; Chiaroni et al., 2011; Laursen & Salter, 2006). Positive outcomes can come from senior management within an organisation promoting and encouraging innovation and exchange of ideas without direct management involvement (Kratzer et al., 2017; Traitler et al., 2011; Van Der Meer, 2007). For instance, CEOs can encourage open innovation activities in small- and medium-sized enterprises (Ahn et al., 2017) as well as in large organisations and they can lead by example (Chesbrough, 2017). An overall positive attitude by management towards innovation projects is a key factor (Kratzer et al., 2017), whereby strategy can influence the openness of personnel to the external environment (Crema et al., 2014; Traitler et al., 2011).

The alignment of knowledge flows with the internal innovation activities of an organisation calls for finely-tuned management abilities (Brunswicker & Vanhaverbeke, 2015). For internal and external knowledge to be successfully used, it needs to be configured to align with to innovation goals (Cohen & Levinthal, 1990; Huizingh, 2011). Increasing the cross-functional working of personnel and moving people within an organisation can also improve the internal knowledge flow of organisations (Mortara et al., 2009). This calls for the allocation of clearly defined roles for those responsible for open innovation functions in an organisation (Chesbrough & Crowther, 2006).

Stakeholder collaboration in relation to different streams of research literature

Stakeholder collaboration in the process of innovation is considered in different streams of research literature linked to open innovation, i.e. business ecosystems and co-creation.

Stakeholder collaboration in open innovation can be examined using the business ecosystem approach. Business ecosystem is defined by Moore (1996) as working cooperatively and competitively with other companies in order to co-evolve capabilities, support new products, satisfy customer needs and incorporate a new round of innovations. The literature on business ecosystems is mostly concerned with collaboration among external partners, such as other organisations (Lütjen et al., 2019; Vargo et al., 2015). Organisations forming open innovation ecosystems come from diverse industries and

include, for instance, competitors, suppliers and universities, aiming to create value for organisations and for customers (Xie & Wang, 2020). The focus of open innovation ecosystems research is mainly on external stakeholders and their relationships between each other. Therefore, this study does not focus on innovation ecosystems even though it is related to this study. The research attention of the present study is on the internal organisational development that occurs when private and public organisations use open innovation for the development and deployment of new services.

In the innovation literature, co-creation is mostly discussed in relation to the customer perspective but also from the other stakeholder perspectives. Collaboration using co-creation is seen as a central aspect in a joint value creation process to foster and facilitate innovations (Prahalad & Ramaswamy, 2004). Co-creation in the innovation process involves multiple stakeholders combining knowledge (Kristensson et al., 2008) and becoming innovators (Degnegaard, 2014; Sarker et al., 2012). However, when co-creating with multiple stakeholders, it is often unclear who creates value for whom (Sarker et al., 2012). Degnegaard (2014) explains that the challenge of the co-creation process is knowing how to set the boundaries necessary to enable innovation. Nevertheless, organisations can see value in stakeholders co-creating (Prahalad & Ramaswamy, 2004). It is interesting to note that co-creation in innovation is mostly researched from a service perspective (Markovic & Bagherzadeh, 2018), focusing on customer integration (Patricio et al., 2018; von Hippel, 2001) and, therefore, it will be discussed later in this thesis in relation to services (2.2.3 and 2.3.4).

2.2.3 Open innovation in services

As most developed economies are predominantly service-based, innovation in services can be said to play an important role in economic development (Battisti et al., 2015). Open approaches to innovation are adopted by service organisations to create value through customisation and to improve service delivery (Feller et al., 2011; Mina et al., 2014). Several scholars have stated that open innovation enhances service innovation by influencing positive performance (Carroll & Helfert, 2015; Chesbrough, 2010; Foroughi et al., 2015; Hameed et al., 2021; Mention, 2011; Mina et al., 2014; Ovuakporie et al., 2021; Paskaleva & Cooper, 2018; Randhawa et al., 2018; Virlée et al., 2015; West & Bogers, 2017). In service organisations, the openness of the innovation process has been identified as one of the key success factors (Loureiro et al., 2020; van de Vrande et al., 2009).

However, there is little empirical research on the extent of the use of openness in innovation across service sectors and the practical challenges of the whole process of open service innovation

management, design and development. This is because empirical studies on open innovation mostly focus on products (Battisti et al., 2015; West & Bogers, 2017). Since services are less tangible than products and intrinsically involve customers, service innovation in innovation development can be highly challenging (Polese et al., 2012; Virlée et al., 2015). Researchers on open innovation have largely ignored this topic (West & Bogers, 2017) with some exceptions (Carroll & Helfert, 2015; Chesbrough, 2010; Eduardo & Yamasaki, 2014; Foroughi et al., 2015; Hameed et al., 2021; Hennala et al., 2011;. Mention & Torkkeli, 2016; Mina et al., 2014; Ooms & Piepenbrink, 2021; Paskaleva & Cooper, 2018; Randhawa et al., 2016; Rondi et al., 2021; Virlée et al., 2015).

According to Chesbrough (2010), in situations in which customers or users of a service participate in the innovation process for that service, the use of open innovation may accelerate and deepen service innovation, and, as a result, make innovation less, costly, less risky and faster (Chesbrough, 2010). Chesbrough (2010, 17) encourages organisations to '*invite customers to co-create innovation…in order to generate the experiences they will value and reward*'. Chesbrough (2010) identifies that service appears at the very end of Porter's value chain, but as a by-product of this product-focused approach in which customer centricity is missing. Chesbrough (2010) explains that open service innovation offers greater opportunities for value creation arising from customer centricity. Indeed, Chesbrough (2010) notes that the main emphasis of the open service innovation approach is on its 'customer centricity' characteristics. This approach is also described as user-driven innovation (von Hippel, 1988) or user involvement (Prahalad & Ramaswamy, 2004). All the reviewed definitions of open service innovation share a common feature: the customers are central and active participants in the innovation development process.

(Virlée et al., 2015) describe how service organisations engaged in open innovation are mostly interested in external knowledge and the integration of this knowledge into their innovation process. Service organisations expand their internal knowledge base to allow the inflow of ideas from external collaboration, thereby leading to increased innovation performance (Ovuakporie et al., 2021), in which the customer is central (Chesbrough, 2010). The implementation of open innovation in the public sector requires organisations to listen more to their citizens (customers) than they did before (Kankanhalli et al., 2017). When interacting with customers there is no simple linear process (Chesbrough, 2011). Instead there is often an iterative process whereby the customer is invited to co-create the service (Chesbrough, 2010).

Over the last decade, research conducted on service innovation has mostly focused on the area of service marketing and management (Lusch & Nambisan, 2015; Patrcio et al., 2018). Meanwhile, in

general, research on service innovation has not extended to considerations of open innovation (Randhawa et al., 2018). However, services are increasingly recognised as being important for building competitive advantage (Foroughi et al., 2015).

Current literature on service innovation and open innovation contains relatively few references to open service innovation (Randhawa et al., 2018; Virlée et al., 2015). The present research used Scopus, the largest citation database of peer-reviewed literature, to review open service innovation research. Using the term 'open service innovation' to search the article title, abstract and keywords of published papers resulted in only 48 articles being found (December 2021). In contrast, the term 'open innovation' found 6,740 articles, while the term 'service innovation' found 4,281 articles.

However, growing interest in the process of managing open service innovation has been identified from the exploratory interviews conducted at the start of this study with managers in private and public sector service organisations. It seems that the practice of open service innovation has advanced, but the theory has yet to receive adequate scholarly attention. Consequently, a conceptualisation is needed to draw together relevant elements from the literature to structure and analyse data and draw insights on specific issues relating to open service innovation.

2.2.4 Summary of open innovation

This section identifies the nature of open innovation when organisations open their boundaries to enhance innovation through collaboration with stakeholders (Chesbrough, 2003). Earlier studies have demonstrated that open innovation is particularly suited to developing innovations that require the involvement of diverse stakeholders (West & Bogers, 2017). Organisational culture can enhance stakeholder collaboration when personnel are open to outside knowledge (West & Bogers, 2014). This openness can be encouraged when the organisational structure is not excessively hierarchical (Traitler et al., 2011). The management of an organisation plays its part by enabling the knowledge flow needed to support the internal innovation development of the organisation (Brunswicker & Vanhaverbeke, 2015). As a result, stakeholder collaboration can have positive impact on value creation, value capture and finally on open innovation outcomes (Grama-Vigouroux et al., 2020).

Most studies on open innovation implementation are based on studies of large private sector organisations (Chesbrough, 2017), and the public sector remains under-researched in the open innovation literature (Kankanhalli et al., 2017). This is despite the fact that the public sector uses an open innovation approach and that this is acknowledged by scholars (Cankar & Petkovšek, 2013; Ooms &

Piepenbrink, 2021; Venturini & Verbano, 2017). Furthermore, since the public sector differs from the private sector in terms of their aims and measures of success, open innovation approaches are not necessarily transferable between private and public organisations (Cankar & Petkovšek, 2013; Venturini & Verbano, 2017). In the public sector, the literature shows that open innovation can reinforce services by involving customers and other stakeholders in service development (Hennala et al., 2011).

Open innovation in services tends to mainly focus on engagement with customers while product-based open innovation commonly draws upon a wide range of stakeholders (Feller et al., 2011; Mina et al., 2014). The central focus in open service innovation are customers and co-creation among customers (Chesbrough, 2010). The open service innovation approach is used in the private and public sectors, and scholars agree that it is a useful in innovation development (Chesbrough, 2010; van de Vrande et al., 2009). This is particularly the case when organisations aim to offer services for customer needs. It should be noted that customers may be unaware of all their possible future needs. Involving a broader range of external stakeholders, such as suppliers, research organisations, firms from other industries, or even competitors can provide richer sources of potential innovations. However, the understanding of open service innovation in relation to current domains of knowledge is inadequate. The lack of research in the service area in open innovation is surprising considering the dominant role services play in many economies (Foroughi et al., 2015; Battisti et al., 2015). There is a lack of a conceptualisation of what open innovation means for service innovation and if and how this differs from open innovation for physical products.

The research on service innovation has mostly focused on the service marketing and management literature (Lusch & Nambisan, 2015; Patricio et al., 2018). Developments in service literature have made it apparent that there are more issues to be explored in relation to open innovation to enhance the open service innovation concept. Therefore, in the next section of the literature review, service innovation is reviewed.

2.3 Service Innovation

Services can be activities, processes or interactions (Vargo & Lusch 2004a), and can include, for instance, communications services (postal, telephone, online), travel services, insurance and financial services or government services. *'Services offer benefits through access or temporary possession, instead of ownership'* (Lovelock & Gummesson, 2004, 20). Although scholars have defined the

service concept in different ways, several scholars agree that services have four major characteristics: intangibility, inseparability, variability and perishability (Kotler, 2009; Solomon & Stuart, 2003). Thus, services are uniquely different from products (Lovelock & Gummesson, 2004). However, it should be noted that it is not necessary to insist that services are always different from products because physical products can be platforms for services or mechanisms in service offerings (Edvardsson et al., 2005). The focus in service research '*is not on differences between goods and services, but on differences in how we want to portray value creation with customers (and other stakeholders) where the customer's perspective*[2] *is 'emphasized'* (Edvardsson et al., 2005, 118). The characteristics of services according to Edvardsson et al., 2005, 118) are as follows:

- '*Service is a perspective on value creation rather than a category of market offerings;*
- *the focus is on value through the lens of the customer; and*
- *co-creation of value with customers is key and the interactive, processual, experiential, and relational nature forms the basis for characterizing service.*'

There are many perceptions of how service research has evolved over the years. The roots could be seen as dating back to the 1950s when Drucker (1958) identified customer importance, which was also emphasised by Levitt (1960). Up until the 1970s, management research did not focus much on services (Grönroos, 2006), apart from some services marketing dissertation research in the 1960s (Fisk et al., 1993). Since then, service research development can best be understood by dividing it into roughly five phases (as shown in Figure 2).

In the first phase in the 1970s, scholars focused on the conceptualisation of services, and research often concentrated on how services differ from goods. It was not until researchers from the field of marketing, for instance, Gröönroos (1978) and Gummesson (1979), representing the Nordic School, argued that services as a discipline needed broader attention in marketing and management research literature (Gummesson, 2008). Similarly, other schools of service marketing and management, the French (Eiglier & Langeard, 1976) and the American (Berry & Parasuraman 1993; Blois 1974; Donnely 1976) also recognised the importance of services in their research literature. Overall, in the

---

[2] The concept of customer perspective, also called as customer centricity, was introduced by Drucker (1958), who explained that customers determine business. The main focus is the emphasis on customers, focusing on customers as defining business value (Drucker, 1958). Levitt (1960) described how organisations aim to focus on fulfilling customer needs rather than selling products.

1970s service research originated simultaneously in several European countries as well as in the United States (Lovelock & Gummesson 2004).

During the second phase in the 1980s, there was a focus on customer contact or on the 'moment of truth', an acknowledgement that services are realised in interaction with customers and that services cannot be stored (Edvardsson et al., 2002). Models describing the new area of service development emerged, as did the physical and the intangible environments for services (Larsson & Bowen 1989). Service design was also introduced along with the concepts of service blueprinting and service mapping (Shostack, 1984). Other emerging topics included 'servitization[3]' as industries began to use their products to sell services, such as recognising services in the manufacturing industry (Vandermerwe & Rada, 1988).

In the third phase in the 1990s, service marketing and management literature focused on relationships. The emphasis was on customer retention and loyalty aimed at customer satisfaction (Edvardsson et al., 2002) and on introducing co-creation (Bitner et al., 1997). There was also widespread recognition in academia, for instance, with the establishment of international conferences and of services marketing and management research centres in universities (Fisk et al., 1993). Furthermore, the early stages of research on service innovation were primarily restricted to the analysis of technological innovations (Gallouj & Weinstein, 1997)[4]. However, in the decades from 1990 to 2010, the debate on the capacity of services to generate genuine innovations became a settled argument (Moreira et al., 2020).

During the fourth phase in the 2000s, the traditional division into separate organisations of customers and other stakeholders became blurred (Prahalad & Ramaswamy, 2000) and there was a focus on alliances and networks (Edvardsson et al., 2002). Service-dominant (S-D) logic (see 2.3.5) introduced by Vargo and Lusch (2004a) was a breakthrough concept. Central to S-D logic is an understanding that service is the essential component of an exchange and not a particular form of exchange, such as 'what goods are not' (Vargo & Lusch, 2004a). Service logic was also introduced (Grönroos, 2006),

---

[3] 'Servitization' refers to industries using their products to sell 'outcome as a service', for instance, manufacturing firms rarely seem to remain as pure manufacturing firms. Instead they move beyond manufacturing and offer services and solutions, often delivered through their products, or at least in association with them (Neely, 2008).

[4] It should be noted that Barras (1986) constructed a model of the 'reserve innovation cycle', which can be viewed as the first innovation theory concentrating on service. This cycle introduced improvements in product innovations to increase the efficiency of delivering existing services (Barras,1986).

alongside S-D logic, causing the traditional view of products as opposite to services to be irrelevant. The S-D logic literature places value at the centre of service ecosystems, or systems of resource-integrating actors (Lusch & Vargo, 2014), in which actors are joined by value and, specifically, mutual value co-creation efforts (Vargo & Lusch, 2011).

Finally, in the fifth phase in the 2010s, various prospects regarding technology development (Bitner et al., 2000), such as digital transformation, machine learning and data-driven business models (Zaki, 2019) as well as service ecosystems (Vargo & Lusch, 2016), and multidisciplinary perspectives (Ostrom et al., 2015) offered opportunities to shape services research. Even though openness in service innovation (Chesbrough, 2010; Randhawa et al., 2018) has not evolved much in service research history, the open innovation approach is acknowledged to be beneficial in service innovation and thus it is a potential area for future research (Ovuakporie et al., 2021; Paskaleva & Cooper, 2018, West & Bogers, 2017). The overall view in service research theory development is that there are several histories and projected futures where numerous streams of literature are converging. Figure 2 summaries the main developments in service research theory.

1950s - 1960s **Roots - Identifying service research**
Scholars identifying customer importance
Dissertation research about services

1970s **1 - Conceptualisation of services**
The origins of service research
Research mainly focused on how services differ from goods

1980s **2 - Customer contact & concepts**
Services realised in interaction with customers
Main concepts:
Service design, service development, service blueprinting,
service mapping and servitization

1990s **3 - Relationships**
Services widespread recognised in academia
Main concepts:
Service innovation, co-creation, customer loyalty and customer satisfaction

2000s **4 - Alliances and networks**
Services encompass organisations and their wider environments
Main concepts:
S-D logic and Service logic

2010s **5 - Technology development and multidisciplinary**
Services embrace technologies development and synthesising of theories
Main concepts:
Digital transformation, machine learning, data-driven business models,
service ecosystem and multidisciplinary perspective

Figure 2 *Service research theory development.*

Innovation in services has become a topical issue since economic development in society has become more service-focused (Gallouj & Djellal, 2010; Toivonen & Tuominen, 2009). Therefore, there has been and continues to be a growing interest in service innovation among researchers and public and private sector organisations (Fagerberg et al., 2005; Moreira et al., 2020). Service innovation has become particularly important in the last decade because service now constitutes a significant proportion of employment and aggregate production in most industrial countries (Battisti et al., 2015). Services are important for economic growth, competitiveness, productivity and quality of life (Fagerberg et al., 2005; Moreira et al., 2020). Therefore, various organisations are seeking innovation in their services (Berry et al., 2006).

In the following section, service innovation is defined, and the nature of customer centricity is introduced because it is central to service innovation. Additional concepts which provide a further understanding of service innovation, relevant to this study, are also introduced. These concepts include co-creation, service-dominant logic and service design.

2.3.1 Defining the nature of service innovation

The innovation literature on tangible products is rich, but it does not fully capture the details of service innovation (Falk et al., 2010; Tuzovic et al., 2018). Compared to tangible innovation, research show that the process of innovating in services is less standardised. It involves iterative processes where customers and their needs are central throughout the service innovation process (Patricio et al., 2018). At an early stage, the service innovation process may be rather chaotic (Toivonen & Tuominen, 2009). This is mainly due to the considerable role of customer interaction, iterative processes (Kimbell, 2011) and the intangible nature of services (den Hertog et al., 2010). There are also other differences in relation to organisations focused on tangible products; for instance, manufacturing organisations usually have an R&D department. In contrast, service organisations often lack an R&D department even though service innovation is the result of planned and coordinated activities (Toivonen & Tuominen, 2009). In addition, product and technological innovation can be measured by traditional economic methods (productivity) and by detecting improvements or changes at a qualitative level (Gallouj & Weinstein, 1997). However, such measurements are difficult to implement when analysing innovation in services due to the vague nature of service innovation (Gallouj & Weinstein, 1997). As a result, the concept of service innovation is still considered to be poorly defined and blurred (Antons & Breidbach, 2018; Patricio et al., 2018; Snyder et al., 2016). Den Hertog et al. (2010) conclude that, compared to tangible innovations, service innovation is less standardised.

When defining service innovation, it should be noted that service organisations rarely use the term 'innovation' (Toivonen & Tuominen, 2009). They tend to use other terms, such as improving customer satisfaction or improving service quality (Falk et al., 2010), service design (Stickdorn et al., 2018) or service development (Edvardsson & Olsson, 1996). This varied terminology used for the service innovation concept is also evident in the research literature. In general, the terms used for service innovation all share the same main basic principle of the importance of customer centricity in the service innovation process. Service innovation is defined by Toivonen and Tuominen (2009, 893) as follows:

'*A service innovation is a new service or such a renewal of an existing service which is put into practice and which provides benefit to the organisation that has developed it; the benefit usually derives from the added value that the renewal provides the customers*.'

For the purposes of this research, the definition by Toivonen and Tuominen (2009) is used together with Patricio et al's (2018) notion that:

Service innovation is the whole process of service development in which customer collaboration has a significant focus.

The strength of this combined definition is that service innovation can involve a new service but also an improved version of a current service. The customer, as well as the organisation, receives added value from service innovation.

2.3.2 Customer centricity

The central argument in customer centricity is that every decision begins with the customer (Grönroos, 1982). Customer centricity aims to fulfil the needs and wants of each individual customer (Sheth et al., 2000) by ensuring the customer need and fit for any new service offering (De Brentani, 2001). Gummesson (1979) and Grönroos (1978) explain that the role of the customers is central in their participation as co-producers in the service production process. Overall, '*customer centricity is seen in the literature as the art of establishing and strengthening distinctive customer relationships and as the cornerstone of key value creation processes*' (van den Hemel & Rademakers, 2016, 212). Customers create value for customers and value capture for organisations (Hemel & Rademakers, 2016), and they ensure the financial success of an organisation (Rust et al., 2004).

Despite the importance of customer centricity (Gummesson, 2008), several organisations still struggle to become customer centric (van den Hemel & Rademakers, 2016; Shah et al., 2006). As mentioned earlier, historically, organisations tended to be product centric. To become customer centric, organisations need to think in a radically new way in which the organisation places itself strategically around customers and their requirements (Hemel & Rademakers, 2016).

Enablers in customer centricity

Customer-centricity demands constant attention to customers and their changing needs and to how organisations can improve their decisions and activities to increase value creation for the customer (Hemel & Rademakers, 2016). Initially, organisations need the ability to deeply understand customers' needs. In doing so they can better understand how to develop products, solutions or services (van den Hemel & Rademakers, 2016; Lamberti, 2013; Shah et al., 2006). The literature outlines four main factors necessary for developing customer centricity and achieving successful outcomes. First, processes can be enhanced by training employees to think and act with customers constantly in mind (Shah et al., 2006). Second, customer centricity can be improved by upgrading the structure, processes (van den Hemel & Rademakers, 2016; Shah et al., 2006) and metrics of an organisation (Lamberti, 2013; Shah et al., 2006). Third, organisational culture can benefit from the adoption of customer centricity (Kumar et al., 2006.; Shah et al., 2006; Sheth et al., 2000). Fourthly, Lamberti (2013) suggests enhancing customer centricity by moving away from traditional functional silos[5] to cross-functional teams with shared goals and metrics.

In customer-centricity, the role of customer collaboration is central (Falk et al., 2010; Toivonen & Tuominen, 2009). In other words, the main principle is that, from the start and throughout the innovation process, there is a customer focus (Falk et al., 2010; Toivonen & Tuominen, 2009). This is particularly the case in service organisations that tend to interact with customers at all stages of service development since the processes of service creation and service utilisation often happen simultaneously (Edvardsson et al., 2018). Collaboration with customers enables the transfer of complex unspoken knowledge from customers (Ryzhkova, 2015) and enables organisations to learn with them throughout the process of service development (Falk et al., 2010; Toivonen & Tuominen, 2009). Overall, close collaboration with customers in the service innovation process benefits the organisation

---

[5] A part of organisation or system that does not communicate with, understand, or work well with other parts (Cambridge Dictionary, 2021).

(von Hippel, 1976). However, the path towards customer centricity using customer collaboration tends to be long and requires management to have a clear view of the procedure (van den Hemel & Rademakers, 2016; Ryzhkova, 2015).

2.3.3 Customer collaboration

Collaboration with customers is often interactive (Aarikka-Stenroos & Jaakkola, 2012), and it requires activities that go beyond listening to or learning from customers (Wouters & Kirchberger, 2015). Research has shown the benefit of utilising various approaches and methods throughout the service innovation process to gain close collaboration with customers (Ryzhkova, 2015). In addition, concepts from service marketing and management literature such as co-creation, service-dominant logic and service design can enable a better understanding of service innovation procedures and assist in identifying how to enable the implementation of customer centricity using customer collaboration (Heinonen et al., 2010). Therefore, these concepts are discussed in relation to customer collaboration below.

2.3.4 Co-creation

Co-creation can be considered as an evolution of customisation[6] philosophy, a collaboration between customers and organisations (Heinonen et al., 2010) in which value is co-created for at least two entities (Maglio et al., 2009). In co-creation, the customer is an active collaborator right from the beginning of the innovation process (Kristensson et al., 2008). Prahalad and Ramaswamy (2000) explain that customers are willing to shape their experiences by engaging in collaboration and co-development with other customers as well as other stakeholders. Customers do not merely passively accept a product or a service. They play a role in strengthening innovation and creating value (Aarikka-Stenroos & Jaakkola, 2012; Hakanen & Jaakkola, 2012). Ramaswamy & Gouillart (2010,

---

[6] Customisation refers to that customers are involved in the design and creation process. Customers are leading organisations towards customizations with their products or services (Lampel & Mintzberg, 1996).

206) explain that co-creation should be structured to ensure delivery of the desired outcomes for both the organisation and the customer *'every time they interact'*.

In the co-creation process, the customer is a value 'co-creator' (Lusch & Vargo, 2006b). Co-creation suggests that value is generated jointly between the customer and the organisation (Maglio et al., 2009; Torres et al., 2018). If a customer is involved in the production of a product or service, the end value is enhanced because the customer can tailor the product or service to their exact requirements (Kristensson et al. 2008). However, it should be noted that deep interaction is often needed to gain an understanding of the customer's needs as the customer may not be able to describe their needs explicitly (Hakanen & Jaakkola, 2012). The co-creation of value occurs when the customer's hidden needs are discovered (Kristensson et al., 2008). In other words, customers are not always able to explain or are aware of their needs, but co-creation methods and tools, such as well-structured workshops, games or facilitators can reveal customers' hidden needs. Organisations should also not assume that the value in their products is acceptable to their customers (Michel et al., 2008). Instead, when co-creating, customers are invited to share their experiences and knowledge (Lusch et al., 2007). There should be a dialogue with diverse and evolving customers (Prahalad & Ramaswamy, 2000).

Co-creation can also focus on collaboration with other stakeholders (not only customers) and on creating value for them (e.g. universities, suppliers or competitors) (Ind et al., 2017; Markovic & Bagherzadeh, 2018). However, most empirical studies on co-creation have focused on investigating interactions and relationships between organisations and customers (Gyrd-Jones & Kornum, 2013). Several authors have argued that there is a need to involve numerous stakeholders to receive full benefit from co-creation activities, especially in regard to innovation performance (Hakanen & Jaakkola, 2012; Loureiro et al., 2020; Mačiulienė & Skaržauskienė, 2016; Markovic & Bagherzadeh, 2018). For instance, other stakeholders can co-create services or products with customers despite customers not being aware that these products or services might be useful to them. The development of co-creation enables organisations to connect with customers and with other stakeholders to share experiences (Ind et al., 2013). Therefore, organisations should involve all key external stakeholders in their co-creation projects, rather than just customers. This is because many organisational outsiders can provide ideas for the co-creation of products or services (Ind et al., 2013).

Overall, co-creation can be used to facilitate the collaboration process by connecting people from different silos and bringing them together (Teixeira et al., 2019). In co-creation, value creation is central when collaborating with stakeholders, as set out in the service-dominant (S-D) logic concept. This concept suggests going a step further by mapping the stakeholder's role in value co-creation.

2.3.5 Service-Dominant (S-D) logic

Vargo and Lusch (2004b) developed a comprehensive foundation for S-D logic. S-D logic is a theory of exchange in economics that shifts the focus from the transfer of tangible goods to the process of service exchange (Lusch & Vargo, 2006a)[7]. Central to S-D logic is an understanding that service is the essential component of the exchange and not a particular form of exchange, such as 'what goods are not' (Vargo & Lusch, 2004a). In other words, '*goods also render service and have value in use*' (Ballantyne & Varey, 2008, 1).

Furthermore, S-D logic highlights the value-creation process that occurs when a customer consumes or uses a product or service rather than when the output is manufactured. S-D logic implies that the customer is always a co-creator of value (Vargo & Lusch, 2008) by placing customers at the same level of importance as the organisation as co-creators of value (Payne et al., 2008). This underpins the development of customer–supplier relationships through interaction and dialogue (Payne et al., 2008). S-D logic provides motivation and ideas for enhancements that continually strive to co-create a more marketing-grounded understanding of value and exchange (Lusch & Vargo, 2006). S-D logic also emphasises the collaborative nature of value creation (Grönroos, 2011a). It calls for direct interactions with the customers in value creation and particularly in joint value creation, where organisations and customers co-create value together (Grönroos, 2011b). This also implies the concept of 'service logic' for marketing introduced Grönroos, (2006) which is very similar to S-D logic but according to Grönroos, (2006) it fits best the context of goods.

Since the establishment of S-D logic in 2004 (Vargo & Lusch, 2004), the concept has developed, and its focus has broadened the perspective from that of value creation with customers to that of value creation with other stakeholders in service systems. A service system is defined as a '*configuration of people, technologies, and other resources that interact with other service systems to create mutual value*' (Maglio et al., 2009, 397). In service systems, the variety of resources is limitless, and the service systems are never entirely closed. Therefore, many service systems can combine to make a larger service ecosystem (Vargo & Akaka, 2012).

---

[7] It should be noted that the term 'goods' is used often in service innovation literature especially related to the theory of S-D logic and the term 'product' is usually used in the open innovation literature capturing the same purpose.

In S-D logic, the definition of a service ecosystem emphasises the role of multiple organisations collaborating in services (Vargo & Lusch, 2016). Vargo and Akaka (2012) explain that the 'service ecosystem' concept can offer a framework for studying service systems or collaboration and value co-creation among multiple service systems. In general, service ecosystems are temporary structures of loosely joined, value-proposing social and economic actors interacting with each other to (1) co-produce service offerings, (2) engage in shared service delivery, and (3) co-create value (Vargo & Lusch, 2011). Overall, service ecosystems in S-D logic emphasise value co-creation in service innovation (Vargo & Akaka, 2012) as a collaborative process occurring in service networks (Lusch & Nambisan, 2015). However, it should be recalled that this study does not focus on ecosystems in services even though it is related to this study (as also noted on page 23). The research attention of the present study is on internal organisational development in the public and private case study organisations using the open innovation approach in services and therefore draws knowledge from temporary multiple concepts of service ecosystem.

S-D logic in the public sector is investigated by Osborne et al. (2013). They introduce the 'public service-dominant' concept to reflect public sector management. This concept provides useful insights into public sector services (Alford, 2016; Farr, 2016; Osborne, 2018; Osborne et al., 2014; Westrup, 2018), such as the active role of the citizen as the necessary condition of public service delivery (Osborne et al., 2013, 2016). However, 'public service-dominant' concept is still less developed research area. Therefore, this could be a potential angle for future research (i.e. to explore the public sector with regard to service innovation) as the public sector innovation lacks research knowledge (see Section 2.4.2). However, it is helpful to remember (see Section 2.3.1) that in marketing and management literature the word 'innovation' is frequently used and literature can refer to 'service planning and delivery' for instance (e.g. Bovaird, 2007; Farr, 2016; Westrup, 2018).

Since service design plays a role in fostering service innovation (Kimbell, 2011; Ostrom et al., 2015; Prestes Joly et al., 2019) and also influences the S-D logic service system with respect to the wider service ecosystem (Vink et al., 2020)**,** it is discussed in the next section.

2.3.6 Service design

The central aim of service design is to achieve customer collaboration in the service experience through a focus on 'service touchpoints', 'service moments' or the 'customer journey' (Stickdorn, 2010). Service design can be defined as the whole progression of service innovation from the idea to

the final specification (Goldstein et al., 2002; Zeithaml, 2009). Service design can be part of S-D logic service systems and service ecosystems, mainly enabling customer centricity and customer collaboration. However, it should be noted that an adequate understanding of how S-D logic perspectives connect service design to service innovation has not yet been fully developed (Vink et al., 2020; Wetter-Edman et al., 2018).

Service design is an interdisciplinary approach combining different methods and tools from various disciplines (Stickdorn & Schneider 2010). The '*fundamental step toward overcoming knowledge silos and leveraging the role of service design in service innovation is to identify, systematise and characterise multidisciplinary perspectives on service design*' (Prestes Joly et al., 2019, 684). For instance, service design can involve any individuals from personnel, designers, and executives to customers working collaboratively and being practice-orientated (Kurtmollaiev et al., 2018). Overall, service design plays a key role in service innovation as it brings new service ideas to life mainly through collaboration with customers in various ways (Ostrom et al., 2015).

Ojasalo and Ojasalo (2018) introduce an outline of the service innovation process and the methods used in service design: (1) map and understand, (2) forecast and ideate, (3) model and evaluate and (4) conceptualise and influence. Every stage in the services design process can take steps back or start again, aiming to learn from each mistake or to capture the successful development phase of a previous iteration (Stickdorn & Schneider 2010). Service design contributes an iterative process perspective to service innovation in which the literature might identify a particular service design process, for instance prototyping, delivering or designing (Kimbell, 2011). Service design involves practical methods. Organisations can, for instance, conduct in-depth ethnographical research, using various other methods to interview customers and to collaborate in the design process, thereby generating new ideas for service innovation (Ojasalo & Ojasalo, 2018). Service design utilises the concept, introduced earlier, of co-creation as a way of interacting with stakeholders in the service innovation process (Ojasalo & Ojasalo, 2018). In addition, visual illustration is usually part of the design process (Kimbell, 2011). The service design approach integrates design thinking (and design methods) into a service perspective (Wetter-Edman et al., 2014).

Service design is inextricably linked with service innovation (Antons & Breidbach, 2018; Ostrom et al., 2015). Sometimes, the distinction between service design and service innovation is blurred (Patricio et al., 2018). Overall, service design plays a key role in service innovation as it brings new service ideas to life (Ostrom et al., 2015) by revealing the needs of the customer, by designing services

with the customer's needs in mind and by translating these needs into a service (Strandvik et al., 2012).

2.3.7 Summary of service innovation

Service innovation as a process is described as being fuzzy, iterative (Toivonen & Tuominen, 2009), chaotic, less standardised (den Hertog et al., 2010) and complex (Goffin & Mitchell, 2017). As a result of the above-mentioned complexities, service innovation remains poorly understood (Antons & Breidbach, 2018; Patricio et al., 2018; Snyder et al., 2016) and the literature on product innovation contributes little to the service innovation literature due to its different focus (Gallouj & Weinstein, 1997). Therefore, this section aims to clarify what we mean by service innovation for the purposes of this research.

The fundamental aspect of service innovation is customer centricity (Patricio et al., 2018). In customer-centric organisations, every decision begins with the customer (Grönroos, 1982), an aim that some organisations can find challenging (van den Hemel & Rademakers, 2016; Shah et al., 2006). The literature proposes some enablers that facilitate customer centricity such as training of personnel (Shah et al., 2006), the development of an organisation's structure and process (van den Hemel & Rademakers, 2016; Shah et al., 2006), metrics (Lamberti, 2013; Shah et al., 2006), the development of organisational culture (Kumar et al., 2006., Shah et al., 2006; Sheth et al., 2000) and the encouragement of multidisciplinary working (Lamberti, 2013). These enablers offer companies a practical perspective towards customer centricity.

Customer collaboration is a consistent activity in customer-centric organisations. Its purpose throughout the service innovation process mainly involves collaboration with customers (Falk et al., 2010). This collaboration is evident in the aim of service organisations (Edvardsson et al., 2018), namely to transfer knowledge from customers to the organisation (Ryzhkova, 2015). The service marketing and management literature highlights that, when collaborating with customers, co-creation is useful (Kristensson et al. 2008).

Co-creation is a concept that is centrally connected to service innovation. It involves active collaboration throughout the innovation process (Kristensson et al., 2008) with customers and organisations (Heinonen et al., 2010) during which value is co-created (Maglio et al., 2009), and the customer is a value 'co-creator' (Lusch & Vargo, 2006b). This value is generated between the customer and the organisation (Maglio et al., 2009; Torres et al., 2018). Ultimately, it is a service offering that creates

value for one or more actors in a service network (Patricio et al., 2018). Although most research on co-creation focuses on customers, some studies also introduce co-creation with other stakeholders (Ind et al., 2017; Markovic & Bagherzadeh, 2018). When organisations involve several stakeholders in the service innovation process, it is even more beneficial for customers and organisations (Hakanen & Jaakkola, 2012; Loureiro et al; 2020; Mačiulienė & Skaržauskienė, 2016; Markovic & Bagherzadeh, 2018). This is because the involvement of additional stakeholders can facilitate many ideas during the co-creation process (Ind et al., 2013).

An analysis of the current research in this chapter show that co-creation can also be viewed from the perspective of S-D logic where '*the customer is always a co-creator of value*' (Vargo & Lusch, 2008, 3). It is clear that S-D logic focuses on the value creation process by placing the customer at the same level of importance as the organisation as a co-creator of value (Payne et al., 2008). S-D logic (Vargo & Akaka, 2012) as well as the concepts of service ecosystems (Vargo & Lusch, 2016) and 'public service-dominant' (Osborne et al., 2013), promote value creation with other stakeholders in service systems. Overall, these concepts use customer centricity to connect multiple stakeholders (Vargo & Lusch, 2016).

The approach and methods of service design introduce a practical perspective to realising service ecosystems, S-D logic and co-creation. Service design involves the whole process of service innovation from the idea to the final specification (Goldstein et al; 2002; Zeithaml, 2009). Today, service design reinforces a specific aspect of the S-D logic service system, and ecosystems. This aspect involves working in isolation rather than working with the complexity of the systems as a whole (Vink et al., 2020). However, service design can be used to unite several stakeholders as active partners in the service innovation process (Ojasalo & Ojasalo, 2018).

Although service innovation as a research area is perceived as a multidimensional field under continuous development (Ostrom et al., 2015) in which customers are the central focus, it is important to note that the literature also acknowledges that it is not appropriate to focus only on customers. There are other stakeholders to consider, and there is a need to focus on customers as well as other stakeholders (Vargo & Akaka, 2012), as highlighted in this section.

It is useful to recall that organisations may implement various types of innovations (see Section 2.1) which impact innovation management. However, innovation management also varies according to the type of organisation. Therefore, in the following section innovation management in the public and

private sector organisations is introduced. Furthermore, the following section explains that there is a link between the geographical location of an organisation and its success in innovation.

2.4 Innovation management in the private and public sector

To understand the potential differences or similarities between innovation in the private and public sectors, the focus needs to be on the organisational aspects of innovation, i.e. the creation or adaptation of an idea or a behaviour new to an organisation (Damanpour & Evan, 1984), focusing on the organisation's ability to develop itself and its external relations (Fagerberg et al., 2005). Innovation expresses the ability of the organisation to innovate in the areas of development and implementation (Damanpour, 1996). Innovation in organisations has been defined both as a discrete outcome and as a process (Damanpour & Aravind, 2012). Innovation processes refer to the tasks and activities connected with product or service development and innovation outcomes refer to the functionalities related to a new product or service (Nambisan, 2013). Overall, innovation in organisations focuses on internal innovation development within an organisation where environment pressure from outside an organisation requires innovation that is in harmony with the organisation's strategic goals (Bossink, 2004; Goffin & Mitchell, 2017).

The following sections review the literature on innovation from the perspective of areas which are relevant to this study. Innovation management in the private and public sectors is explored, particularly specific features in private and public sector innovation as well as the role of geographical location.

2.4.1 Innovation in the private sector

The private sector can be defined as organisations owned by shareholders (Bommert, 2010). These organisations are profit-orientated, and they depend on economic systems and market forces (Bommert, 2010; Chen et al., 2020; Moore & Hartley, 2008). In private organisations, owners and shareholders have a direct financial incentive to monitor and control the behaviour of managers (Moore, 2000). Similarly, managers are likely to benefit from better organisational performance, either because they are shareholders or because their remuneration is linked to financial success (Makri et al., 2006; Moore, 2000).

It is challenging to identify universal features in private sector innovation as there are so many differences among private organisations, for example, in terms of industry, strategy, process (Negassi et al., 2019). However, when comparing private and public organisations, some distinct differences can be identified with regard to innovation. Moore (2000) argues that the differences between private and public organisations are so great that innovation practices should not be transferred from one to another. In contrast, some studies argue that the private and public sectors resemble each other closely (Chen et al., 2020; Rainey & Bozeman, 2000). There seems to be disagreement among scholars about the similarities between private and public sector organisations in relation to innovation. Therefore, in the following section, specific features of innovation in the private sector in comparison to innovation in the public sector are reviewed.

Private sector compared to public sector innovation features

Three main unique features distinguish private sector innovation from public sector innovation. First, the financial aspect is central in private sector innovation. In private sector organisations profit is the dominant goal in innovation, with pressure and motivation stemming from market competition (Albury, 2005; Cankar & Petkovšek, 2013). Innovation is undertaken to help cut costs, improve productivity and keep up with the competition (Cankar & Petkovšek, 2013). Owners and shareholders have a direct financial interest in monitoring and driving financial benefit from innovation (Moore, 2000; von Hippel & von Krogh, 2006). In contrast, public sector innovation focuses on helping society by offering services for the common good; the financial aspect is not central, though costs are still a key aspect (Buchheim et al., 2020; Moore & Hartley, 2008).

The second distinguishing feature of private sector innovation is that competition stimulates innovation and its diffusion[8]; therefore, diffusion can be fast (Albury, 2005). For example, the transformation of major aspects of the banking and financial services sector to online services has been rapid (Albury, 2005). On the other hand, spreading or sharing innovation is not taken as much for granted in the private sector as it is in the public sector. Thus, in the private sector competition between organisations can both encourage and hinder the diffusion of innovation (Boyne, 2002).

---

[8] Diffusion of innovation is a process in which innovation is communicated through certain channels over time (Rogers, 2003). In other world, the spread of good practice and the adaptation of existing innovations to a different context (Hartley, 2005).

The third distinguishing feature is that policymakers have more of a direct impact on innovation in the public sector than in the private sector. Public and private sectors are exposed to different institutional environments where public organisations are more controlled by policymakers than private actors (Rainey & Bozeman, 2000). A country's innovation policy relating to National and Regional Innovation Systems (see Section 2.4.3) can influence the private sector over time. The private sector does not need to directly consider the role of policymakers and publicness[9] in the innovation process in the way public sector does (Boyne, 2002; Cankar & Petkovšek, 2013) and therefore its decision-making process can be faster in comparison to the public sector.

As the above discussion illustrates, there are some differences between the private sector and the public sector. Analysis of private and public sector innovation has important implications for current theories and practical issues in various organisations (Rainey & Bozeman, 2000). The differences are mostly associated with ownership and financial benefit. In Table 1, the common features of private sector innovation are summarised.

---

[9] Publicness refers to public organisations being public and open about their work content (Moulton, 2009).

Common features in **private sector organisation innovation**	Author(s)
The private sector pursues profit as a goal of innovation with pressure and motivation coming from market competition	Albury, 2005; Bommert, 2010; Cankar & Petkovšek, 2013; Chen et al., 2020; Moore & Hartley, 2008.
In private organisations, owners and shareholders have a direct financial incentive to monitor and control organisations	Albury, 2005; Moore, 2000; Von Hippel & Von Krogh, 2006.
Managers are likely to benefit from successful innovation either because they are shareholders or because their remuneration is linked to financial success	Bullock et al., 2015; Makri et al., 2006; Moore, 2000; Von Hippel & Von Krogh, 2006.
The driver of the diffusion of innovation in the private sector is the pressure of market competition	Albury, 2005; Boyne, 2002; Fagerberg et al., 2005; Rainey & Bozeman, 2000.
Innovation plays an important role in the private sector in terms of competitiveness	Cankar & Petkovšek, 2013; Fagerberg et al., 2005; Negassi et al., 2019; Rainey & Bozeman, 2000.
The influence of policymakers on the private sector is indirect	Boyne, 2002; Cankar & Petkovšek, 2013; Fagerberg & Srholec, 2008; Rainey & Bozeman, 2000.

Table 1 *Common features of private sector innovation.*

Common theories of innovation management are shaped mostly by studies of the private sector; yet they are often applied to all types of organisations (Chen et al., 2020; Damanpour & Aravind, 2012), despite the fact that the nature of organisations impacts innovation (Chen et al; 2020; Damanpour, 1991). Therefore, the following section reviews public-sector organisations in connection with innovation.

2.4.2 Innovation in the public sector

The public sector consists of organisations that are either state owned or under contract to the state (Flynn & Asquer, 2012). These organisations are collectively sustained by members of political communities and largely funded by taxation (Boyne, 2002; Flynn & Asquer). Public organisations aim to

achieve overall efficiency and responsiveness to the needs of the public (Moore & Hartley, 2008). Albury (2005, 51) states that the '*steady flow of innovations is essential to sustain improvement in the delivery of public services*'. The public sector exploits the potential of organisational settings to achieve widespread improvements in governance, society and service performance, thereby creating value for the public (Moore, 1995)[10].

Public sector compared to private sector innovation features

There are several unique distinguishing features in the public sector compared to the private sector. Yet it is useful to recall that classifications of public service innovation are largely derived from a private sector perspective (Chen et al., 2020). The public sector serves society as a whole by increasing fairness and justice and offering services for the common good (Buchheim et al., 2020; Moore & Hartley, 2008). Innovation in the public sector can be related to products, processes, institutional architecture, new ways of acting, the introduction of new methods, tools or organisations adopted by governments to achieve their goals (Ţigănaşu et al., 2019). However, innovation in the public sector also seeks to improve or create new services rather than pursuing change in a physical object[11](Moore & Hartley, 2008) and it often takes the form of a change in the relationship between service providers and their customers, i.e. citizens (Bommert, 2010; Hartley, 2005). It has been noted that despite public service improvements being a crucial matter for citizens, relatively little research has been conducted on the process of public sector innovation (Kusumasari et al., 2019).

Public sector innovation presents a dilemma for politicians in supporting innovation (Raipa & Giedraityte, 2014). While they wish to support positive improvements, politicians are also aware of the possibility of a highly visible failure in public services that could attract media interest or inadvertently serve the interests of opposing parties (Hartley, 2005; Raipa & Giedraityte, 2014). They are also aware that innovations have a high risk of failure (Albury, 2005). Therefore, the public sector tends to be cautious regarding innovation (Borins, 2001) given the inherently risk-averse organisational culture that can typify many public sector organisations (Raipa & Giedraityte, 2014; Torugsa

---

[10] Kwon et al. (2019) provide an additional point of consideration, namely that innovation in the public sector also depends on the structure of a country's economy, for instance, whether it is a socialist or capitalist country. The focus of this research is on innovation in a capitalist economy, since all case studies are Finnish.

[11] Physical objects (products) can also be platforms for services or mechanisms for service offerings (Edvardsson et al., 2005).

& Arundel, 2017). In contrast, Patrucco et al., (2022) found that a clear connection with the innovation policy strategy used normally does not seem to be present during crises. Creative minds and imagination are needed with openness as good ideas can come from anywhere to address a crisis (H. Chesbrough, 2020).

Another issue is how to incentivise and encourage innovation in the public sector. Traditionally, public sector employees have not been financially rewarded for innovation. Typical public sector incentive is a rather small fund intended to support innovation development (Borins, 2001). According to Cankar and Petkovšek (2013) and Raipa and Giedraityte (2014), the barrier in public sector innovation is the lack of funding. Public sector employees do not usually obtain direct financial benefits from higher organisational efficiency (Boyne, 2002). Bullock et al. (2015) found that showing public employees the impact of their work on the well-being of others and society is important and the result is that '*Employees indeed become socialized with public sector values through their career in the public service*' (Krøtel & Villadsen, 2016, 180). However, incentive systems that emphasise such motives and rewards are also needed (Bullock et al., 2015). Private sector employers, particular managers, are likely to financially benefit from higher organisational efficiency (Moore, 2000) and they are more motivated by financial rewards (Bullock et al., 2015).

As a consequence of the factors noted above, some have drawn the conclusion that the public sector is incapable of implementing significant innovation (Boarman & Vining, 1989; Mergel & Desouza, 2013). Nevertheless, a demand exists for the public sector to be more innovative (Al-Mansour, 2021) despite the observation by Borins (2001) that society does not really want the public sector to be as innovative as the private sector (Borins, 2001).

One key differentiator of public sector innovation is the role of diffusion. Diffusion to other organisations is an explicit feature of public sector innovation (Hartley, 2005; Rashman & Hartley, 2002). The diffusion of innovations to other public organisations is needed to improve the quality and efficiency of services across the public sector (Hartley, 2005). Indeed, it is not adequate to only generate innovation practices in the public sector but also to spread them and implement these practices in other settings (Chesbrough & Minin, 2014; de Vries et al., 2018). In comparison, private organisations are owned by shareholders, and competition is one of the main drivers of innovation (Boyne, 2002).

Collaboration with stakeholders in the public sector

Stakeholder collaboration has been seen to enhance innovation (Bessant & Tidd, 2020; Ţigănaşu et al., 2019; Tucci et al; 2016; Vargo et al., 2015), particularly in public sector innovation (Chen et al., 2020; De Vries et al., 2016; Mergel, 2015; Sørensen & Torfing, 2011). Freeman (1984) defines stakeholders as any group or individual that can affect the achievement of an organisation's objectives or that is affected by the achievement of an organisation's objectives. Collaboration is defined as forming links between different types of organisations, industries and public institutions, aiming to address the challenges and opportunities that cannot be realised or are hard to realise within a single organisation (Cankar & Petkovšek, 2013).

The number of public organisations encouraging good ideas and seeking new ways to deliver public services is growing (Chen et al., 2020; Hartley, 2005). Instead of innovating in isolation, the public sector is attempting to make maximum use of external knowledge sources to add value to its organisations because innovation is not always generated internally (Chen et al., 2020; Lee et al., 2012). Mergel (2015, 2018) and Ooms & Piepenbrink (2021) explains that public sector organisations use an open innovation approach to recognise and achieve the benefits of collaboration. Bertello et al., (2022) and Patrucco et al. (2022) found that the tendency to utilise the open innovation approach increased during COVID 19 periods to stimulate the launch of new products and services to leverage distributed knowledge sources that go beyond what is available to any single organisation. However, it should be noted that research to utilise open innovation in the public sector related to COVID 19 focuses on the context of crisis events, which is not the focus of this thesis.

In contrast, Mu & Wang (2020) explain that the concept of open innovation is relatively new in the public sector but not the idea of stakeholder collaboration to help solve problems. In practice, an increasing number of public organisations are seeing the benefits of innovating in collaboration with others (Chen et al., 2020). As a result, policymakers, citizens and other stakeholders are all playing an increasing part in the process of innovation to create public value (Alford & Greve, 2017; Bason, 2018).

Policymakers are one stakeholder in public sector collaboration where innovation can be introduced as part of a policy cycle (Mergel & Desouza, 2013; Westrup, 2018). Based on their political mandate, public sector organisations have to respond by implementing the required changes to their service delivery (Mergel & Desouza, 2013; Westrup, 2018). A political mandate guides public sector organisations to develop, abandon, or create a new public service (Mergel & Desouza, 2013; Sørensen &

Torfing, 2011)[12]. Accordingly, the form of government has an impact on the innovation policy of public organisations (Franzel, 2008). Despite the fundamental role of government in public sector innovation, only a limited amount of research has focused on the relationship between the public sector innovation process and the government role in it (Ţigănaşu et al., 2019), meaning in this case the involvement of citizens in the governance of services and innovation development (Hartley, 2005). Consequently, the public sector needs to consider the role of citizens and policymakers in the innovation process.

The public sector, particularly in the Nordic countries, started to see citizens as customers in the 1980s (Edvardsson et al., 2010). Since then, the public sector in many countries has realised that problems can be solved faster and more effectively by harnessing the knowledge of their citizens (Lee et al., 2012). Treating citizens as customers has been one of the key elements in transforming public services (Hilgers & Ihl, 2010). Today citizens play a major role as co-producers of services in the public sector (Bovaird, 2007; Hartley, 2005; Paskaleva & Cooper, 2018; Ţigănaşu et al., 2019). Furthermore, customers in the public sector have obligations, such as the requirement to pay taxes. They also have rights, such as the right to receive free or low-cost services which are primarily funded through taxes (Gummesson, 2008).

However, it can be challenging to achieve a balance between citizens and policymakers in the innovation process. This can create a complex and uncertain environment (Tidd, 2001). According to Boyne, (2002) this can create situations in which goals of public organisations' innovation are more vague than those of their private counterparts. To collaborate with various stakeholders in the public sector requires an organisational culture of creativity and diversity as well as a clear direction from leadership (Albury, 2005; Ţigănaşu et al., 2019).

Public organisations have rules and regulations that govern their interactions when collaborating with stakeholders (Mergel & Desouza; 2013; Raipa & Giedraityte, 2014). For instance, public procurement procedures must be carried out in accordance with national procurement legislation (Feller et al., 2011) and, in countries within the European Union, in accordance with the procurement directives (Ţigănaşu et al., 2019). These requirements can be time-consuming and thereby impact decision-making processes in collaboration with others (Cankar & Petkovšek, 2013) as well as the bureaucracy

---

[12] However, Patrucco et al. (2022) found in their study that the innovation policy strategy used normally did not seem to be present during the COVID 19 crisis.

as a whole (Boyne, 2002; Sørensen & Torfing, 2011; Windrum & Koch, 2008). Therefore, stakeholder collaboration in public organisations might be viewed as complex (Mergel & Desouza, 2013).

In contrast, Boyne (2002, 100) explains that public organisations are '*open systems'* that are easily influenced by other stakeholders. Innovation in the public sector focuses on a continuous process of interaction and negotiation among various stakeholders with an emphasis on customer orientation (Bovaird, 2007; Lee et al., 2012). Ţigănaşu et al. also support this by stating that '*making governments more open towards citizens, promoting a collaborative approach, and improving transparency and communication strategies should clearly be key coordinates of good governance*' (Ţigănaşu et al., 2019, 115). This view is collaborated by Radnor and O'Mahoney (2013), who explain that consultancies are frequently used in the public sector. Therefore, it can be seen that the literature supports the idea that the public sector is open to stakeholder collaboration.

It should be noted that institutional factors vary widely across public organisations, affecting their capacity to innovate (Lonti & Verma, 2003). Indeed, individual factors in public organisations make it difficult to extract generalisable findings (Buchheim et al; 2020; Radnor & O'Mahoney, 2013). Al-Mansour (2021) supports this view by explaining that the innovation concept in the public sector is still fragmented. However, as discussed, there are common features in public sector organisations with regard to innovation. Table 2 summarises these features.

Common features in **public sector organisation innovation**	Author(s)
Public sector innovation aims to improve or create new services to address the needs of the public	Bommert, 2010; Bovaird, 2007; Djellal et al., 2013; Hartley, 2005; Kankanhalli et al., 2017; Lee et al., 2012; Moore & Hartley, 2008; Moreira et al., 2020; Paskaleva & Cooper, 2018; Sørensen & Torfing, 2011.
The public sector has an organisational obligation to serve public interest by increasing fairness and justice and by offering services for the common good through innovations that are high impact for the society	Boyne, 2002; Buchheim et al., 2020; Damanpour and Schneider, 2009; Moore and Hartley, 2008; Rainey & Bozeman, 2000.
Public sector innovation can be introduced through the policy cycle and therefore policymakers play a role in the innovation process	Franzel, 2008; Heimstädt & Reischauer, 2019; Mergel & Desouza, 2013; Torugsa & Arundel, 2017; Ţigănaşu et al., 2019; Westrup, 2018.
Citizens (customers) are playing a growing role as co-producers of public services	Bovaird, 2007; Chen et al., 2020; Hilgers and Ihl, 2010; Kankanhalli et al., 2017; Lee et al., 2012; Mergel & Desouza, 2013; Mergel, 2018; Paskaleva & Cooper, 2018; Ţigănaşu et al., 2019.
Other stakeholders' (not only customers') collaboration can enhance public sector innovation	Bovaird, 2007; Lee et al., 2012; Ţigănaşu et al., 2019; Tate et al., 2018.
Public organisations have rules and regulations that govern their interactions when working with various stakeholders	Boyne, 2002; Bullock et al., 2015; Boarman & Vining, 1989; Mergel & Desouza, 2013; Mergel & Desouza, 2013; Sørensen & Torfing, 2011.
The open diffusion of innovations to other organisations is a specific feature of the public sector	Hartley, 2005; Torugsa & Arundel, 2017; Rashman & Hartley, 2002.
The public sector is more cautious about innovation than the private sector due to the organisations' public nature	Borins, 2001; Hartley, 2005; Raipa & Giedraityte, 2014; Torugsa & Arundel, 2017.
Public sector employees are not financially rewarded for innovation	Alford & Greve, 2017; Boyne, 2002; Borins, 2001; Bullock et al., 2015.

Table 2 Common features in the public sector organisation.

In the following section, the geographical location of an organisation and its influence on innovation is discussed.

2.4.3 The geography of innovation

Research shows that there is a link between the physical location – both in terms of regional and national context – of an organisation and its approach to innovation (Fagerberg & Srholec, 2008). For example, Salter & Alexy, (2014) note that there can be an intensity of innovation activity when certain types of organisations are concentrated geographically and where various stakeholders can readily collaborate. Fagerberg et al. (2005) state that innovation literature's central finding is that organisations do not innovate in isolation but depend on extensive collaboration with their environment. This implies the existence of regional as well as national differences in how innovation is adopted and supported (Lundvall, 1992). The quality of National and Regional Innovation Systems and good governance are also widely acknowledged as important for countries seeking sustainable economic growth (Fagerberg & Srholec, 2008).

A National Innovation System (NIS) is a network of institutions in the public and private sectors, supported by a country's government, whose activities and interactions determine the innovative performance of the country (Freeman, 1995). NIS boundaries are one nation with a common culture, history and language, as well as shared social and political institutions (Lundvall, 1992). In contrast, in a Regional Innovation System (RIS), the focus is on innovation activities in a specific region (Andersson & Karlsson, 2002). At a regional level, distance tends to decrease the interaction among individuals, and regions characterise their innovation approaches and fields of specialisation differently (Andersson & Karlsson, 2002). Overall, it can be said that the country and region in which an organisation is located affects possibilities and the ability to innovate.

The success of organisations in innovating is related to the structure and performance of NIS and the RIS (Fagerberg & Srholec, 2008; Freeman, 1987). Certain national and regional innovation systems are known for their ability to become successful in supporting innovation in organisations, such as Taiwan at the national level and Silicon Valley at the regional level. These two examples are known for their favourable geographic locations that support the enhancement of innovation through effortless stakeholder collaboration (Hobday, 1995). Within organisations, the location plays an important role in enabling the effective flow of knowledge between people that is necessary to foster innovation in a collaborative environment (Salter & Alexy, 2014). Geographical location played a role when

choosing the case studies (see Section 3.2.2) and impacted on innovation management in the organisations.

2.5 Summary of innovation management in the private and public sector

This section has provided an overview of the management, nature and role of innovation in private and public sector organisations as well as the geographical impact on an organisation's ability to innovate (Freeman, 1995; Lundvall, 1992). In both private and public types of organisations, innovation is an issue of considerable significance. However, current innovation literature mostly focuses on the private sector (Hartley, 2005). It is also noteworthy that innovation management varies depending on the characteristics of the organisation (Fagerberg et al., 2005). Hence, when private sector innovation research knowledge is transferred to the public sector, it is not necessarily readily applicable. Therefore, this study focuses on researching parallel case studies in the private and public sectors.

In the public sector, the purpose of innovation is mostly to increase fairness and justice, encourage citizen participation, create new services for citizens in response to their needs and contribute to the welfare of individual people (Moore & Hartley, 2008). In the private sector, the purpose of innovation is to increase competitiveness and financial benefit (Albury, 2005; Cankar & Petkovšek, 2013). Other differences in innovation between the public and private sectors include ownership, funding and economic control (Boyne, 2002; Moore, 2000). In the private sector, owners and shareholders have direct financial incentives to monitor and control organisations (Moore, 2000). The public sector is under state ownership or under contract to political communities, and it is largely funded by taxation (Flynn & Asquer, 2012).

In the public sector, the diffusion of service innovations to other public organisations is important to improve the quality and efficiency of services across the public sector (Hartley, 2005) but this attribute may make politicians cautious in supporting innovation because failures are highly visible (Albury, 2005; Borins, 2001; Hartley, 2005). In contrast, in the private sector, the diffusion of innovation mostly occurs as a result of competition (Albury, 2005; Boyne, 2002; Hartley, 2005).

Although public and private organisations are interested in collaborating with stakeholders to enhance innovation (Chen et al., 2020; Hartley, 2005), the public sector has rules and regulations to consider

when working with others, which may make the innovation process slow and bureaucratic (Boyne, 2002; Mergel & Desouza, 2013). Furthermore, in the public sector, policymakers are central stakeholders along with citizens (Hartley, 2005). Accordingly, the government can have a significant impact on innovation in the public sector.

Based on the aforementioned discussion of theoretical concepts grounding open service innovation development in the private and public sector organisations, the next section defines the knowledge gaps found in the literature and proposes an initial framework which includes the specific features related to private and public sector innovation and synthesises the key concept in open service innovation.

2.6 Defining the knowledge gap

Three larger bodies of literature, namely open innovation, service innovation and innovation management in the private and public sector, provide multidisciplinary and critical perspectives by indicating what is known from previous research about the proposed research questions, i.e. *'How is open service innovation managed in large private and public sector organisations*?*'* and sub questions, *'How are open service innovation processes developed?'* and *'What are the enablers for open service innovation?'*. Two main knowledge gaps can be identified from this literature review in relation to these questions.

The first gap is the lack of research on open innovation in services and the absence of conceptualisation and of what open innovation means for service innovation. Open innovation has mostly been researched from a product rather than a service perspective (West & Bogers, 2017), meaning there is a lack of research on if and how service differs from physical products of open innovation. In other words, the use of open approaches to innovation in service sectors is less researched (Randhawa et al., 2018; West & Bogers, 2017), which is important to consider since, as already mentioned, service innovation has significance for society (Gallouj & Djellal, 2010) since around 70% of the GDP of developed economies is service dominated (Battisti et al., 2015; The World Bank, 2019). Therefore, this study aims to fill this knowledge gap by conceptualising open service innovation by identifying the key elements and interdependencies of a process for managing open service innovation.

The second knowledge gap relates to limited research about innovation in the public sector, and this is also apparent in the literature on open innovation. Indeed, most studies on open innovation tend to be based on the analysis of private sector organisations (Chesbrough, 2017). Therefore, there is less

awareness of open innovation processes used in public sector organisations (Feller et al., 2011; Kankanhalli et al., 2017) even though public sector organisations are using open innovation (Lee et al., 2012; Mergel, 2015; Tate et al., 2018) to design and deliver services rather than pursuing change in a physical product (Moore & Hartley, 2008). The literature review establishes that the public sector has some unique innovation-related management features when compared to the private sector. Sections 2.4.1 and 2.4.2 summarise the main features of public and private sector innovation and identify the main differences between them. The literature review indicate that it cannot be taken for granted that private sector innovation management is always transferable to public sector innovation given the different nature of these two types of organisations. Thus, this study focuses on making an initial attempt to fill this gap by researching whether private and public sector organisations differ in the context of open service innovation.

This study constructs an initial conceptual framework based on the literature review (see Sections 2.1 – 2.6) to attempt to bridge the knowledge gaps and address the research questions from the current literature perspective. In the following section the initial conceptual framework is introduced.

2.6.1 Development of an initial conceptual framework

The initial conceptual framework (see Figure 3) visualises relationships among the concepts discussed in the literature review and shows how they relate to each other in the context of this study. Central concepts connected to open service innovation are synthesised: customer centricity, customer collaboration, other stakeholder collaboration and co-creation to capture value in open service innovation outcomes. The enablers are summarised together with key concepts for open service innovation processes. In addition, the unique typical features of innovation in private and public sector organisations are summarised (see Sections 2.4.1 and 2.4.2). This initial framework is used for the analysis of the case studies undertaken in this research and forms the basis for the output of this study, namely an improved conceptual framework. The key concepts of the initial conceptual framework and how they relate to each other are explained in the sections that follow.

Customer centricity

Customer centricity is central to service innovation as it is a starting point and key aspect in organisations where the role of customer collaboration is central (Grönroos, 1982). The main characteristics of customer centricity can be summarised as follows:

- Customer centricity demands constant attention to customers and their changing needs and to how organisations can improve their decisions and activities to increase value creation for the customer (van den Hemel & Rademakers, 2016).
- Customer centricity in open service innovation offers greater opportunities for value creation (Chesbrough, 2010).

The enablers for customer centricity, as found in the literature, are: employee training (Shah et al., 2006), organisational culture (Kumar et al., 2006), cross-functional teams (Lamberti, 2013), upgrading organisational structures and processes (van den Hemel & Rademakers, 2016) and metrics (Lamberti, 2013).

Customer collaboration

In customer-centricity, the role of customer collaboration is central (Toivonen & Tuominen, 2009). In other words, from the start and throughout the innovation process, there is a customer focus (Falk et al., 2010). The main characteristics of customer collaboration can be summarised as follows:

- Collaboration with customers is often interactive, involving activities that go beyond listening to or learning from customers (Aarikka-Stenroos & Jaakkola, 2012).
- Customer collaboration includes absorbing unspoken knowledge from customers and learning from customers through the innovation process (Wouters & Kirchberger, 2015).
- Various approaches and methods are used in customer collaboration. An S-D logic approach offers a deeper understanding, implying that the customer is always a co-creator of value (Vargo & Lusch, 2008). Service design is another more practical approach, focusing on service touchpoints, service moments or the customer journey by offering practical methods and tools (Stickdorn & Schneider, 2010). Co-creation a collaboration between customers and organisations (Heinonen et al., 2010) where the customer is a value 'co-creator' (Lusch & Vargo, 2006b).

Other stakeholder collaboration

There are also other stakeholders to consider, alongside customer collaboration (Ostrom et al., 2015). Open innovation introduces the ability to combine internal and external knowledge from diverse stakeholders to enhance innovation (Chesbrough, 2003). The main characteristics of other stakeholder collaboration can be summarised as follows:

- Stakeholder collaboration can be internal or external and represents a key resource in innovation value creation (Grama-Vigouroux et al., 2020).
- Internal stakeholders manage internal organisational functions (Markovic & Bagherzadeh, 2018), and external stakeholders could be universities, other organisations, competitors, R&D partners, start-ups or customers, whereby external knowledge flows into the organisation (Huizingh, 2011).

The enablers for customer and other stakeholder collaboration, as found in the literature, are: the culture of an organisation (Mortara & Minshall, 2011), organisational structure (Chiaroni et al., 2011), collaborative environment (Traitler et al., 2011), training programmes (Burcharth et al., 2014), managerial involvement (Chesbrough, 2006), CEOs' encouragement (Ahn et al., 2017), the positive attitude of management (Kratzer et al., 2017), the use of strategy (Crema et al., 2014), cross-functional working (Mortara et al., 2009), non-hierarchical structure (Traitler et al., 2011), clearly defined roles (Chesbrough & Crowther, 2006) and personnel open to outside knowledge (West & Bogers, 2014).

Co-creation

In the innovation literature co-creation is mostly connected to customers or other stakeholder collaboration. Co-creation is seen as a central aspect in the joint value creation process, fostering and facilitating innovations (Prahalad & Ramaswamy, 2004) in which value is co-created for at least two entities (Maglio et al., 2009). Similarly, in service innovation co-creation is the central concept for collaboration between customers and organisations (Heinonen et al., 2010). The main characteristics of co-creation can be summarised as follows:

- Co-creation involves active collaboration throughout the innovation process with customers and organisations during which value is co-created (Kristensson et al., 2008).
- Co-creation in innovation research involves multiple stakeholders combining knowledge (Kristensson et al., 2008).

- The central focus in open service innovation is co-creation among customers (Chesbrough, 2010).

- Collaboration is beneficial when it is structured in order to deliver desired outcomes for both the organisation and the customer (Ramaswamy & Gouillart, 2010, 206).

An initial open service innovation conceptual framework visual representation

These main concepts are brought together to form a theoretical overview to illustrate the connection between them in an initial open service innovation framework (see Figure 3). This initial framework identifies the key elements and interdependencies of a generic process for implementing open service innovation. It illustrates how value is created in this research context and how it begins with customer centricity (Grönroos, 1982), combining co-creation as a central element (Kristensson et al., 2008) and involving customer collaboration (Lusch & Vargo, 2006b) as well as other stakeholder collaboration (Huizingh, 2011). The ultimate aim is to capture value with open service innovation outcomes (Grama-Vigouroux et al., 2020). However, it should be noted that open service innovation outcomes are not part of this study. The focus of this study falls within the square surrounded by a dashed line in Figure 3. The initial open service innovation conceptual framework also summarises the unique features of both the private and public sector organisations regarding innovation.

In Figure 3 the elements connected to open service innovation appear in square boxes. The arrows illustrate connections between the concepts. The focus of this study is shown within the dotted line. The unique and typical features of the public and private sectors are listed in connection with the research context. Open service innovation outcomes fall outside the dotted line since they are not the main focus of this study (see the legend in Figure 3).

Research context

Public sector unique features

Typically, innovation in the public sector seeks to improve or create new services.

Citizens are treated as customers.

Diffusion of innovation is open, transparent and shared among others.

Approach to innovation is cautious due to the public nature of organisations.

Public sector rules and regulations impact stakeholder collaboration.

Obligation to serve public interest by offering services for common good.

Public sector employees are not financially rewarded for innovation.

Private sector unique features

The financial aspect is central in innovation, due to the aim to increase productivity.

Innovation diffusion is generally not open due to competition.

Owners and shareholders have a direct financial incentive to monitor and control.

Managers are likely to financially benefit from successful innovation.

Innovation plays an important role in terms of competitiveness.

Figure 3 *Initial Conceptual Framework for Open Service Innovation.*

This initial conceptual framework was used to analyse the case study data which is explained in more detail in the research methodology in Chapter 3.

3 Research methodology

While Chapter 2 presents what is known from previous research in relation to the research questions, this chapter outlines the research methodology used in this study to address the research question and sub-questions in light of the initial conceptual framework (Figure 3):

Research question:

How is open service innovation managed in large private and public sector organisations?

Within the specific context of this main research question:

Sub-question 1: How are open service innovation processes developed?

Sub-question 2: What are the enablers for open service innovation?

The philosophical foundation of the research is considered, including ontological and epistemological assumptions and their interconnection with social research. Different research approaches and strategies are examined, and the rationale for the abductive and longitudinal multiple-case study approach is justified by acknowledging the strengths and limitations of case study research. The triangulated data and individuals chosen to be part of this study are introduced, and the data analysis is explained based on the initial framework. Finally, the quality of the research design is evaluated, and ethical considerations are described. Figure 4 summarises this study's research methodology design.

Research philosophy	Ontology - relativism Epistemology - social constructionism
Research approach	Abductive
Research strategy	Case study
Choices	Multiple case-study approach
Time Horizon	A longitudinal real-time research
Source of data	Interviews, observations and documentation
Data analysis	Individual cases based on initial conceptual framework and cross-case conclusion

Figure 4 Research methodology stages.

3.1 Philosophical foundation

Research entails determining the philosophical stance taken by the researcher which includes different ways of engaging in management and organisations. Two central philosophical positions, namely ontological and epistemological, support the researcher in designing an appropriate research design (Easterby-Smith et al., 2012) and, additionally, in how the researcher engages with and influences case studies when undertaking research (Johnson & Duberley, 2000). Explaining the philosophical stance enables the assessment of the validity and reliability of research and determines the relationship between data and theory. The philosophical foundations of ontology and epistemology are therefore now discussed.

3.1.1 Ontology

Ontology is the philosophical science of being, concerned with the nature of reality (Honderich, 2005; Saunders et al., 2007; Stanley & Wise, 2002). The ontological position of something is to ask whether it is real or unreal (Johnson & Duberley, 2000). In addition, it focuses on related questions such as:

- Is there such a thing as objective reality?
- How do we see our world?

There can be four different approaches (summarised in Table 3) to ontology amongst philosophers of natural science: realism, internal realism, relativism and nominalism (Easterby-Smith et al., 2012). Traditional realism emphasises that the world is concrete, tangible and external and that science can only progress through observations which have a direct link to the phenomenon being researched. Internal realism assumes that there is a single reality but emphasises that it is never possible to gather direct evidence. Relativism accepts as true that there are many realities and the facts depend on the viewpoint of the observer (Easterby-Smith et al., 2012). Nominalism suggests that reality consists of artificial concepts and names created by humans and, therefore, there is no truth (Blaikie, 2007).

Ontology	Realism	Internal Realism	Relativism	Nominalism
Truth	Single truth	Truth exists, but is obscure	There are many truths	There is no truth
Facts	Facts exist and can be revealed	Facts are concrete, but cannot be accessed directly	Facts depend on the viewpoint of observer	Facts are a human creation

Table 3 *Four different ontologies (Easterby-Smith et al., 2012).*

This research's ontological ideology is relativism since it involves complex situations and the perspective of the researcher as the observer.

3.1.2 Epistemology

Epistemology is the enquiry into the nature of the physical and social worlds in different ways (Easterby-Smith et. al., 2012). In undertaking research, this concerns how the researcher comes to ask a question and assess the relevance and value of different research methodologies. This allows an evaluation of how the researcher evaluates the outputs of research and varies according to epistemological commitments (Johnson & Duberley, 2000). Epistemology is mostly focused around the respective merits of two contrasting views of how social science research should be conducted: positivism and social constructionism (Easterby-Smith et al., 2012). The latter term also tends to be associated with interpretivism. The main idea of positivism is that the '*social world exists externally and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition*' (Easterby-Smith et al., 2012, 22). Instead, social constructionism makes the epistemological assumption that reality is not objective and external but is socially created and given meaning by people. Furthermore, it emphasises how people make sense of the world especially through sharing their experiences with others (Blaike & Priest, 2019). This research identifies with social constructionism. See Table 4.

	Positivism	Social Constructionism
The observer	must be independent	is part of what being observed
Human interest	should be irrelevant	is the main driver of science
Explanations	must demonstrate causality	aim to increase the general understanding of the situation
Research progress through	hypotheses and deductions	gathering rich data from which ideas are induced
Concepts	need to be defined so that they can be measured	should incorporate stakeholder perspectives
Units of analysis	should be reduced to simplest terms	may include the complexity of whole situations
Generalization through	statistical probability	theoretical abstraction
Sampling requires	large numbers selected randomly	small numbers of cases chosen for a specific reason

Table 4 *A summary of positivism versus social constructionism. (Easterby-Smith et. al., 2012).*

3.1.3 Combining ontology and epistemology

There is a link between epistemology and ontology in that the researcher chooses methods and aspects that are more likely to help in research (Easterby-Smith et. al., 2012). This research investigates a social phenomenon which is too complex to be fully explained by an individual philosophical foundation. Therefore, based on the above discussion, the epistemological assumption of this study is that research into social actions conducted in authentic situations, cannot be separated from reality (Creswell, 2014; Saunders et al., 2007). The reality that is being studied, namely how organisations manage and develop their processes in relation to open service innovation, exists without this research, so this research forms part of this reality. It is also important to note that research is subjective as it may vary according to context. Thus, this research's epistemological assumption is not suitable for a positivist approach as it is not separate from the participants of the research. Instead, this research adopts features from relativist ontology and identifies with social constructionism because the research focus is on a large complex situation which increases the understanding and complexity of the situation. Therefore, this research's epistemological viewpoint is social constructionism, and its ontological ideology is relativism.

3.1.4 Research approach

The research approach, also called the logic of inquiry, refers to a set of procedures for answering the research question, particularly, 'what' and 'why' questions (Blaike & Priest, 2019). Flick (2018) explains that the connection between data collection and analysis as well as between theory and data need to be considered. The social sciences have developed ways of doing this by using one or a combinations of four logics: inductive, deductive, retroductive and abductive (Dubois & Gadde, 2002). These four logics provide different ways of answering the research question (Blaike & Priest, 2019). In the following section, four logics are discussed and the reasons given for the abductive approach used in this study.

In the inductive approach the researcher uses a series of empirical cases to recognise a pattern from which to make a general statement (Flick, 2018). The inductive approach starts with the collection of data and then proceeds to generalisation (Blaike & Priest, 2019). The aim is to answer 'what' questions as the inductive approach has less capacity to answer 'why' questions (Blaike & Priest, 2019). In contrast, the deductive approach cannot answer 'what' questions but it is used entirely for answering 'why' questions (Blaike & Priest, 2019). The purpose of the deductive approach is to test one or

more hypotheses and then collect appropriate data. In short, deduction functions as an evaluation of the hypotheses (Åsvoll, 2014). The retroductive approach is used to discover primary mechanisms that, in particular contexts, explain observed regularities (Blaike & Priest, 2019). '*The theoretical frame is a starting point at which retroductive inference can be employed (Meyer & Lunnay, 2012, 3)*'. Retroductive refers to the use of creative imagination and analogy to work back from the data to a casual explanation (Blaike & Priest, 2019).

The abductive approach aims to build theory by using multiple appropriate current theories as inputs to empirical observation (Dubois & Gadde, 2002). In the abductive approach the researcher examines how data supports existing theories or hypotheses by modifying or rejecting theory if needed or putting old ideas together in a new way to understand and explain the data (Flick, 2018). In general abductive is '*inference to an explanation*' (Mantere & Ketokivi, 2013, 6) [13]. The strategy involves following an iterative circle between theory and empirical data where theory matching guides the researcher to conclusions (Dubois & Gadde, 2002). In the abductive approach, '*data and theoretical ideas are played off against one other in a developmental and creative process*' (Blaike, 2010, 156). The data is then reinterpreted in light of emerging theoretical ideas. The emerging theory is tested and refined as the research proceeds (Blaike & Priest, 2019). This dialogue continues until saturation is achieved when there is adequate data or no additional data to develop a robust and valid understanding of the phenomenon under study (Glaser & Strauss, 1970).

This research is exploratory and applies the abductive research approach, resulting in an iterative circle between theory and empirical data. This study's iterative approach focuses on the interplay between data collection and analysis. In contrast, the linear-sequential approach refers to first collecting data and then analysing. The linear sequential approach was not suitable for this study as data was collected during two years, thus allowing ongoing data analysis to guide the researcher to change or add new data gathering methods, and to decide which data to collect next and where to find it. Open service innovation was identified as a complex and unexplored research area and thus data needed to be gathered from various people from different teams and research methods adopted to build a

---

[13] It should be noted that there are debates about various definitions of the adoption of the abductive research approach (Flick, 2018; Mantere & Ketokivi, 2011).

comprehensive picture of the phenomena under study. The abductive approach was therefore suitable in this study context which is complex and less researched[14].

3.2 Methodological considerations for research strategies

Now that the philosophical stance and research approach have been established, the methodological consideration most suited to this research can be selected. Methodological consideration is about forming research activities in ways that are most likely to achieve the research aims (Blaike & Priest, 2019). The objective here is to find a research strategy to explore the development of open service innovation management and processes in private and public organisations, an area where research has so far been limited.

Given this objective, several research approaches are possible. To choose a suitable approach, Yin (2009) explains that a research strategy should be chosen based on the form of the research question, whether it requires control of behavioural events and whether its focus is on contemporary events. Yin (2009) provides a useful summary of the complexity of possible conditions and research question types, as well as how these relate to five common research strategies: experiments, surveys, archival analyses, history, and case studies. Table 5 indicate these conditions and illustrates how each is related to the five major research approaches.

---

[14] Other research approaches could be also considered. Grounded theory (GT) is about qualitative research and creating a theory (Glacer 1967). However, GT research is a many-faceted process and there are many problems involved in the GT approach, which a researcher needs to consider, such as data is difficult to manage, there are no standards rules to follow for the identification of categories and researchers are recommended to have prior extensive experience of research methods (Goldkuhl & Cronholm, 2010). Due to the challengers in GT, Goldkuhl & Cronholm (2010) introduced multi-grounded theory (MGT). However, Cronholm (2005) explains that MGT's methodological level lacks details of procedure and examples. Despite this, the MG or MGT might be suitable, but this study relied on the research approach detailed justified in Chapter 3, Research Methodology.

Method	Form of research question	Requires control of behavioural events?	Focuses on contemporary events?
Experiment	how, why?	yes	yes
Survey	who, what, where, how many, how much?	no	yes
Archival Analysis	who, what, where, how many, how much?	no	yes/no
History	how, why?	no	no
Case Study	how, why?	no	yes

Table 5 Relevant situations for different research methods (Yin, 2009, 8).

The conditions provided in Table 5 of Yin's (2009) case study comprise the most appropriate form of data collection. The case study research strategy involves an empirical examination of a specific contemporary phenomenon within its real-life context, using various sources of evidence (Yin, 2009). Case studies are particularly well suited for an in-depth examination of contemporary phenomenon and to answer *how* and *why* questions (Yin, 2009). This research focuses on understanding how organisations manage and develop their open service innovation processes and centres on the contemporary phenomenon: how organisations are currently developing open service innovation and which possible changes might be observed over time.

3.2.1 Case study approach

A case study can be defined as an empirical inquiry to investigate a contemporary phenomenon within its real-life context, particularly when the boundaries between the phenomenon and context are not obvious (Yin, 2009). Nonetheless, it has also been criticised for its lack of precision, quantification, objectivity, and rigour (Yin, 2009). A frequent criticism of case study research is that findings might be inadequate for generalisations (Yin, 2009). However, this criticism can be challenged by understanding the strengths and weaknesses of the case study approach by evaluating each case in terms of appropriateness in the generation of theory. The purpose of a case study is not to generalise statistical results from a sample to a population (Bryman & Buchanan, 2018). Instead, the purpose is to stimulate patterns and connections of theoretical importance for theory generation as well as to gain an in-depth understanding of a complex phenomenon and then construct a framework or model from the case results (Bryman & Buchanan, 2018).

Chapter 3 - Research methodology

There are no generally accepted criteria in the literature that outline how many case studies should be conducted as part of an exploratory research project. However, multiple case designs are viewed as superior to a single case design in most circumstances. Single case designs tend to be limited compared to multiple case; therefore, it is useful to have two or more cases in order to achieve replication (Miles & Huberman, 2014; Yin, 2009). On the other hand, a single case can also be adequate if the case material is sufficiently generic or if findings are unique or efficient in other ways (Pettigrew, 1990). Saunders et al. (2007) explain that a single case is frequently used when it represents a critical case or an extreme/exclusive case. Equally, a single case may be selected if it is typical or provides an opportunity to observe a phenomenon that has been researched in the past (Saunders et al., 2007).

In comparison, the multiple case-study approach enables results to be contrasted and data to be analysed both within each situation and across various situations (Yin, 2009). Furthermore, multiple cases can provide extensions to the emerging theory. The rationale for using multiple cases focuses on whether findings can be replicated across cases; therefore, cases need to be chosen carefully (Saunders et al., 2007). Overall, to judge a case study solely based on the number of cases can be misleading (Yin, 2009) because case studies should be evaluated in terms of the suitability of the theoretical inferences that can be generated.

This study uses *multiple cases* in its research strategy. The intention is to compare private and public organisations in the development of open service innovation processes in order to reveal similarities and differences among cases to address the knowledge gap relating to whether open approaches to service innovation differ between large private and public sector organisations. Each case is initially analysed as a single case on its own and then compared with the initial conceptual framework (see Figure 3). As acknowledged in the literature review, research into open service innovation is limited; therefore, this study intends to conceptualise open service innovation using replication logic, where each case stands on its own as an analytical unit (Eisenhardt & Graebner, 2007). Theory emerges from case study data in the sense that it is developed by recognising patterns of relationships among constructs within and across cases and their logical arguments (Saunders et al., 2007). Essential to building theories from case studies is repetition logic (Eisenhardt & Graebner, 2007). Each case must be selected based on the expectation that it either predicts a similar result, 'literal replication', or contrasts results, 'theoretical replication' (Yin, 2009). In this research, the case studies reflect the initial open service innovation framework and where the results contradict the framework, the framework is adjusted to account for these differences. This study's multiple-case strategy is illustrated in Figure 5.
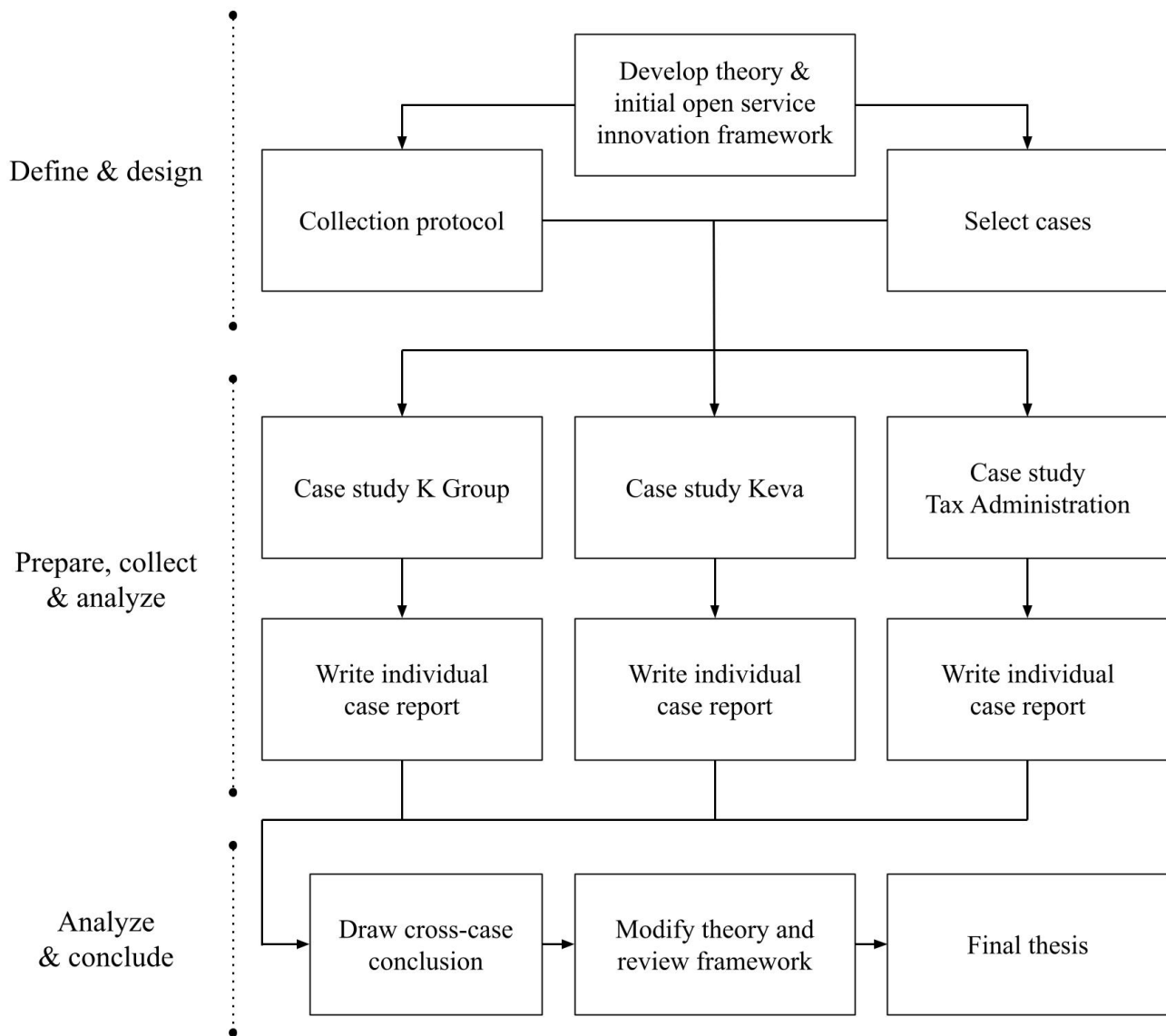
Figure 5 Multiple case study approach (Adopted from Yin 2009, 57).

Figure 5 shows that the initial steps in designing the case study consisted of theory development with case selection and the definition of specific measures constituting essential steps in the design and data collection process (Yin, 2009). Each step shows how and why a particular case was established, and cross-case analysis was used to indicate the extent of the replication logic or why any cases demonstrated conflicting results (Yin, 2009).

3.2.2 Selection criteria for case studies

Having discussed the study approach, the selection criteria for case studies is now introduced. Prior to data collection, a set of selection criteria needs to be defined for suitable cases (Yin, 2009). The

selection of cases for this study followed Pettigrew's (1990) recommendation to select cases that are likely to describe the phenomenon under consideration. Eisenhardt (1989) stresses the importance of theoretical sampling and emphasises the need for a selection of cases that are likely to replicate previous cases or extend emerging theory. Pettigrew (1990) describes that, given the limited number of cases which can typically be studied, it is important to choose cases in which the phenomenon of interest is observable. The following three selection criteria were used to select the cases in this study:

1. Organisations based in a country with a strong National Innovation System and strong innovation performance, where the service sector is a dominant constituent of the GDP.
2. Public and private organisations where customer-centricity is important and where open service innovation processes are being developed and have been deployed.
3. Organisations that can provide excellent access to data collection over an extended time period to capture data which demonstrate the full cycle of the management, development and deployment of open service innovation.

Based on these criteria, three well-established service organisations from Finland were selected to which the researcher had access: Finnish Tax Administration, Keva (the largest public-sector pension provider in Finland) and K-Group (a large trading company). An overview of these organisations is given in Table 6 and introduced in more detail in the data analysis in Chapter 4 (see 4.1, 4.2 and 4.3).

	K Group	Keva	Tax Administration
Business area	The grocery trade as well as the building, technical and car trades.	Pensions provider of public sector and provides related working life services to employers in the public sector.	Collects taxes in Finland.
Number of employees	45 000	550	5 000
Governance	Board of directors of a listed company.	Independent body governed by public law and supervised by the Ministry of Finance.	Steered by the Ministry of Finance.
Location	Headquarters are based in Helsinki. Ten small offices in Finland and 1,800 stores in seven countries from which more than half are run by local K-retailer entrepreneur.	Headquarters are based in Helsinki. No other offices in Finland despite the fact that their customers are all over in Finland.	Headquarters are based in Helsinki. Over 100 local tax offices in Finland.

Table 6 *The overview of case organisations.*

Finland was selected for the following reasons. It is one of the leading countries in innovation performance, as measured annually by the European Union's comparative analysis of innovation performance in EU countries and other European countries (European Innovation Scoreboard, 2020), an analysis which assesses the strengths and weaknesses of NIS and also helps countries to identify the areas (RIS) they need to address. In 2021, Finland was ranked second in this analysis. In addition, the Bloomberg Innovation Index rates Finland as the seventh most innovative country in the world (Bloomberg, 2021). Furthermore, the World Economic Forum has ranked Finland 7th out of 131 countries in terms of global innovation capability (World Economic Forum, 2021), and the Finnish government itself, has been actively involved in designing innovation systems (Fagerberg et al., 2005). Finland is therefore a country with a solid NIS where there is a favourable innovation approach for organisations.

Services play a key role in the Finnish economy and more than 70% of jobs are in the service sector (Statistic Finland, 2021). Finland has managed to generate service innovations to facilitate positive economic development (Statistic Finland, 2021; Toivonen, 2007). Fagerberg et al. (2005) and Toivonen (2007) explain that services play an important role in the Finnish national and regional innovation systems. Accordingly, the integration of innovation in services is significant in Finland. Given this evidence of the high level of service innovation and of the favourable approach towards innovation as a country, Finland, and specifically organisations with headquarters based in the capital, Helsinki, were selected as the sources of evidence for this research.

The researcher of this thesis is Finnish. Hence, for operational reasons it was convenient to collect data where the culture and language were familiar to the researcher. Furthermore, the researcher had prior experience preparing and carrying out research projects with Finnish private and public sector organisations. The researcher's background enabled trust on the part of the case study organisations to permit extensive access to the case organisations.

Once the country of Finland and region of Helsinki had been chosen, the process of finding suitable organisations was undertaken in three phases. In the first phase, the researcher carefully selected an initial list of 15 organisations from which eight most suitable organisations were chosen (according to the three selection criteria mentioned earlier, see Section 3.2.2) after meetings with personnel. In the second phase, the researcher conducted exploratory interviews mainly with managers of the selected organisations over a three-month period, and then chose four organisations most suited to the research. In the third phase, data was gathered from the four chosen organisations for a further six months, at which point the researcher narrowed down to three case-study organisations as these

demonstrated the keenest interest in managing and developing their open service innovation processes. However, they also found the design of processes for managing, developing and implementing open innovation for new services extremely challenging. Overall, these final three organisations offered excellent access to the needed data and the remaining data was then collected over a two-year period.

The researcher's initial interviews with managers in the selected case organisations identified a strong interest in open service innovation and revealed the main research problem regarding open innovation in services, namely, that the management teams in private and public sector case study organisations find open service innovation management, processes and implementation complex and challenging. The organisations lacked the underpinning knowledge to support and guide their open service inno-vation development processes. The literature review had also confirmed the lack of research that could be used to provide this foundational knowledge on open service innovation. The identification of the phenomenon under investigation in the study was refined during the two years of data collec-tion, based on the main interests and challenges of the case study organisations as well as continuous review of updated literature about the research context and knowledge gaps. The identification of the research subject and selection of suitable case studies were in line with Blaike and Priest (2019), who state that a research design is likely to involve many iterations, being a cyclical rather than a linear process.

3.2.3 Time horizon

The outcome of this research intends to provide understanding of how organisations manage and develop their processes to open service innovation over time to illustrate what the situation was at the beginning, during and at the end of data gathering; therefore, a longitudinal real-time research time frame was chosen. Longitudinal study can provide a detailed view of patterns and how they evolve over time (Leonard-Barton, 1990). Using data captured over a certain period of time allows observa-tion of multiple data sources, and depicts how the research topic is developed, implemented or changed over time in organisations (Leonard-Barton, 1990). While there was no purposeful collection of retrospective data in the present study, some secondary data provided information from the past, such as organisational strategy and internal processes, which were established before data collection. Furthermore, during data gathering it was quite natural that personnel also sometimes discussed the past in order to reflect on changes in comparison to current and future plans.

The focus of this study was on the bigger picture from the management perspective exploring the operational details. The emphasis of this study was not on open service innovation in one project or one team in the organisation. This study included multidisciplinary participants and researched their behaviour, work content and organisation of work in relation to open service innovation. The research focused on how open service innovation is managed, how processes are developed and what the enablers are for open service innovation in public and private sector organisations. Furthermore, the research explored the differences between the approaches used in the private and public sector service organisations. Open service innovation was internally developed through present and future strategic actions which continuously evolve in organisational development. Therefore, a longitudinal study provided a detailed understanding of open service innovation and how it evolved over time (Leonard-Barton, 1990).

Data collection was undertaken between January 2018 to January 2020, a sufficiently long period to allow the development of the case organisations' processes to open service innovation to be fully explored. During the data collection period, each case organisation was visited approximately once a month. The data was collected during several meetings with personnel, following Yin' s (2009) recommendation that case studies should typically be based on a variety of data sources providing empirical descriptions of a phenomenon. Table 7 summarises data collection intensity and regularity in the case organisations. The data was collected until no additional elaboration of emerging themes occurred, or, in other words, until theoretical saturation was reached (Blaike & Priest, 2019). Each case organisation's more detailed data collection timetable can be found in Appendix 1.

Case study	Number of people participating	Hours spent in onsite data collection (hr)	Number of meetings
K Group	23	66.5	26
Keva	18	67	21
Tax Administration	51	76	24

Table 7 Data collection overview.

The longitudinal real-time case study approach provided the prospect of using multiple data sources, although the procedures for collecting multiple data sources needed to be developed and mastered independently to ensure each source was properly used (Yin, 2009). The following section introduces the various sources or data evidence used in this study.

3.2.4 Sources of data

Case study evidence can come from several sources (Yin, 2009) and theory-building research in particular typically tends to combine multiple data collection methods (Eisenhardt, 1989a). This research is designed to provide access to the necessary breadth of empirical data to investigate how organisations develop their processes of open service innovation over time. Data collection from multiple sources provides many views of the same phenomenon (Denzin, 1989); for case studies, various sources of evidence may be used, each with their strengths and weaknesses (see Table 8).

Source of Evidence	Strengths	Weaknesses
Documentation	- Stable; can be reviewed repeatedly - Unobtrusive; not created as a result of the case study - Exact; contains exact names, references, and details of an event - Broad coverage; a long span of time, many events, and many settings	- Retrievability; can be difficult to find - Biased selectivity; if a collection is incomplete - Reporting bias; reflects the (unknown) bias of the author - Access; may be deliberately withheld
Archival records	- Same as those for documentation - Precise and usually quantitative	- Same as those for documentation - Accessibility due to privacy reasons
Interviews	- Targeted; focuses directly on case study topics - Insightful; provides perceived causal inferences and explanations	- Bias due to poorly articulated questions - Response bias - Inaccuracies due to poor recall - Reflexivity; interviewee gives what interviewer wants to hear
Direct observations	- Reality; covers events in real-time - Contextual; covers context of "case"	- Time-consuming - Selectivity; broad coverage difficult without a team of observers
Participant observation	- Same as above for direct observations - Insightful into interpersonal behaviour and motives	- Same as above for direct observations - Bias due to participant; observer's manipulation of events
Physical artefacts	- Insightful into cultural features - Insightful into technical operations	- Selectivity - Availability

Table 8 Six Sources of Evidence: Strengths and Weaknesses (Adopted from Yin, 2009).

Each type of data reveals a different aspect of the same phenomenon, while multiple data sources moderate bias and increase accuracy and validity. This study used three data sources: interviews and observation which constituted the primary data source, and documentation which comprised a secondary source to ensure a triangulated approach, as discussed below.

3.2.5 Triangulated data

A triangulated approach was adopted in this study to counter any potential bias from a single data source (Denzin, 1989) and to develop a holistic picture of open service innovation development. Triangulation refers to the use of different data collection techniques and types of data within one study to confirm that the data says what a researcher thinks it is expressing (Saunders et al., 2007) and, in addition, provides a breadth of information (Pettigrew, 1990). Table 9 presents the source and type of qualitative data chosen in this study. The interviews, observation and documentation together provide a holistic perspective of the phenomenon being researched, with each source of data revealing a different aspect of the same phenomenon.

Source of data	Type of data
Interviews	Semi-structured individual and group interviews
Observations	Observations at meetings, workshops, training sessions and other non-formal social situations
Documentation	Reports, blogs, PowerPoint presentations, job adverts, social media posts, web pages, minutes of meetings and strategy papers

Table 9 Multiple data sources (Adapted from Yin, 2009).

3.2.6 Individuals under the study

The research involved decisions about how to collect data from a number of individuals. The researcher had a choice between attempting to study all the individuals who met certain criteria or selecting a sample from among those individuals (Blaike & Priest, 2019). The individuals who were the subjects of this study were carefully selected prior to the start of the research during meetings discussing the nature of the study with the target individuals in the case study organisations. The purpose of the discussions was to explain the focus of the research to the case study organisations, establish where to find the information needed and identify the individuals meeting the needs of the study. Furthermore, the discussions allowed the case study organisations to understand the benefits

of being part of the research and to strengthen their commitment to sharing their knowledge with the researcher of this study. The meetings were held two or three times a year to make sure that the right people were being interviewed and observed. In addition, at the end of the interviews, the researcher asked if there were any additional people who should be involved in the study. Individuals involved in the study were multidisciplinary people whose work was related to open service innovation. The research focused on various individuals from different teams, including their work behaviour, content, processes and organisation.

Individuals' anonymity was considered in line with Yin (2009) who explains that anonymity issues can arise at two levels with cases and individuals within cases. Accordingly, individual names and specific work roles are anonymised throughout this study. Not revealing names or exact work roles created an open environment in which the researcher could gain the trust of the personnel, allowing open dialogue. As a result of the anonymity, the individuals who were selected to be part of the study were pleased to participate in interviews and to be observed by the researcher. However, extensive anonymity, allowing the case study organisations and their components to be systematically converted from their real identities, is not considered to be a desirable choice (Yin, 2009). Hence, the case study organisations are introduced with their real names along with accurate information about their background and context (see Section 4.1, 4.2, 4.3).

In this study, 92 people participated in the interviews and observation sessions. Table 10 categorises the individuals' roles based on their work seniority. The table introduces a general overview of all the case studies without identifying a specific role or work task in the organisations because the individuals were assured anonymity.

Level of seniority	Number of people
Director	20
Manager	51
Employee	21
TOTAL	**92**

Table 10 The level of seniority of people who participated in the data collection.

3.2.7 Interviews

Interviews can help to gather valid and reliable data that are relevant to the research questions and the research objectives (Saunders et al., 2007). Qualitative research interviews attempt to understand the world from the subject's perspective, and they do not result in scientific explanations (Brinkmann & Kvale, 2015). The principle in interviews is to ask purposeful questions and to listen carefully to the answers to be able to explore them further (Saunders et al., 2007). The researcher introduces the interview topic and critically follows up on the answers, thereby refining or formulating the research question and objectives (Brinkmann & Kvale, 2015; Saunders et al., 2007). Interviews, as a source of evidence, have the potential to provide rich and highly insightful material (Robson, 2011). Interviews are an essential source of case study information (Yin, 2009).

The research interview is a general term for several types of interviews. The nature of the interview should be consistent with the research question(s) and objective(s), the purpose of the research and the research strategy that is adopted (Saunders et al., 2007). A commonly used interview typology distinguishes between structured, semi-structured and unstructured interviews (Robson, 2011). The structured format is highly formalised, and standardised questions are used for each research participant (Robson, 2011). Less structured approaches allow interviewees more flexible responses (Robson, 2011).

The primary data in this study was procured via *semi-structured interviews*. In semi-structured interviews, the researcher has a list of themes and key questions to be covered, although their use might vary across interviews (Saunders et al., 2007). The researcher may ignore some questions, depending on the explicit context of the particular organisational setting (Saunders et al., 2007). The semi-structured approach adopted in this study allowed the researcher to ask follow-up questions and to enquire about emerging topics during the interviews. This approach was particularly helpful because previous research into the phenomenon was very limited. The semi-structured approach enabled unexpected themes connected to open service innovation to arise from the interviews. The order of the questions was modified based on the flow of the interview and the work profile of the person being interviewed (Saunders et al., 2007). Furthermore, unplanned questions were asked to follow up on what the interviewee had said (Robson, 2011). Occasionally, the interviews took place over extended periods to enable key people to be interviewed more than once during the data gathering process. Some interviewees also suggested other personnel, who were later also interviewed.

In addition to individual interviews, group interviews ('focus groups') were also conducted (Robson, 2011). *'A group interview can be defined as an in-depth, open-ended group discussion of 1- to 2-hour duration that explores a specific set of issues on a predefined and limited topic. Such groups consist typically of between five to eight participants and are convened under the guidance of a facilitator'* (Robinson, 1999, 905). As the interviewer, the researcher's role is to allow open discussion to flow but also to stay on topic by maintaining the semi-structured organisation of the questions. Researchers can make sure that all participants can express their opinions and that some participants are not overly dominant (Robinson, 1999; Robson, 2011). The interview themes and the questions from the individual and group interviews are presented in Appendix 2.

The group interviews brought together multidisciplinary people involved with open service innovation. Open service innovation is complex, and within organisations, personnel from different departments are involved. Therefore, group interviews were performed to bring these people together. This process created heterogeneous groups, which stimulated and enriched the discussion and allowed other group members to look at topics from different angles. The inclusion of people with a variety of work roles enabled the group interview to include multifaceted dimensions that are not accessible in individual interviews (Robinson, 1999). In line with the advice of Robinson (1999), during group interviews, the researcher was assisted by people who recorded the events and took notes. The purpose of having assistance was that it allowed the researcher to concentrate fully on the demands of group facilitation, as outlined in Table 11 where the advantages and disadvantages of the group interview approach are described.

Advantages	**Disadvantages**
Efficient technique for qualitative data collection since the amount and range of data is increased by collecting from several people at the same time.	The number of questions covered may be limited as the response time will vary between participants.
Natural quality controls on data collection operate; for example, participants tend to provide checks and balances for each other, and extreme views tend to be 'weeded out'.	Facilitating the group process requires expertise. Preferably two people should manage the process, one to facilitate the discussion and the other to take notes and record the event.
Group dynamics help in focusing on the most important topics, and it is reasonably easy to assess the extent to which there is a consistent and shared view as well as in generating more critical comments.	The interview process needs to be well managed so that the less articulate can share their views, extreme views are tempered, and bias caused by the domination of the group by one or two people is reduced.
Participants tend to enjoy the experience in a natural and more relaxed setting.	Confidentiality can be a problem between participants when interacting in a group situation.
Participants are empowered and able to make comments in their own words while being stimulated by the thoughts and comments of others in the group. Contributions from people who are reluctant to be interviewed on their own, feel they have nothing to say or who may not usually participate in surveys can be encouraged.	The results cannot be generalised as they cannot be regarded as representative of the wider population.

Table 11 Advantages and disadvantages of group interviews (Adopted from Robinson, 1999).

All interviews were conducted in Finnish, recorded and subsequently transcribed. Individual interviews lasted between 30 minutes and 1.5 hours, and group interviews lasted between one and two hours. All the participants openly discussed the research phenomenon with the researcher and allowed the researcher to observe them. They became used to the researcher being present, and having their discussions captured as direct quotes. As already noted, all interviewees were promised anonymity to encourage open dialogue (see 3.2.6).

3.2.8 Observation

Observation was used to generate additional information in this research because case studies took place in natural settings that created opportunities for gathering data. Observation is useful in providing additional information about the topic being studied (Yin, 2009). A significant advantage of observation is that there is no need to ask about views, feelings or attitudes because the researcher can personally observe the situation. The disadvantage of observation is that a researcher might affect the situation under observation. However, there are some tactics that reduce this possibility; for example, the researcher can ensure that those who are being observed are unaware of it (Robson, 2011). This

study used *direct observation,* where information was gathered during passive observation, as well as *participant observation,* where the researcher was not just a passive observer.

In this study, the researcher observed case organisations for two years by visiting their workplaces about once a month and by participating in workshops and training sessions outside of the organisations in Finland and overseas (UK and Netherlands). Data was captured by note-taking and, during workshops, by taking pictures of post-it boards and of other materials (see Appendix 3). The individuals who were the objects of observation were key people in relation to open service innovation. Most of them also participated in the interviews. Many others, mostly top or senior management such as the director-general, the CEO, and the CIO were observed but not interviewed.

The researcher became familiar with the case organisation personnel as there were several opportunities to meet them. This meant that the personnel became accustomed to having the researcher present. During data collection, the researcher created an environment of trust where all issues could be discussed openly. This resulted in an atmosphere where the researcher could freely observe the personnel of the case organisations in meetings, workshops, events and training sessions. It was also possible to observe personnel during informal situations, such as coffee and lunch breaks or during dinners. The observation was less structured in informal situations where the researcher made notes afterwards. The researcher was aware of the risk of manipulating or guiding conversations. Therefore, the researcher aimed to remain as passive an observer as possible (Yin, 2009). Furthermore, the researcher was mindful of the observer role and of not identifying with the group being investigated (Yin, 2009).

One of the workshops took place over three days. The challenge of the three-day workshop for the researcher was the need to capture all the data from all 30 participants. Consequently, during this three-day workshop, the researcher asked two other experienced researchers to take notes. The two people involved worked in universities and possessed over 20 years of research experience. Their roles were note-taking and observing people in the workshop. The purpose was to ensure sufficient time to observe phenomenon in big groups. This would have been challenging for an individual researcher. This study followed the recommendation of Yin (2009) against biased participants, i.e. observers having a reduced ability to work appropriately as external observers. Therefore, there was a need for the assistance of two experienced researchers to help at the three-day workshop.

3.2.9 Documentation

Documentation also formed part of the data. Documentary information is often relevant in case study research and should be an object of an explicit data collection plan (Yin, 2009). Documentation can consist of various types of information: agendas, minutes of meetings, blogs, written reports, internal records, news clippings and articles. Documents can also be available online. Documents can provide specific corporate details. If the documentary evidence contradicts the other evidence, a researcher needs to enquire further about the topic. Overall, documentation can be used as material to provide supporting information or to identify information that requires further investigation. However, there can be negative aspects to the use of documentation; for instance, documentation can be misleading when the researcher does not understand its purpose or why a particular document was written (Yin, 2009).

This study gathered organisational strategy reports and various other key internal documents directly from the organisations. In addition, various publicly accessible on-line sources including blogs and web news feeds were used. Social media (specifically LinkedIn and Twitter) was also used as a source of data for all three organisations. Furthermore, during interviews, to illustrate topics under discussion, personnel sometimes showed the researcher internal plans and presentations. In these cases, the researcher requested this material via email to have the opportunity to review it later. Personnel were always very willing to share material requested by the researcher. Documentary information was in line with interview and observation findings. The volume of documentary information was 172 pages. Some documents were publicly available, and some were only for case organisations' internal use.

Overall, interviews, observations and documentation were used as data sources to obtain information concerning the complex phenomenon under investigation over two years. Appendices 1 and 2 provide more detail about the data collection timetable and interview questions. The following section shows how these rich sources of case study evidence were analysed.

3.2.10 Data analysis

Analysis of case study evidence is a rigorous process, which is explained in this section. The data analysis for this study was an iterative process, beginning with the early analysis of cases and continuing throughout the data collection process. Data collection is important during early analysis by virtue of its aim to recognise bias and to provide an accurate research direction. Interim analysis may provide the basis for improved data collection (Eisenhardt, 1989; Miles & Huberman, 2014). The

analysis of case study evidence needs a strategy to create a story from the data (Yin, 2009). This strategy helps the researcher to treat the evidence fairly, produce analytical conclusions and eliminate manipulation (Yin, 2009).

The data coding strategy for this study was based on a theoretical proposition (Richards, 2015). Data coding was performed in three phases (Richards, 2015), as illustrated in Figure 3. First, topic coding, using theoretical propositions (phase A) and the initial conceptual framework (see Figure 3) topics (phase B) was employed to categorise data. Second, analytical coding (phase C) was used to review the coded data for any new topics and to identify enablers and barriers (Miles & Huberman, 2014). Third, a final phase of cross-case analysis (phase D) was used to understand the differences and similarities among the cases. Figure 6 depicts the research phases. Appendix 3 illustrates the overall research process from raw data to research findings.
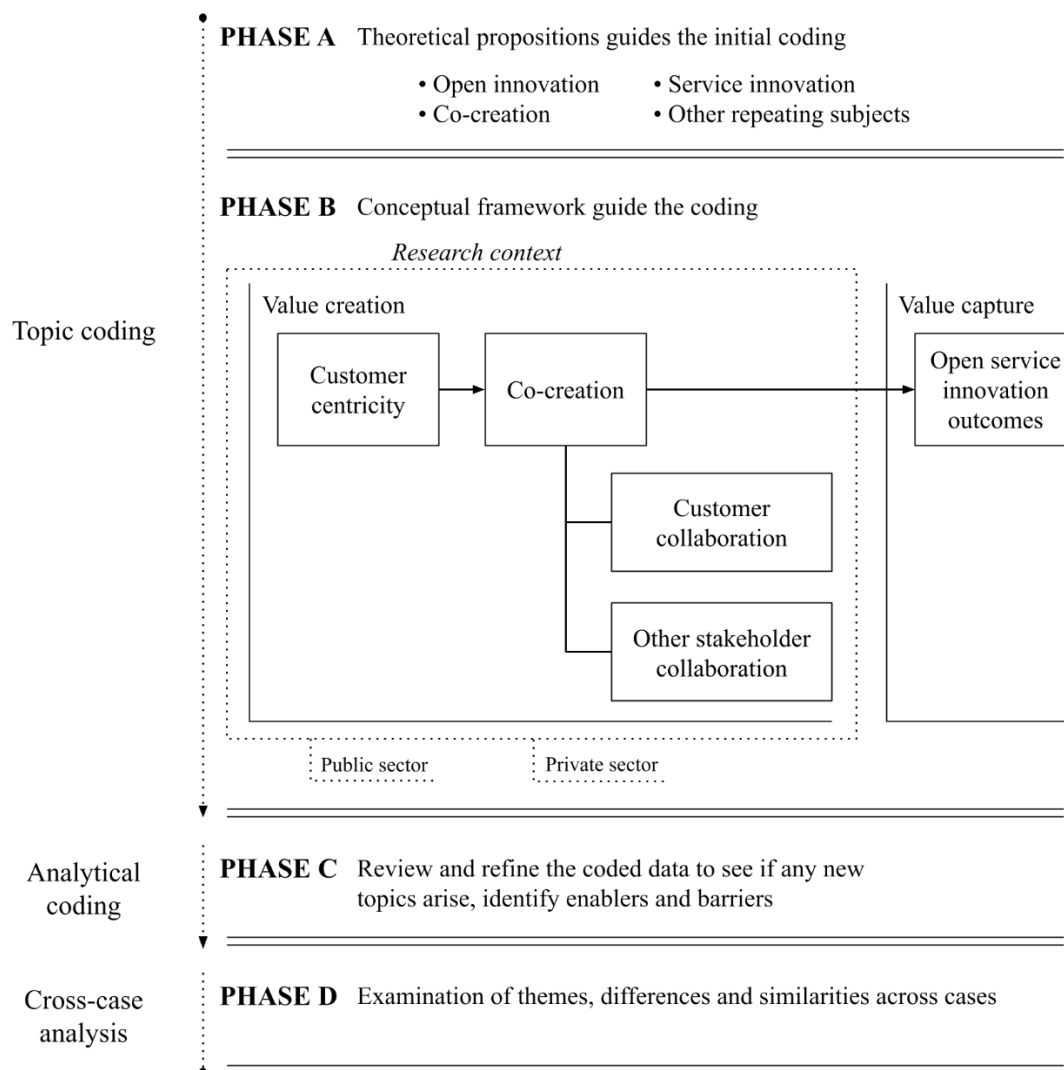
Figure 6 *Research data analysis phases.*

The first phase of analysing data, *topic coding*, generates new ideas and gathers material by topic (Richards, 2015). All the text from one topic guides the initial coding (Yin, 2009). This dominates the early phase of research because it requires relatively little understanding of the situation. In this research, specific words were found in the text or identified in sections of the data related to the topic (i.e. open innovation, co-creation, and service innovation), and gathered together with other repeating topics. Following an automated word search, the data was labelled by topic (phase A). Then, the material was reviewed according to the initial conceptual framework (Figure 3) with key elements drawn from the literature. The aim was to find meaningful data based on the initial conceptual framework. The purpose was to consider the meaning of the context (phase B) (Richards, 2015; Saunders et al., 2007). Topic coding examples are shown in Appendix 4.

The next phase of data analysis was *analytical coding* (phase C). The purpose is to review the data by getting closer to the world of the text and revisiting its context, thereby creating new topics if needed. Reviewing the material allows a critical examination of the topics and, if needed, an expansion of the topics. The analytical coding may introduce key themes and patterns or relationships, which might lead to the rearrangement of data. This is a critical phase as it might lead to a broader understanding of the topics, their similarities and their differences. In analytical coding, topics are reconsidered, and, as a result, new topics may be added to the coding. The purpose of analytical coding is to gather material in order to review and refine the coded data and to create new topics (Richards, 2015; Saunders et al., 2007). In analytical coding, a researcher creates topics for the new ideas and concepts found in the data. Appendix 5 shows examples of analytical coding used in this research. This study sought to identify enablers and their barriers.

The final step of data analysis was a *cross-case analysis* which examined themes, differences and similarities across the cases (Miles & Huberman, 2014). The comparison of cases highlighted common issues and central themes (Richards, 2015). One objective of studying multiple cases is to increase generalisability. Cross-case analysis allows the observation of processes and outcomes across many cases and thus the development of more refined descriptions and prevailing explanations (Miles & Huberman, 2014). Glaser and Strauss (1970) explain that the fundamental reason for cross-case analysis is to deepen understanding and explanation. The researcher's aim in cross-case data analysis is to identify the differences and similarities between cases and to find reasons for different conditions. This process enables the determination of whether patterns identified in one case match those of other cases. In this research, cross-case analysis led to the re-consideration of the initial conceptual based on reflections from the case study results.

3.2.11 Assessing the quality of research design

The design and the quality of research can be assessed using four criteria (Yin, 2009): validity, internal validity, external validity, and reliability, all of which needed to be defined and considered in this study. Yin (2009) introduces strategies aimed at strengthening and designing case study research to ensure quality based on these criteria. In the following section, each criterion is defined, and a description of how it contributes to the quality of this research is provided.

Construct validity refers to considerations of the extent to which correct operational measures are used for the concepts being studied (Yin, 2009). Yin (2009) proposes three tactics. The first is the use of multiple sources of evidence in data collection. The second is the establishment of a chain of evidence while collecting data. The third tactic is to have key informants review draft case study reports. Accordingly, multiple sources of evidence were used, i.e. interviews, observation and documentation, in order to perform data triangulation. Moreover, the chain of evidence was sustained by cross-referencing the methodological procedures. The case study draft results were reviewed by key informants in this study. In each case, the draft results of the research on the organisation were sent by email, and two internal events were held in each case organisation to present the results. During these events, the results were openly discussed among personnel, allowing the researcher to gain additional insights and to strengthen the construct validity. The participants in these events were top and senior management, key informants and other personnel. Between 5 and 200 participants were involved in these events. The events lasted between 1 and 1.5 hours.

Internal validity is relevant mainly in explanatory or causal studies rather than in exploratory studies (Yin, 2009). It refers to a convincing demonstration that certain conditions result from some action or earlier occurrence and that a causal relationship can be established. Yin (2009) introduces tactics for case studies to acknowledge internal validity through data collection, pattern matching, explanation building, addressing rival explanations and the use of logic models. This research does not attempt to establish the internal validity of causal explanations, and therefore, the concept of internal validity is less relevant for this study (Yin, 2009). However, this research collected rich qualitative data, which may contribute to a future explanation of a theory-building approach. Nevertheless, a comparative analysis was done on the interview data by identifying similarities and differences among the evidence provided by interviewees.

External validity deals with the problem of knowing whether the research findings are generalisable outside the immediate study (Yin, 2009), for instance, if results are applicable in different locations.

This has been a barrier in case studies, with single case studies being considered to offer a poor basis for generalising results. Critics make implicit comparisons with surveys where research relies on statistical generalisation and in which a sample is intended to generalise to a larger universe. Instead, case studies generally rely on analytical generalisations, in which results are generalised to a broader theory. Rather than trying to attain statistical generalisation, case studies mostly seek the generalisation of their results by replicating their findings. To improve external validity, Yin (2009) suggests the replication of logic, whereby the theory is tested by replicating the findings in other cases where the same results should occur. In this study, to address the issues of external validity, rich data was provided by three cases. Each case was analysed separately, and then cross-case analysis was conducted in order to explore the differences and similarities among the cases.

The aim of *reliability* is to minimise the errors and biases in a study. The aim is that the same study can be conducted again by another researcher who will arrive at the same findings and conclusions. Therefore, there is a need to document the procedures in detail. Careful documentation allows a researcher or others to repeat the same research and strengthen reliability among external reviewers. Therefore, this chapter outlines, in detail, the case study protocol followed in this study. Furthermore, *coding reliability* in the case study data analysis is described in detail, aimed at consistency of qualitative coding (Richards, 2015). In this study, in the first phase of grouping, the researcher was quite generous with topic categories, aware that, in a later phase, there would be the possibility of revising and removing topics. The researcher continuously and critically monitored what was coded and why, as well as any new meaningful and relevant themes arising. The data analysis for each case study was reviewed by the case study organisation to validate the results and to gain further information.

3.2.12 Ethical considerations

Ethical concerns emerge when researchers design and plan research, seek access to organisations and individuals, as well as collect, analyse, manage and report data (Saunders et al., 2007). In research, ethical considerations refer to the standards that guide researcher behaviour in relation to the rights of those who become the topic of a study or are affected by it (Saunders et al., 2007). Based on the recommendations of Easterby-Smith et al. (2012), the following fundamental principles of research ethics were taken into account:

- Ensuring that *no harm* comes to participants
- Ensuring the fully *informed consent* of research participants

- Protecting the *privacy* of the research topic
- Ensuring the *confidentiality* of the research data
- Protecting the *anonymity* of individuals and organisations
- *Honesty and transparency* in communicating about the research
- *Avoidance* of any *misleading* or false reporting of the research findings

This study obtained deep insights from each case study organisation. The participants openly revealed information about their organisations. Therefore, the identity of the participants had to remain concealed and this study does not provide detailed profiles of the interviewees. The purpose is to ensure that no harm is caused to participants and that their privacy and anonymity are protected. Any misleading or incorrect reporting of research findings is avoided. Thus, the detailed research methodology and processes in this study were based on established philosophical foundations that relied on honesty and transparency.

3.2.13 Chapter summary

This chapter explained the methodology linking the research questions to the research design, data collection, analysis and findings. It introduced the philosophical approach and how case study evidence was collected from multiple data sources. The purpose of using case studies (Yin, 2009) for this research was to provide rich contextual evidence combined with the theoretical concepts, which were introduced in the initial research literature-based open service innovation framework. Cross-case data analysis aimed to identify the differences and similarities between the cases in private and public sector organisations. The research methodology followed a linear but iterative process of conducting research while simultaneously acknowledging the strengths and limitations of case study research.

Different research strategies were evaluated, and the rationale for longitudinal research (Leonard-Barton, 1990), involving the collection of data suitable for triangulation (Denzin, 1989), was justified as the most appropriate approach for identifying the breadth of information needed. Furthermore, an abductive approach was adopted because the context of this study was complex and under-researched (Dubois & Gadde, 2002). The coding strategy was based on theoretical propositions identified in the literature. The researcher of this study followed specific procedures while researching to ensure quality control. The research was conducted in a rigorous and socially aware manner, enabling the collection of high-quality data which were rigorously analysed.

Chapter 3 - Research methodology

The next chapter presents analyses the findings from the three cases (one private and two public organisations). The results of the analysis informed the revised open service innovation framework to enhance understanding of the activities and behaviours of organisations in conditions in which they manage and develop processes for open service innovation.

4 Case Studies

This chapter provides an analysis of the data gathered from the one large private sector organisation, K-Group, and the two public sector organisations, Keva and the Finnish Tax Administration. Each case is introduced with background information, an explanation of how individuals in the case organisations were chosen to participate in the study, as well as an overview of their open service innovation development processes. The processes used in the capturing and analysis of the case study evidence are explained in section 3.2.10 (see Appendices 1-5 for more detail). Figure 7 below shows how the data (interviews, observations, documents) was analysed in relation to the open service innovation framework (Figure 3). First, data analysis was conducted to produce single case reports. Second, cross-case analysis was performed. Third, based on the case study research findings, a revised conceptual open service innovation framework was introduced (see Appendix 3).
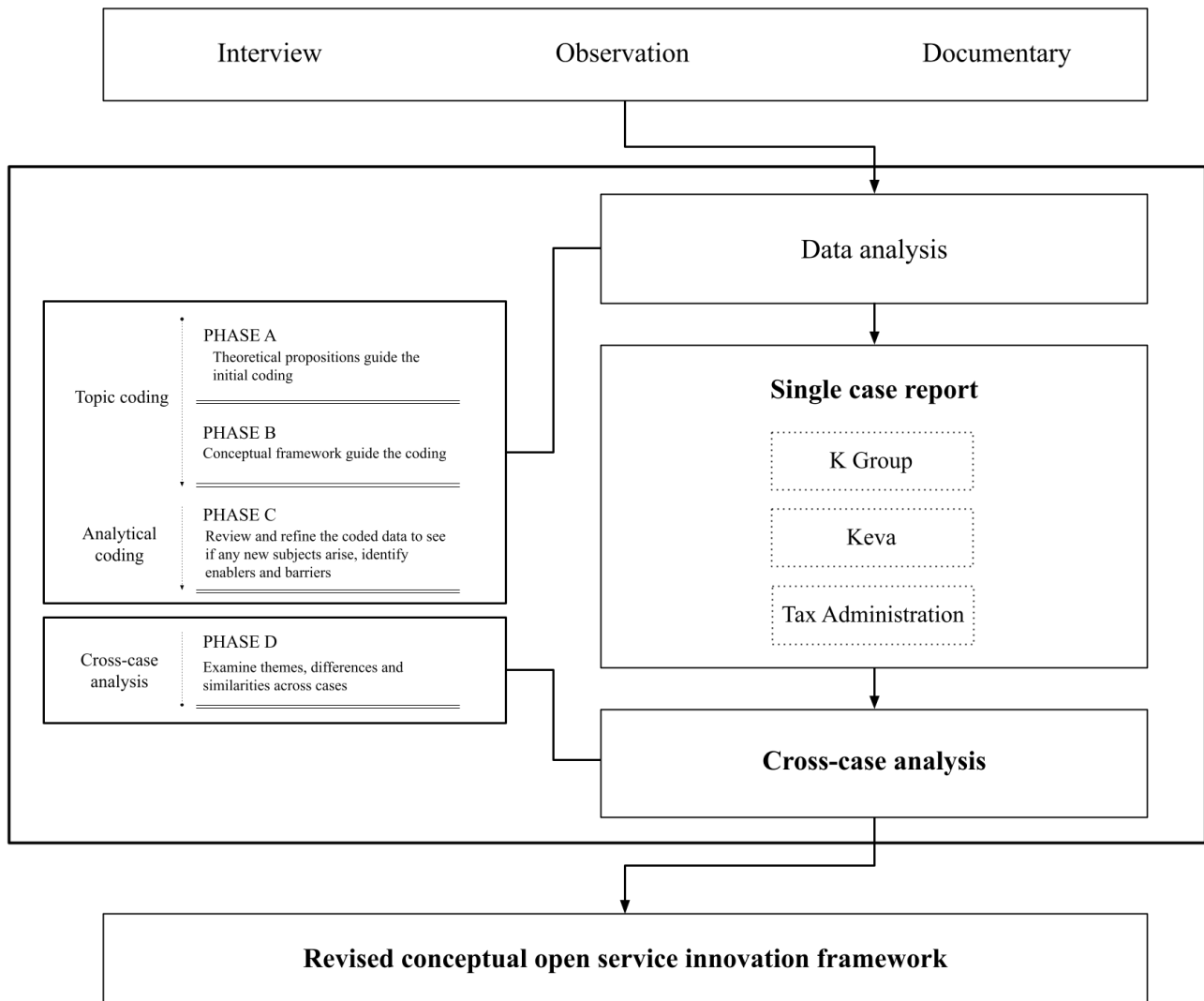
Figure 7 From case studies data to research findings.

4.1 K-Group

K-Group is a Finnish listed trading company, established in 1940. Its divisions and chains act in close cooperation with retail entrepreneurs and other partners. K-Group has approximately 1,800 stores in seven countries: Finland, Sweden, Norway, Estonia, Latvia, Lithuania, Poland and Belarus. More than half of their stores are run by local K-retailer entrepreneurs. Their headquarter are based in Helsinki where about 1,800 people work. They also have three other smaller offices in Helsinki and seven offices in different cities across Finland. Each of these smaller offices offer jobs for between 10 and 40 people in Finland. The group is the biggest trading sector operator in Finland and one of the biggest in Northern Europe, employing some 45,000 people. The total sales were €13 billion in 2018. The core of K-Group's strategy is profitable growth in three strategic areas: the grocery trade, building/technical trade and car trade. They aim to differentiate themselves from competitors by emphasising quality and strong customer orientation. K-Group aims to be the quality leader in the European trading sector. Its mission is to create welfare responsibly for stakeholders and for all of society. K-Group wants to create value and quality for customers in everything they do. The overall vision is to be the preferred choice for customers using responsible value creation for the whole of society. Their strong financial performance is evident in their annual reports.

K-Group individuals under the study

The individuals who participated in this research were personnel whose work was related to open service innovation development from a multidisciplinary perspective. Altogether, 23 people took part in the data collection with titles such as Head of Workplace Innovation, Head of Customer Experience and Design, HR partner, Chief Digital Officer, Vice President, Head of Analytics and Customer Data, Sales Director in Digital Services, Director in Programme Management and Agility, Senior Service Designer and Project Specialist in Design. All these participants mostly worked as part of a larger development unit responsible for the development of the overall matrix organisation. However, some individuals were also involved in other units, partly involved in open service innovation. The core people responsible for developing open innovation changed three times during the two years while the data were gathered. The discussion as to who were the right people to be part of this study was constantly reviewed by the researcher and HR. It was also discussed with the participating individuals.

The individuals under the study were mostly based in the headquarters in Helsinki. All of the individuals identified were happy to participate in the study and openly shared their thoughts and knowledge about the research topic. They were also very committed to developing open service

innovation. K-Group's top management had identified open service innovation as part of their development agenda.

The data was collected from interviews and observations during training and workshops and in other meetings. The connection between the researcher and K-Group was intense with regular meetings over the two-year period (Appendix 1 provides a more detailed explanation of the data-gathering intensity). In addition, to develop a holistic view, the following documents were examined: K-Group's strategy, blogs, web page news, internal presentations, plans and processes, as well as social media posts (LinkedIn and Twitter). In the following section, the results of the data analysis are presented.

4.1.1 K-Group case study analyses

The longitudinal approach to data-gathering for two years provided an overview of how the phenomenon being studied evolved over time. Figure 8 illustrates how the open service innovation development processes changed prior to, during and after data-gathering at the K-Group. In other words, operational details of how open approaches to innovation for services are being developed in the K-Group was demonstrated by identifying and discussing practical issues which came to light during the whole process of open service innovation design and development. It is noteworthy that the aim was mainly to collect real-time data but, while individuals were developing open service innovation, it was very natural that they referred to past and future plans. In other words, development processes towards open service innovation are continuously evolving in the K-Group.
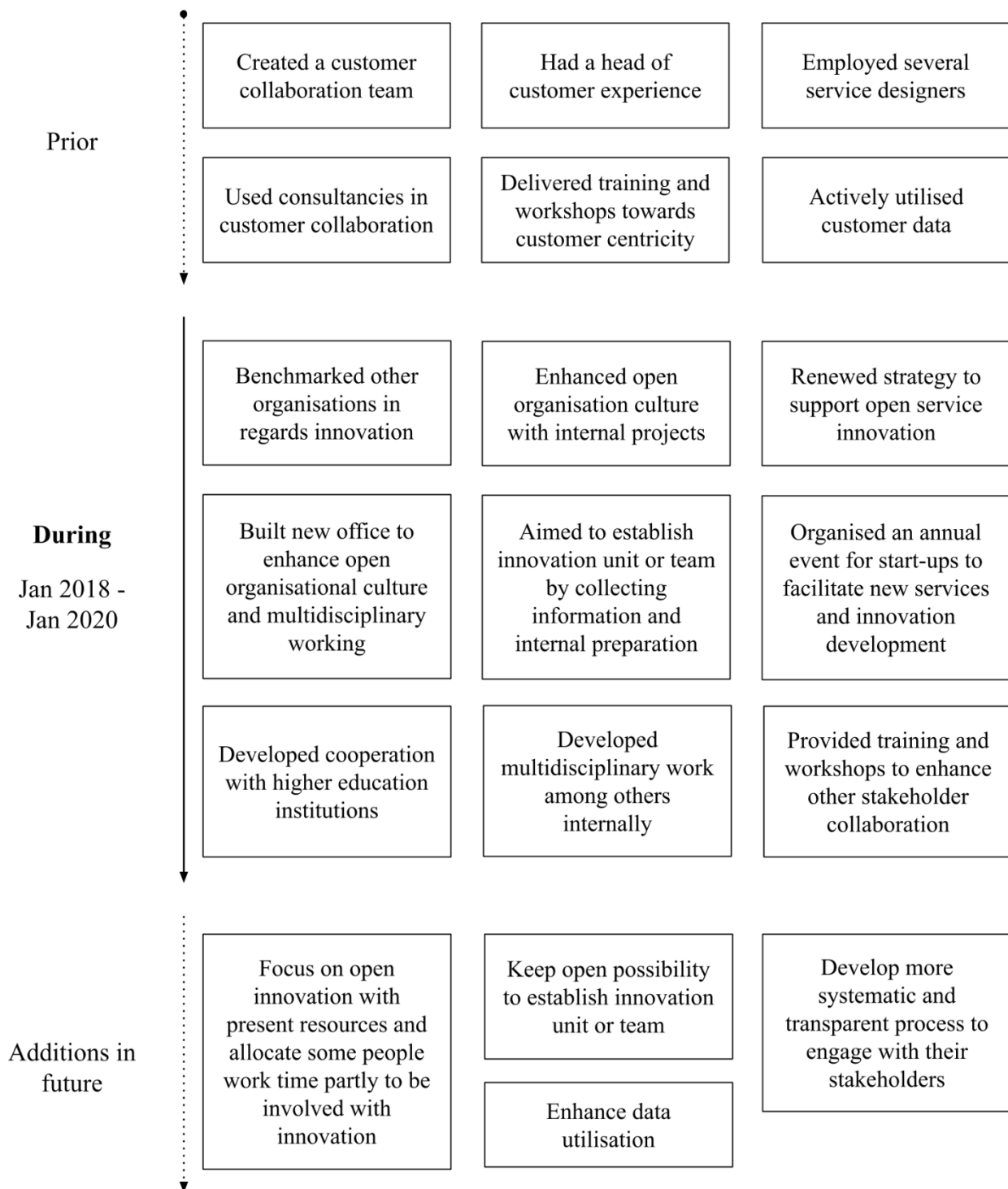
Figure 8 K-Group's open service innovation development prior to, during and after the data-gathering.

4.1.2 Customer collaboration

Customer-centricity and value creation are core for K-Group, as evident from their strategy. Since 2016 their customer collaboration team has developed rapidly. K-Group have personnel who are

responsible for the development of the customer-collaboration approach, such as the Head of Customer Experience and Design, and several service designers. Their role is to actively discover customers' needs to provide quality in service delivery and design. For instance, they actively listen to their customers, as one of the managers explained: *'We have established a so-called village society where about 5000 customers are invited and through this, we collect feedback, ideas and how everyone wants to utilise this village society'*. Figure 9 shows their village society web page where their customers are invited to provide feedback. In addition, K-Group regularly uses consultancies to facilities customer collaboration. Furthermore, they have educated other staff internally, so they understand customer collaboration and highlight customer collaboration in their internal and external marketing.
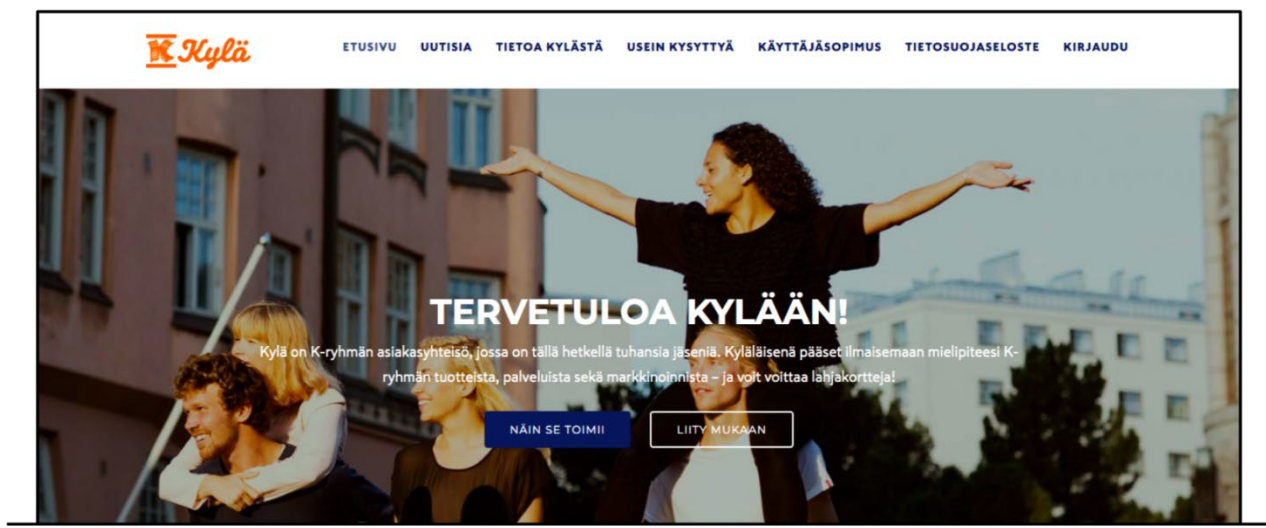
Figure 9 *K-Group village society[15].*

Nevertheless, the customer-collaboration approach varies internally as K-Group is a large matrix organisation which operates in eight different countries, and they have several different units as one of the managers explained: *'We are operating in different countries and in very different units, so this sometimes leads to the situation that we have different ideas or approaches about customer-*

---

[15] Translation: Welcome to Village! Village is a K-Group customer society in which there are currently thousands of members. As a village person you can express your opinion about K-Group's products, services, marketing and win gift cards! (https://k-kyla.fi/).

centricity'. Despite different approaches, personnel find that their top management has a good understanding of the importance of customer-centricity.

However, K-Group employees find that they could still improve customer collaboration by directly involving customers from the beginning of service development. According to personnel, in an ideal innovation or development case, customers are involved throughout service development. Nevertheless, in reality, this does not always happen, as explained by the person whose work involves customer-centricity: '*We have lots of good new ideas, but we are still using too much time and energy by discussing whose idea or opinion is the best. It would be easier if we could from the beginning test the idea with our customers'*. Therefore, K-Group personnel explained they need for a more systematic and transparent process by which to engage with their customers as part of their daily work, as one senior manager explained: '*We should work together with our customers throughout when developing services…we need to engage with them in different parts of service development stages, but we don't have any suitable systematic processes to engage with our customers'*. The need for a systematic and transparent process in customer engagement was highlighted throughout the data gathering process by the individuals who participated in the data-gathering.

4.1.3 Other stakeholder collaboration

K-Group have to work with several other stakeholders without compromising customer-collaboration, as one of the managers explained: '*We should focus on what kind of service we can offer for our customers. I mean service that is offered with several stakeholders and not as one provider…customers should see different service providers as one service'*. However, co-operation with other stakeholders is not as organised compared to customer collaboration, as one manager described: '*…but that open innovation we are not yet there…with openness we perhaps are still thinking about how we should be open and with whom'*. The importance of stakeholders other than customers in relation to innovation has been discovered more recently by the top management.

One important stakeholder for K-Group is start-ups with whom there has been co-operation in different units. However, transparency has been identified as a challenge in this collaboration, as one manager explained: '*I have noticed that we might do the same thing in different departments but not noticing that, for instance, working with the same start-ups…we are a very big organisation and it's difficult to manage everything in a transparent way'*. Start-up cooperation became even more important throughout the data collection. This was seen by K-Group benchmarking other organisations

by focusing on start-up partnership. The aim of this was to learn from others. To facilitate start-up attraction and collaboration, K-Group began to organise an annual event by inviting domestic and international start-ups to work with them towards customer-centricity innovation. The most suitable start-up was rewarded with €30 000 to further develop services together with K-Group. Between 01/2018 and 01/2020, there were two similar events, and they have now become annual events (see Figure 10).
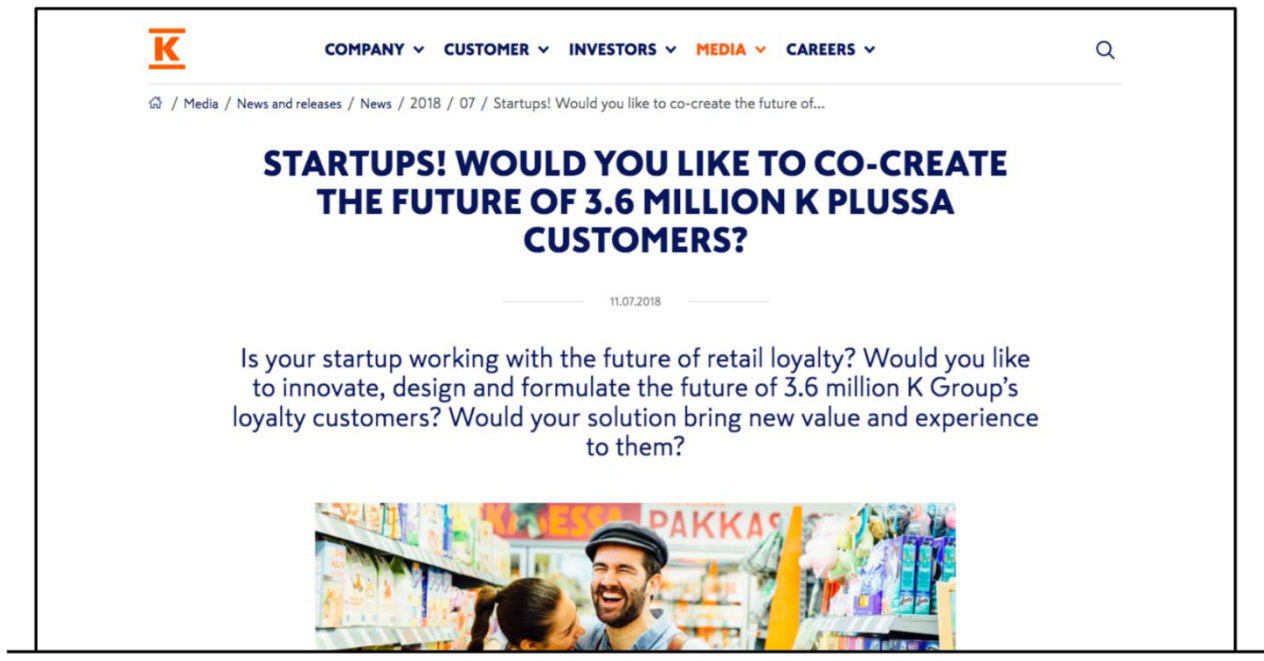
Figure 10 *K-Group start up event[16].*

The importance of co-operation with higher education institutions from the beginning of data-gathering was discussed by staff members. K-Group collaborates with two well-known universities in Helsinki. K-Group management provides presentations to these universities' students, collaborates with students on their thesis research and provides internship placements for students. However, the higher education institutions involved in this research cooperation were also seen as quite slow to engage with some staff members at the beginning of the data gathering, as one director explained: '*When we were planning our open innovation function, we very briefly discussed usefulness in*

---

[16] https://www.kesko.fi/en/media/news-and-releases/news/2018/startups-would-you-like-to-co-create-the-future-of-3.6-million-k-plussa-customers

cooperation with higher education institutions, but we concluded the conversation quite fast by saying that when working with them it is very slow'.

However, K-Group's attitude towards co-operation with higher education institutions changed as they noticed that co-operation with them could be useful, but the fact remains that collaboration with higher education institutions can sometimes lag behind compared to collaboration with the private organisations. At the end of the data gathering process, K-Group decided to take part in a programme to develop open innovation in partnership with a university in Helsinki. During data gathering, they also became more interested in this thesis, and at the end of the data gathering, the management team was keen to hear the research results. Consequently, the researcher was requested to present the results of this research three times to different audiences from the top and senior management. This outcome seems to suggest that management's attitude became more positive towards working with higher education institutions while developing their open service innovation. K-Group also actively shared their collaboration with higher education institutions via their website (see Figure 11).
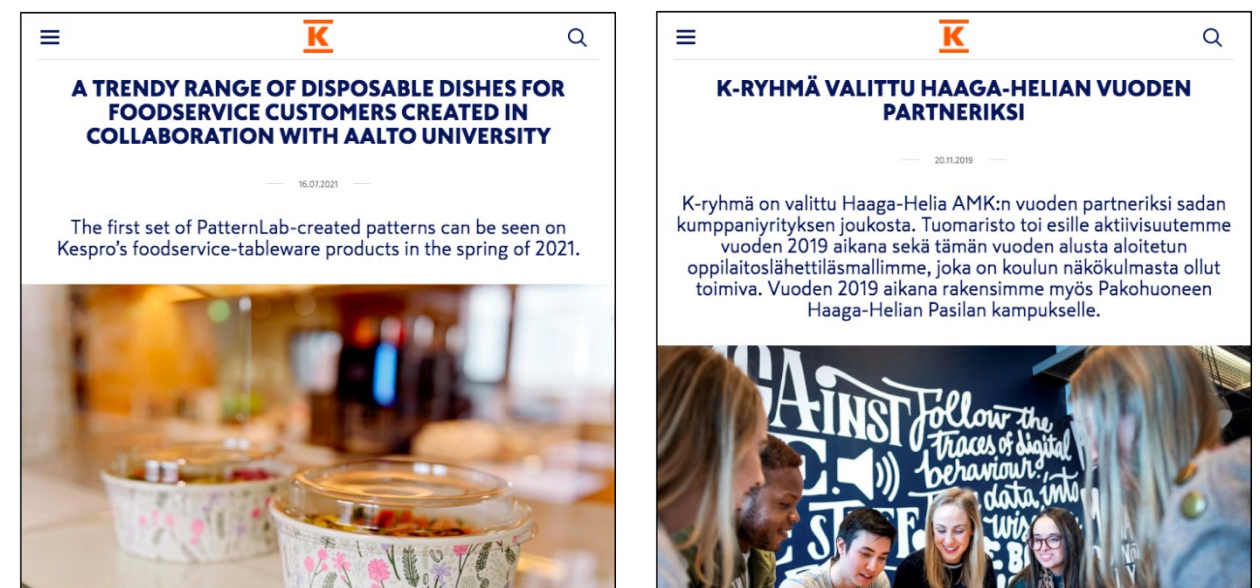
Figure 11 K-Group's co-operation illustrations with higher education institutions[17].

---

[17] Translation (right side figure); K-Group is chosen as an annual partner for Haaga-Helia University of Applied Sciences. K-Group is chosen as an annual partner for Haaga-Helia UAS among hundred other partners. The judges disclose K-Groups active approach during 2019 as well as our student ambassador model which from the school point of view is workable. During the year 2019 we also build an escape room to Haaga-Helia Pasila Campus.

Internal co-operation among different units is in K-Group's management development agenda and personnel see internal partners as stakeholders. It is useful to remember that K-Group is a large matrix organisation where 45 000 people work in eight different countries. Therefore, one of the aims among personnel is to work more with each other internally as they have so many opportunities in K-Group, as stated by one manager: '*K-strategy support that our different units are working together and creating together something better and thinking how we could synergise because we have so much benefit when we work together. Based on this we can create new service concepts…in this internal synergy there is such a power internally in K-Group*'.

From an outsider perspective, it might appear that K-Group conducts various activities towards open innovation such as start-up events, technology transfer or hackathons (see Figure 12). However, according to interviewees these are randomly organised by some people as one of the directors explained: '*We have bubbles where we are working like open innovation and we look good in social media, but these are just a few examples and I would say that internally we are not like this…or again we have bubbles where some people have such an open approach or culture*'. The challenge for large organisations is that people might work internally with the same stakeholders without knowing each other. During the interviews, it was often emphasised that K-Group is a large matrix organisation where, according to personnel, transparency is needed but is currently missing. Without transparency, the same innovations are discovered internally in many units or there is co-operation with the same partners without knowing each other. Therefore, throughout data gathering the need for a systematic and transparent process was emphasised when working with customers as well as other stakeholders. Openness towards stakeholders progressed firstly by focusing on customers more than their internal co-operation and more recently by focusing on stakeholders outside their own organisation.
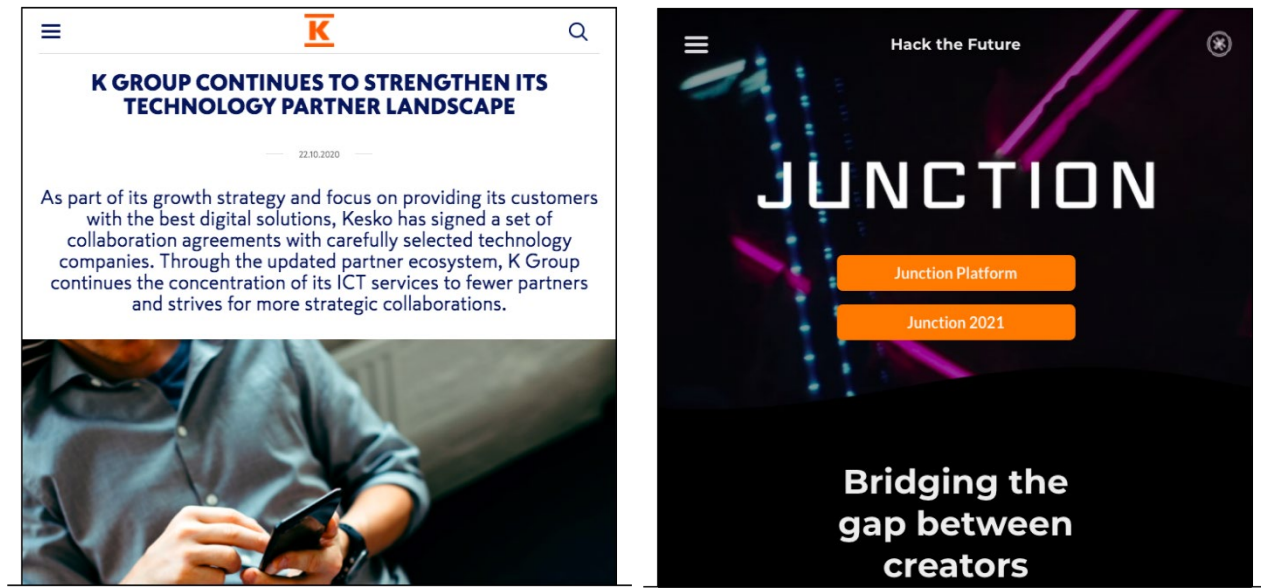
Figure 12 K-Group conducts various activities towards open innovation[18].

To effectively work with various stakeholders K-Group's aim during the data collection was to establish an innovation unit or team to support open innovation when working with stakeholders as well as to use technology transfer throughout the K-Group matrix organisation. The overall aim for the innovation unit was to support innovation functions in K-Group and, as a result, increase profitability. Throughout the data gathering it was highlighted that financial benefit is central to K-Group in innovation. The identified challenges were that innovation activities happened individually in each unit and were not centrally managed. Moreover, it was thought that innovation establishment was too slow, with no systematic and transparent process. People were not willing to take risks, hence an agile innovation process with an innovation team was needed.

However, this suggestion did not ultimately receive support from all the members of the top management, despite benchmarking several other organisations' innovation units in Finland and overseas, finding research information from open innovation, discussing it with several personnel members and creating a detailed plan. One of the directors explained the situation: '*well what is the reason that we don't have innovation unit. I see it so that we have this business as usual, and we just have to do it and financially we are doing extremely well…we have been able to improve our profit and our*

---

[18] Left side figure (https://www.kesko.fi/en/media/news-and-releases/news/2020/k-group-continues-to-strengthen-its-technology-partner-landscape/). Right side figure (https://www.hackjunction.com/).

stakeholders are happy and customers are satisfied. We are in a too good situation as what we are doing now is enough. All kind of innovation activities needs to start making more businesses'.

Personnel expressed that management should try more new ideas and not to be afraid of failure or outsider information as stated by one of the managers: '*We are aiming to do things too perfect, and we are only satisfied if something is perfect. We are too afraid to change direction or try something totally new or take risks as there might be a failure'.* K-Group has several stakeholders with whom they are co-operating, and personnel and well as top management are benchmarking innovative organisations but K-Group's management is still carefully considering innovations in their organisation. One of the directors explained that the challenge with the K-Group is that they are suspicious of outside knowledge because they are used to implementation mostly all by themselves, as they are such a large organisation. One of the directors stated: '*We have this not invented syndrome what is seen in open innovation as a barrier. The challenge is that we don't rely on outsiders because we are so large an organisation and we are used to the idea that internally we have all what is needed'.*

K-Group's plan at the beginning of 2020 was still to focus on open innovation and allocate some people to work part-time on innovation. One manager outlined the innovation plans: '*it is very obvious why our plans earlier in innovation has not gone through. We have started to build an innovation unit with too big steps. The pilot phase was scaled already too big by taking about millions but now we have clear vision that we will first see current stage and then with baby steps we will start to build it (innovation functions). Main thing is that we can just start it one way or another and then we learn from our mistakes and we learn by doing'.* Personnel who are involved with innovation work still hope that in the future there will be a manager or unit allocated only to innovation. However, personnel are still motivated to enhance innovations through the current organisational structure.

4.1.4 Open organisational culture

Openness in organisational culture was emphasised throughout the data gathering process as one of the main elements and enablers towards open service innovation. Interviewees explained that some individuals are very open to outside knowledge, but they wished the organisational culture would be open throughout the K-Group. Personnel are willing to change organisational culture to be more open and they have already made steps toward openness. To improve open organisational culture K-Group has established a unit that focuses on customer collaboration, as confirmed by one manager: '*We have*

changed to be more open because we ask from our customers what they want and how we should develop our services'.

Furthermore, in the autumn of 2019 K-Group built a new, very modern main office in central Helsinki for 1700 employees with premises that explicitly designed to an open organisational culture. Premises are designed so that there is interaction among people from different K-Group disciplines. The main office supports multidisciplinary work with open office spaces, several lounges, a gym, exercise hours, restaurants and a cafeteria to make sure people meet other colleagues as summarised by one of the managers: '*Our new main office is definitely supporting open organisational culture*' (see Figure 13).
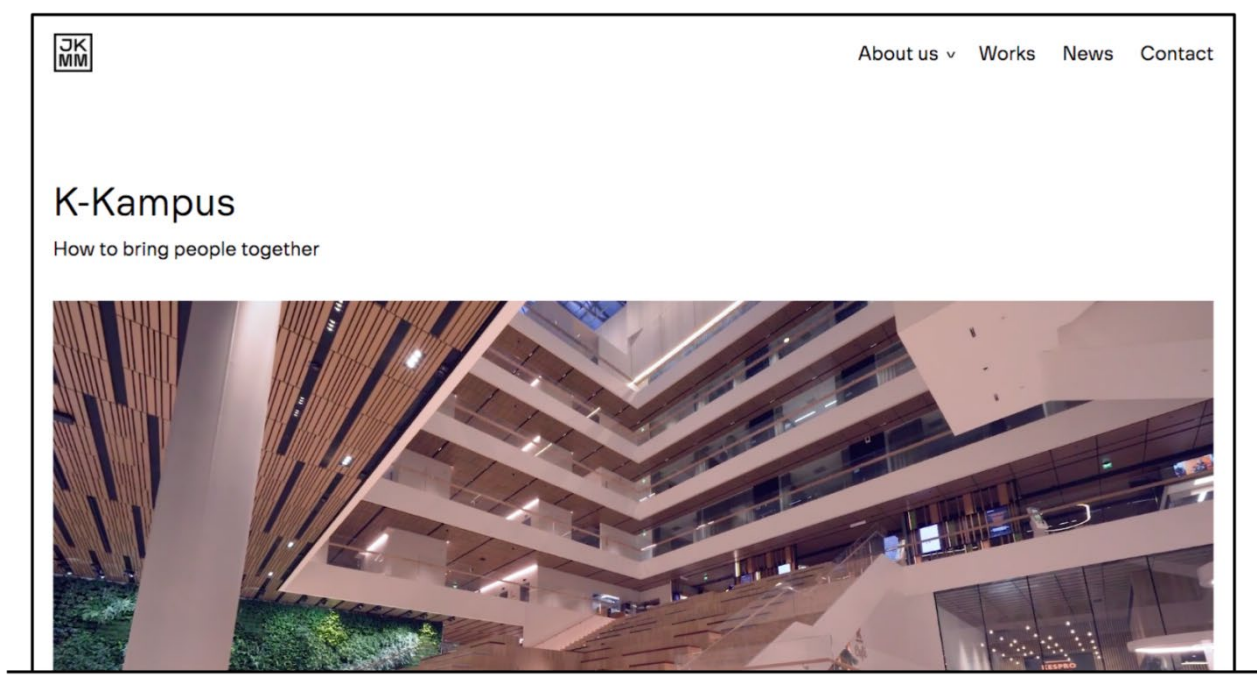
Figure 13 K-Group main office premises[19].

K-Group established the position of Head of Workplace Innovation in spring 2019 with the role of enhancing an open organisational culture. In practice, this means being responsible for the premises to support openness and to enhance innovative ways to work by offering personnel, for instance, regular exercise breaks in common areas, as well as music performances and events to inspire personnel.

---

[19] https://jkmm.fi/work/k-kampus/

One manager explained the role of the premises in relation to open organisational culture: '*We have this huge project building a new office and to renew our way of working. These will enable us to change our culture. Of course, not only premises aren't the main point but does allow opportunities to start to think openly our organisational culture as it will force people in a good way to work in modern ways of working and thus might also transfer way of thinking*'. Once the main building was completed K-Group decided that openness in organisational culture needs to be enhanced through their own internal projects and they appointed two people to focus on how to enhance openness in the K-Group and presented these results to top management (this was done at the end of the data gathering). Their aim was to enhance the workplace by focusing on culture and the appreciation of diversity (see Figure 14).
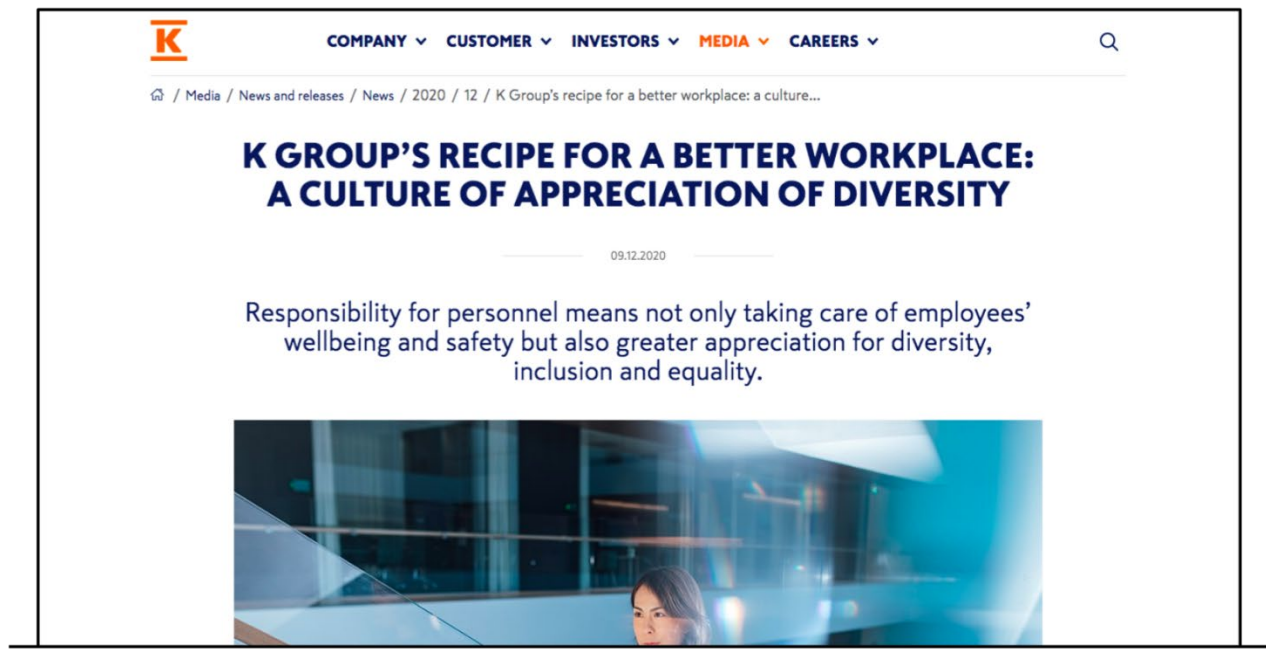
Figure 14 K-Group's recipe for a better workplace[20].

4.1.5 Enablers of open service innovation

The data from K-Group showed that customer-centricity revolves around customer collaboration. In addition, other stakeholder collaboration and open organisational culture were identified as the main

---

[20] K Group's recipe for a better workplace: a culture of appreciation of diversity (kesko.fi)

topics in open service innovation. A systematic and transparent process was recognised as the main enabler as mentioned in sections 4.1.2 and 4.1.3. However, the data also demonstrated other themes as being enablers when developing open service innovation. The following section presents these themes and the open service innovation outcome.

Top management support

One enabler regarding open service innovation was the positive attitude of K-Group's top management and their awareness especially of customer-centricity as well as other stakeholder collaboration as was stated in several interviews. However, their challenge is the complexity of the matrix organisation where the decision-making process is very slow and some managers are reluctant to change the management process, as outlined by one of the directors: '*Decision-making process is slow. It would be easier if in a lower level in our organisations some decisions could be done. There needs to be trust that people are doing good decisions*'.

In the K-Group, interviewees reported on a long history in the work culture of the manager knowing all and the others listening, and according to personnel this is difficult to change. The challenge is that some managers have worked in K-Group for a long time and they do not want to change their position in the organisation. One of the managers explained: '*We have lots of people here who have worked their whole adult life only in K-Group…this also means that in the management we have people who have built this organisational structure and for some of them it is difficult to change organisation structure as they have built for themselves a certain position*'. However, people would like to change the management style and have a more agile way of working inside the organisation. If this were embraced, it would also help to make work more effortless with various stakeholders, as described during one interview with a person involved with stakeholder collaboration: '*We have so complicated an organisation structure…I can see that we definitely have managers with open innovation mindset but they are stuck with our organisational structure…we have lots of discussions that our decision-making process is very slow…directors are stuck with our internal decision-making processes*'. In some of the discussions, the need for changes in the organisational structure was mentioned as an enabler for a more agile decision-making process. The overall enabler was found to be the top management's support of open innovation activities as it was a frequently repeated issue noted throughout the interviews and observations.

Strategy

One of the central elements of K-Group's strategy was customer-centricity which highlights value creation for customers and within the organisation. Stakeholder integration was not as strong in their strategy compared to customer-centricity which was clearly stated in their strategy papers. According to personnel, strategy was built without integrating personnel or stakeholders, as one interviewee involved with stakeholder collaboration explained: '*…developing our strategy and implementing strategy is pretty much closed because it is so strong in our working culture'*. Nevertheless, K-Group has been able to implement the strategy well and make profitable growth. Overall open innovation did not seem to be an explicit part of their strategy, but customer-centricity was visibly recognised. However, during the data gathering strategy was renewed which then emphasised some actions supporting open innovation. For personnel, strategy was important, as was support from management in giving direction to their work.

Training and workshops

K-Group supports personnel in participating in various training and workshop sessions, which they organise regularly internally. Throughout the data collection, K-Group provided training towards open innovation with customer-centricity. This training was particularly useful in inspiring people to make the needed changes and in providing information about these topics. Figure 15 illustrates one of the workshops: planning an open innovation development process. K-Group was also very active in benchmarking other organisations' innovation units to learn about how to develop innovation processes in K-Group. However, the challenge was to transmit the knowledge received from training, workshops or from benchmarking to others internally. More specifically, as K-Group is a complex matrix organisation, innovation development was identified for only a very limited number of people.

Figure 15 *K-Group's workshop on open service innovation development processes.*

Furthermore, during the data gathering people who were responsible for developing open innovation internally changed three times. It was evident that when people changed internally who were responsible for developing open innovation activities, it was difficult to transfer previously learned information to others. One of the reasons for this was that some of the top management did not view open innovation as a priority in organisational development work. Nevertheless, K-Group actively and constantly searched for opportunities by which to receive more training and information about open innovation. Overall training and workshops were enablers towards open service innovation, and the benefit of training was greater when participants networked with other participants from other organisations and learned from them.

Co-creation

Co-creation was described by K-Group sources as being valuable but not the core when developing innovations. As one director involved with service development noted: *'Co-creation is important but it's not the main point'*. Co-creation was mostly associated with working with customers. In some cases, there might be active co-creation with customers but in other cases there is not any co-creation as one of the directors explained: *'I see that in some cases we do active co-creation with our customers, but they are just some cases and in many cases we don't use co-creation. Quite often in practice we just test the prototype with customers'*. For instance, when there is a need to test new technology it is often tested with some customers and it is not co-created. Another example is when there is a need to buy data about K-Group customers which is sometimes acquired from external partners and there is no element of co-creation. In general, K-Group staff members find co-creation a good and valuable method but they also said that co-creation is not always needed when working with customers or other stakeholders, as elucidated by one manager: *'When we are sitting in the same room with our customer or stakeholder representative, we just discuss what to do and I think this is not co-creation as it is not always needed'*.

Other stakeholders' interaction was described more as collaboration rather than co-creation. This is due to the fact that there are not enough resources nor time in the K-Group to co-create intensively with both customers and other stakeholders and it is not always needed. Therefore, co-creation as a method is prioritised when working with customers. One person from the team focusing on customer collaboration explained that co-creation should also be used equally with other stakeholders: *'I see that we should do both equally (co-creation with customers and other stakeholders), for instance, if customer has some sort of wish or need, we should co-create this idea with customers and various other stakeholders. For instance, if we develop tools for our grocery store managers, we really need*

to carefully listen to what they say but also listen carefully to customers as well'. Several people discussed co-creation connected to customer collaboration, but it is worth noting that only one interviewee mentioned it in relation to other stakeholders. During the data collection, co-creation was not seen as a topic that created long discussions among personnel in comparison to other issues related to open and service innovation.

As there are many multi-disciplinary teams working together in K-Group, there are several internal stakeholders with whom they co-operate internally and, in some cases, extend co-creation. Internal co-operation is also supported in their strategy as one of the managers explained: *'K-direction support that more and more our different business unites should create together something useful and we should together think how we could get synergy benefits which we can have enormously and based on that create new service concepts…we have so much potential when working internally and by this we can utilise it and develop advantages compared to our competitors'.* Personnel stated that they are more used to internal co-operation than working with outsiders. The reason is that as they are such a large organisation, which internally offers several opportunities.

Data utilisation

K-Group has extensive knowledge about their customers especially data which they gather systematically. They have identified many opportunities in data. Therefore, they have people in roles who are responsible for data gathering and analysis under the supervision of the Vice President for Analytics and Customer Data. Data utilisation is one of their strengths and they emphasise its importance and have developed ways to analyse data, as one of the managers explained: *'Our understanding about the data is extremely good to understand customers from the numerical perspective'.* K-Group focuses on customer data mostly using quantitative data. However, they still see that it could be beneficial in future to combine qualitative and quantitative data. Their aim could be to combine data from the past, present and foreseeable future. As outlined by one director during their interview with one of the directors involved with customer collaboration: *'Once we can combine different sets of data, past, present and foresight data using qualitative and quantitative data then we can create a base to spread even more knowledge'.*

K-Group has several knowledgeable people with strong networks around digitalisation which enables data utilisation. One manager explained the meaning of data:'…*for us, data is a key position…which we use to follow actually everything that is connected to our key business…we are receiving data from our headquarter but we of cause buy data…this means that we are receiving data from various*

sources… and today we can use this data by ourselves as we have such great tools on how to utilise it. I mean that we have tools that automatically show reports'. Furthermore, K-Group is utilising artificial intelligence with ethical principles to tailor benefits for the customers (see Figure 16 16). Overall, K-Group has its own strong database, uses stakeholders' data and has the tools for how to handle this data in different internal departments.

Figure 16 K-Group's ethical principles for utilising AI[21].

Open service innovation outcome

For K-Group, the outcome of open service innovation means that value is captured by increasing profitability. This is, ultimately, the expectation of top management and K-Group shareholders. Whatever is done in the K-Group needs to be justified by its profitability. This was evident throughout the data gathering. One of the directors stated: *'We have endless opportunities to offer innovative services to customers and to increase our profits in this way'.* The directors often mentioned that elements in the work of various individuals in successful open service innovation were part of an open and transparent process. The open service innovation approach was also described as using the knowledge of national and international stakeholders. One of the managers expressed the following

---

[21]   https://www.kesko.fi/en/media/news-and-releases/press-releases/2018/k-ryhma-julkistaa-tekoalyn-hyodyntamisen-eettiset-periaatteet-asiakkaan-etu-ja-tarve-etusijalla/

view: '*We are a global firm, and, in Finland, our field is too small. So, we have to look outside Finland to see if we can find ideas to benefit our customers*'. Another manager said, '*We are interested in collaborating with our stakeholders from whom we get so many good and useful ideas on how to develop our business*'. Overall, open service innovation value capture happens in K-Group when the customer is satisfied and, most importantly, profitability increases. However, there is a need for transparency in the open service innovation outcomes because there are several stakeholders with whom K-Group are collaborating, and thus internally they sometimes do parallel work with the same stakeholders without knowing each other.

4.1.6 Summary of K-Group case

The importance of open organisational culture was regularly highlighted throughout the data gathering among personnel as being part of open service innovation in the K-Group. In relation to this, K-Group has already taken some actions by appointing people responsible for workplace innovation with the role of focusing on premises, as well as increasing multidisciplinary and internal projects that support openness. The organisation has an organisational structure with internal teams which support customer collaboration to some extent. However, a more open approach to innovation development is lacking which would also benefit other stakeholder collaboration. There might be overlapping work concerning other stakeholder collaboration and therefore, according to the data, the main enabler towards open service innovation would be a transparent and systematic process.

K-Group has displayed several initiatives to develop a more open approach towards working with customers and other stakeholders, such as start-up events, open events for customers and other stakeholders, and newly built headquarters designed to support openness with modern premises by aiming to increase profitability. However, the research results show that activities to support open service innovation development processes are randomly organised by only certain internal teams. Personnel would prefer an innovation unit responsible for stakeholder collaboration because it would allow structured management as well as transparency. However, some of the top management do not ultimately support this. Even though personnel have justified why an innovation unit with an open innovation focus would be useful, they find that some of the management are often reluctant to change. On the other hand, top management have supported open service innovation development to some extent. These concrete actions also reflect some of the personnel attitudes to becoming more open towards outsiders.

The data uncovered several enablers towards open service innovation in K-Group. One was top management support which also upheld strategy that was renewed during the data gathering to further support open service innovation. However, the data demonstrated that the complex matrix organisation makes management decision-making time-consuming. Another enabler was training, workshops and benchmarking other organisations. Co-creation was also seen as useful especially among customers and less frequently with other stakeholders. However, co-creation internally among personnel was prevalent as K-Group is a large organisation and collaboration internally can be useful. Furthermore, K-Group have identified many opportunities utilising data. The data indicate that they seem to have strong knowledge and networks around data utilisation.

4.2 Keva

Keva is Finland's largest pension provider and administers the pensions of the local government, the state, the Evangelical Lutheran Church and its employees. Its 550 staff members serve a total of 1.3 million public sector employees and pensioners as well as some 2,300 employer customers, that is, local government organisations, state employers and parish unions. Keva funds pensions with pension contributions collected from employers and employees alike. It is an independent body governed by public law. The Ministry of Finance, the Financial Supervisory Authority and the National Audit Office of Finland all supervise Keva.

Keva's stated values are customer focus, openness, responsibility and effectiveness. Their role in society is significant, and their values and mission are stated in their strategy, which aims to ensure the well-being of society. Keva complies with the Code of Conduct adopted by its Board of Directors (Keva, 2021). This compliance applies to all Keva employees irrespective of job title or position. The Code of Conduct states Keva's mission, aims, values and principles in all operations. The mission of Keva is to ensure pension cover and secure the financing of pensions as well as to aim for continuous improvement.

Keva individuals under the study

The individuals from Keva who participated in data-gathering were staff members from the main office in Helsinki, Keva's only office, serving customers all over Finland. Personnel who participated in this study had jobs related to open service innovation development from various angles, such as organisational development, strategy, innovation, services, digitalisation and innovation development. Individuals who took part in the research came from multidisciplinary teams as Keva has no separate unit or team responsible for customer collaboration, other stakeholder collaboration or innovation. Some individuals were engaged in these activities alongside their other work tasks. Altogether, 18 people, with titles such as Vice President, IT manager, Head of HR, Specialist and Customer Relations Manager participated in the data collection. However, it should be noted that in Keva, job titles do not always reflect the content of the job. For instance, 'specialist' is a common job title in the public sector organisation, Keva, but the nature of the work varies among specialists.

The data were collected from interviews and observations during training and workshops and in other meetings. The connection between the researcher and Keva was intense, with regular meetings taking place over two years (Appendix 1 gives a more detailed explanation of the data-gathering intensity). The set of core people involved in open service innovation remained practically unchanged throughout the study. There were only a few changes during the two-year data-gathering process. There was trust between the researcher and the study participants. Therefore, all topics were discussed openly. The atmosphere between the Keva personnel and the researcher was friendly and relaxed. Furthermore, to develop a holistic view, the following documents were examined: Keva strategy, internal PowerPoint presentations, blogs, web page news, digital communication platform, LinkedIn and Twitter. In the following section, the results of the data analysis are presented.

4.2.1 Keva case study analyses

The longitudinal approach to data-gathering over two years provided an overview of how the phenomenon being studied evolved over time. Figure 17 illustrates how the open service innovation development processes changed prior to, during and after the data-gathering at Keva. It is noteworthy that the aim was mainly to collect real-time data but, while individuals were developing open service innovation approaches, it was very natural that they referred to past plans.

Prior

Blogs and newsletters highlighted the importance of current development agenda issues	Internal development projects that focussed on an open organisational culture	Effortless cooperation with similar organisations when pension law changed at the government level
Personnel partly involved with customer collaboration	Interest in collaboration with higher education institutions	

During

Dec 2017 -
Feb 2020

Benchmarked other public and private sector organisations	Valued research knowledge as important source of innovation	Utilised actively co-creation among customers and other stakeholder collaboration
Used digital platform in innovation development to gather and develop different ideas from personnel	External and internal communication highlighted the importance of customer collaboration and other stakeholder collaboration	Renovated headquarters in Helsinki with a modern, open-space office with separate lounges and kitchens for staff members to interact
Personnel education programmes to enhance customer collaboration and open innovation	Start-up cooperation exploration	

Additions in future

Person responsible for stakeholder collaboration	Consider having a central development unit	Service development process model for personnel
Develop how to analyse different forms of data related to customers		

Figure 17 Keva's open service innovation development prior to, during and after the data-gathering

4.2.2 Customer collaboration

Customer-centricity is core for Keva. This is stated in their values and emphasised in their strategy, which states that their aim is to offer the best services in their field. In practice, customer centricity is implemented with customer collaboration. Keva offers personnel education programmes to enhance customer collaboration. All staff members can apply for these education programmes. Overall, there is a good understanding of the importance of customer collaboration in the Keva management team and among its personnel. This is also seen in external and internal communication – for instance, in blogs and newsletters highlighting the importance of customer collaboration, (see Figure *18* 18) and some staff members are trained with service design skills. Moreover, Keva uses consultancy support in the field of customer collaboration. However, employees at Keva still claim that the company's customer collaboration approach needs further development, as one of the directors explained, '*I see that we are on a journey – I mean that we have a strong focus on customers – but there is still lot to do.*' Customer-collaboration demands constant customer observation and awareness of their current and future needs. As one manager explained, '*We should all the time think that we don't do just the same customer service as always, but we need constant development. We need to be awake about customers demands, as in the future, customers may change their needs*'.
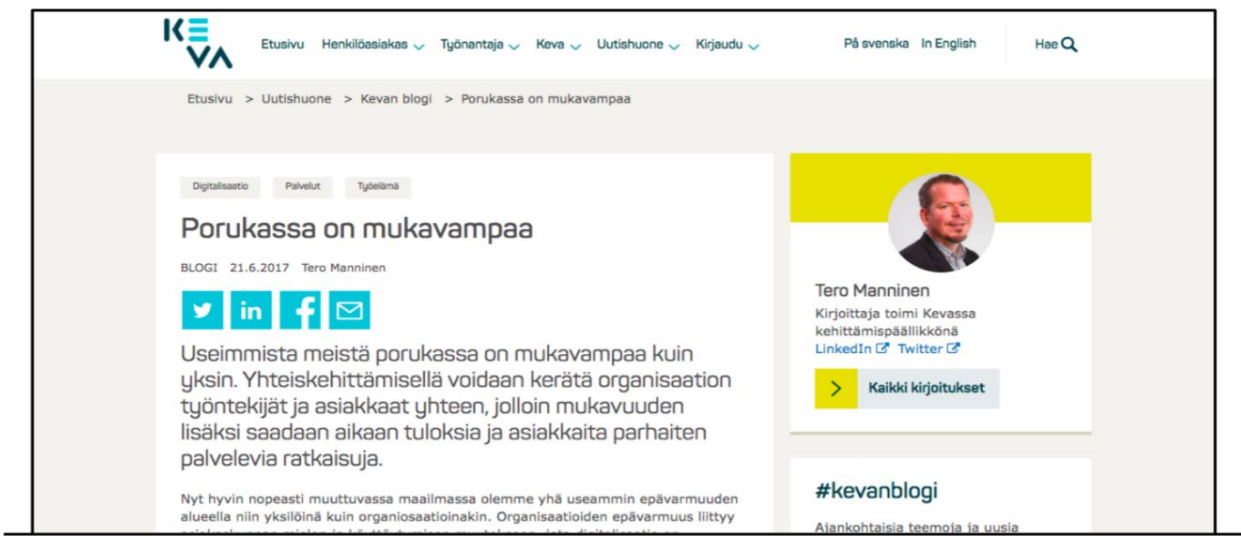
Figure *18* Keva's blog highlighting the importance of customer collaboration[22].

---

[22] It is nice at the group. Most of us like to be with others rather than alone. Co-creation can be used to collaborate together with employees and customers. As a result, there can be a better working environment and results which serve customers (https://www.keva.fi/blogi-kirjoitukset/porukassa-on-mukavampaa/).

Personnel stated that, too often, services are developed from their and not the customers' organisational perspective. As one manager said: '*We are still too often internally thinking how to develop things before we are showing anything to the customer. In our organisational history, it was earlier even more like this, that we showed only something ready for customers. I think that we should start to engage with customers as early as possible (when developing services).*' The challenge is that customer-centricity is not always part of daily business and does not follow systematic processes, for which one internal unit is officially responsible. As one specialist explained: '*I find it annoying that development work is in silos*' and '*we should build together with customers new ways of doing things, but the challenge is how the whole organisation would use these or how they utilise these concepts that we create*'.

4.2.3 Other stakeholder collaboration

Keva collaborates fairly actively with other stakeholders, and they find it beneficial. While customers are seen as the most valuable future partners, working with other organisations in the same field (i.e. other pension funds) is also viewed as valuable. In particular, Keva cooperates with similar organisations when pension law changes at the government level. In these situations, all organisations dealing with pensions need to adapt to changes to comply with Finnish law, making cooperation with external stakeholders easy, as there is then no competition. In these cases, therefore, working with stakeholders is straightforward, as all share the same goals. As one manager explained, '*I think it is easy to work even with our* (private competitors*) when there are renewals in law because, in these cases, all who are working with pensions have to do certain changes, and these changes are clearly given from outside, as in these situations, there is no competition and we all wish to do changes as smoothly as possible.*' Keva's history of working with similar organisations has helped their open innovation approach, as they are already used to cooperation.

Collaboration with similar organisations, on the other hand, is not always necessary, as the aim of Keva is to be the best service provider in their field, which sometimes requires developing services in a closed innovation model. For instance, they would like to be first in the market when establishing service innovations for customer needs; as one manager explained, '*We do lots of cooperation, but on the other hand, we would like to differentiate ourselves from* (private sector) *competitors, and therefore we develop some services closed from current and future competition.*' Keva personnel believe that the competition in their field among different pension payers will only increase, making a competitive edge vital. Competition is already evident, for instance, in private competitors copying

and developing similar services as Keva. It should be noted that even though Keva is a public sector organisation, other similar organisations are private. Furthermore, during the interviews, it was often mentioned that Keva may become a private organisation in future. Therefore, they feel that other organisations in the same field are their competitors, despite the fact that they are the only governmental organisation in their field in Finland.

Collaboration with higher education institutions at the beginning of the data-gathering was rarely mentioned despite the fact that data gathered later showed that Keva found it useful. However, the more Keva internally developed their open service innovation, the more they discussed collaboration with higher education. As one manager explained, '*We need to think in the future of how to collaborate with higher education institutions. We are interested to be part of the research projects, and we should also think that current students should see us as attractive to work for us in the future.*' The interest in higher education institutions was, in the first place, rooted in the fact that Keva can easily cooperate with higher education institutions as such cooperation is not governed by the law enforcing partner equality. '*From our perspective,*' as one director said, 'cooperation with universities and other higher educational institutions is kind of easier for us than working with firms – I mean from a financial and practical perspective.' It was also observed during data collection that interest in this thesis research was high and Keva was keen to hear the results. For instance, several people participated in the presentations during which the results were shared and discussed among personnel. During the data gathering it was observed that Keva's personnel and management were interested in hearing and utilising research knowledge in their work. Consequently, they value research knowledge as an important source of innovation. The example below is from Keva's web page showing their interest in research and education through a donation of €50,000 to the University of Tampere.

Keva wishes to explore more start-up cooperation; however, the challenge is that, from an organisational point of view, they are not flexible enough to work with more agile start-ups. Personnel felt that the challenge of working with some stakeholders, such as start-ups, is that Keva is a public pension payer, which means they must follow public cooperation law and treat all collaborators equally, not favouring anyone. This makes it time-consuming and sometimes complicated to establish cooperation with external partners. As one specialist explained at the beginning of data gathering, 'We can't always do things as fast and agile; for insta*nce, working with start-ups, because we have to follow rules to treat everyone equally, so that is an issue which we just have to deal with. Perhaps it's something that sometimes makes us slower, and we are not always able to do cooperation with*

various stakeholders as fast as we want'. Therefore, cooperation with start-ups is not as much of a priority as with organisations in the same field and research organisations.

On the other hand, at the end of the data gathering process Keva's attitude towards start-ups changed as one manager explained: *'perhaps we could work more with start-ups as it seems to be only our attitude that we can't do because of regulations in the public sector. Now we have seen that some public administrations are doing this. I think we need to change our attitude'*. During data gathering Keva organised two start-up events (see Figure 19). Another comment from one specialist was*, 'Perhaps we are too stuck with the idea that cooperation with others is difficult because we are public administration. I think we just need to learn new ways of doing cooperation as I see that there are public administrations who are doing this in an agile way. What we are good is that we are happy to learn from others or borrow ideas from others'*. The data suggests that over time attitudes changed towards the possibility of co-operation in agile ways with other stakeholders. One of the reasons for this was that Keva benchmarked other public administrations where there was a process to interact with other stakeholders effortlessly.
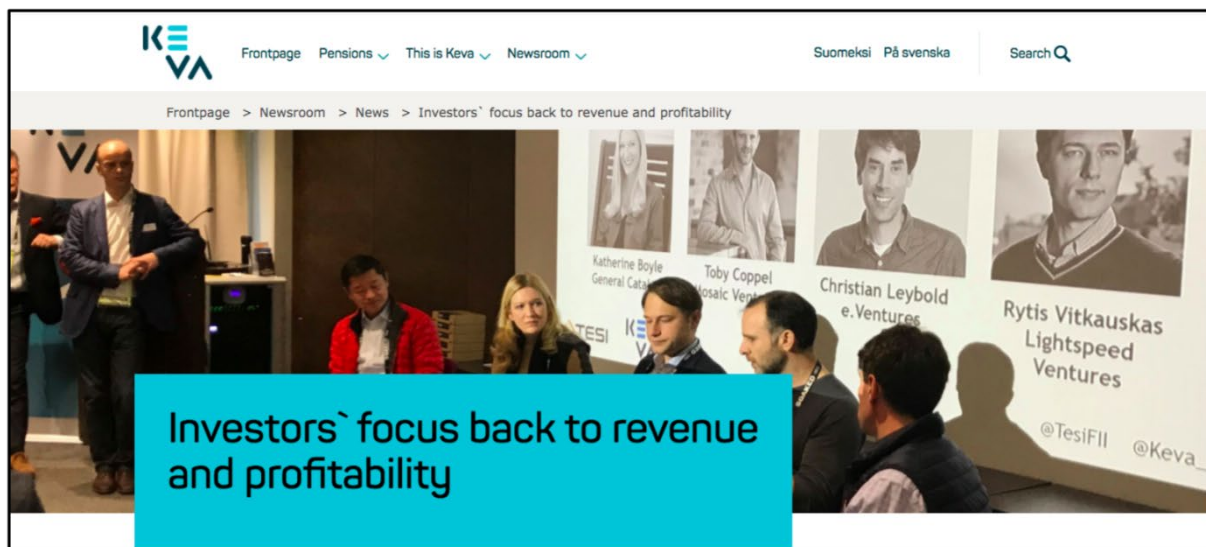
Figure 19 *More collaboration was the aim when Keva invited a group of US venture funds to meet Finnish start-up and growth companies[23].*

The need for transparent cooperation with stakeholders was emphasised throughout data-gathering for clear internal recognition and the tracking of stakeholder collaboration. As one of the managers

---

[23] https://www.keva.fi/en/news/investors-focus-back-to-revenue-and-profitability/

explained, '*It would be nice to have one picture about the whole environment with our stakeholders, as this would show us how to develop it and with whom we could do more cooperation.*' Another director described the situation in the following way: '*We have cooperation and so on, but it would be nice to have one picture of stakeholder environment view. Clearly, we need more transparency, and we need the ability to measure issues, which we can then in a transparent way offer for the whole house.*' People in Keva found it easier to develop cooperation among stakeholders after identifying with whom they were, in fact, cooperating. The need to cooperate with stakeholders was recognised and Keva are keen to develop services from a holistic perspective with several stakeholders. As one of the managers explained, it is not adequate to only focus on the customer: '*If we only ask from the customer, it is not enough…customers don't know what we can offer them…they are not always aware of what services they would need*'.

In terms of organisational structure, Keva has no central team responsible for all external stakeholder cooperation. Their strategic choice is that all should, in their work, contribute a customer and other stakeholder perspective supported by training and workshops. However, currently management think that there is no need for central development units. As one director explained, '*People who are doing overall development work are also part of the daily business work. We have always done some development, and lately, open innovation and customer-centricity have been on the development agenda.*' Nevertheless, management will rethink if there is a need to also have a parallel central development unit to enhance and support stakeholders and customer collaboration, as people involved in development work expressed that it would be needed. One of the people involved in development work explained: 'the *central development unit could boost and bring structure to open innovation and customer collaboration.*' On the other hand, the current structure works quite well, even though constant rethinking is needed.

In addition, personnel explained that it would be beneficial if job titles could reflect the actual content of a person's work especially when working with stakeholders outside Keva in order to identify with the appropriate personnel role across organisations. Currently many job titles in Keva are not indicative of work relating to customer and other stakeholder collaboration.

The main issue plaguing future cooperation is to clarify with whom the cooperation would be most beneficial, as one specialist explained: '*It would be beneficial for us to identify the surroundings and stakeholders who we would like to strengthen our cooperation with*'. Figure 20 demonstrates Keva's strategy process and identifies future needs up until 2025 as networked with customer collaboration,

other stakeholder collaboration as well as eco-systems among others targets. Keva used Figure 20 with external parties to openly explain their future plans.
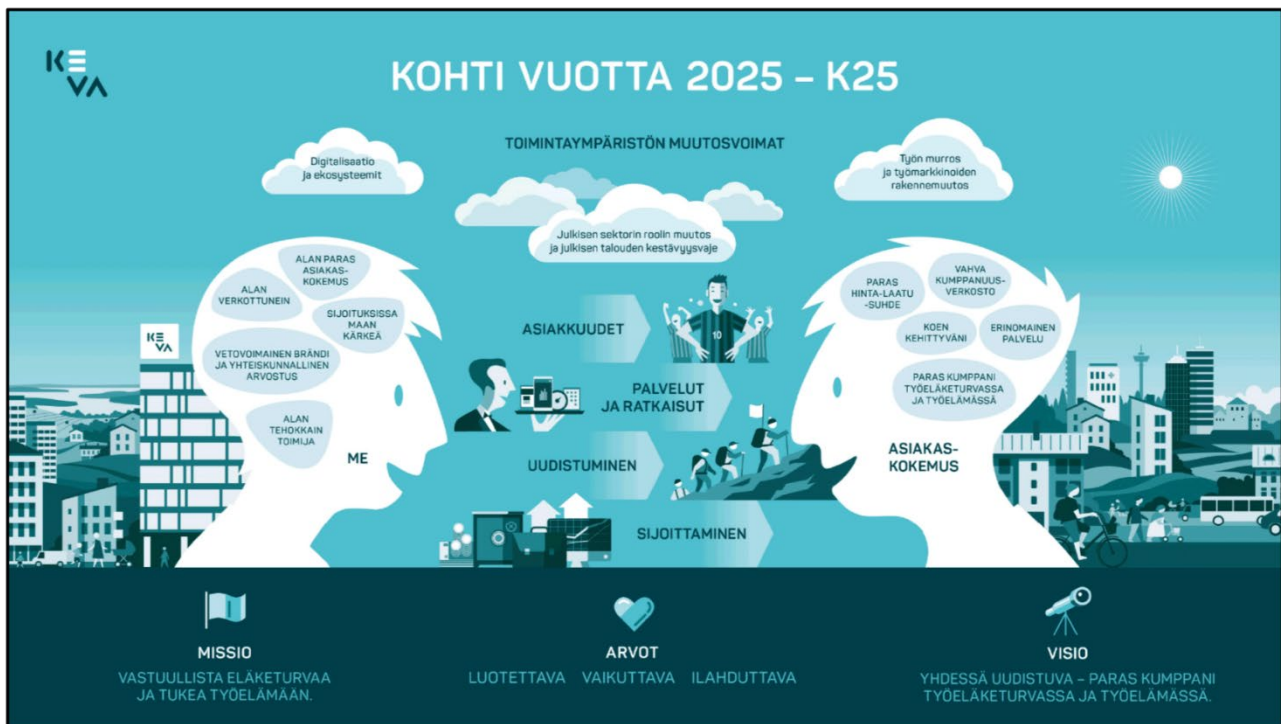
Figure 20 Keva's future needs to 2025.

4.2.4 Open organisational culture

Openness in organisational culture was one key element of open service innovation continuously mentioned during data gathering at Keva. From the beginning, Keva identified that they needed to enhance openness in their organisational culture. To implement this in practice, they took various steps, one of the most visible being the renewal of their headquarters to support an open working culture. They renovated their head office in Helsinki, incorporating a modern, open-plan office with separate lounges and kitchens in which staff members could interact. The aim was for the premises themselves to support multidisciplinary work and an open environment. Figure 21 shows the renovated office premises illustrating that workspaces are open areas where it is easy to meet others and not working in own office with closed door. Furthermore, Keva rented premises next to their main entrance in order to have a cafeteria in the same building which also welcomed those outside the organisation.
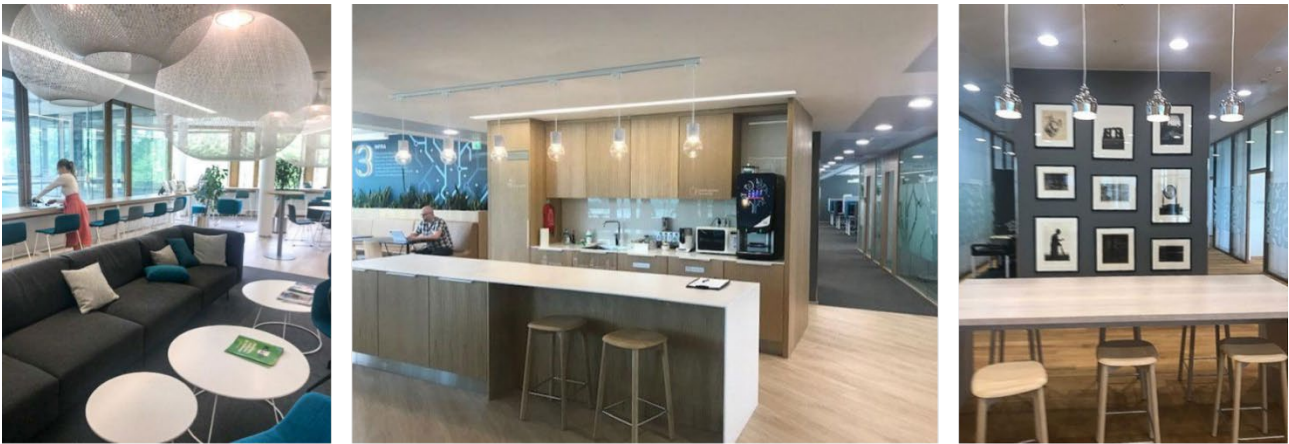
Figure 21 Keva's headquarters premises.

The role the renovation played in the organisational culture was described by one of the specialists: *'Our physical environment is changing, and at the same time, our working culture is changing. Now innovation culture is not something that happens in one part of the building…it's now meant to be part of every Keva employee's attitude'.* Another specialist explained: *'We are heading to an open organisational culture supported by our premises…perhaps we are not so stiff and old fashioned as we used to be'.* After the renovation, personnel claimed that the open working space had increased their interactions with others, including talking to people they had not known before. However, some people found it challenging not to have their own desk anymore. As one manager stated: *'Some people are still missing the old office, but I would say that interaction among personnel has increased. I can say that now I know more people than I used to. I now have an opportunity to meet more other Keva personnel, and that helps in internal cooperation'.*

In recent years (12/2017-02/2020), an open organisational culture has been enhanced at Keva in many ways beyond renovating the premises. Keva has developed internal development projects that focus on an open organisational culture and are given structure and direction by top management. Nevertheless, Keva personnel explained that openness in their organisational culture needs to be managed centrally in systematic ways to ensure that openness is implemented in practice. During the interviews, it was mentioned that personnel need encouragement working with open-innovation attitudes and approaches. Open organisational culture enhances openly disseminated knowledge. As one director described, 'Info*rmation flow is not currently in the best condition, which creates parallel work, inefficiency, and frustration for people. An open organisational culture would help in this'.* During data-gathering, the topic of the importance of working in different networks and increasing multidisciplinary working in agile ways arose, and according to interviewed personnel, an open organisational culture helps with this. They expressed that new ways of working need to be recognised and discussed

with personnel to be built together with the entire organisation. As one manager explained, '*Once the focus is on customer-centricity, there is a natural need for openness, and then the whole organisation will notice that we all have the same focus, and that is our customer*'. Therefore, Keva's customer collaboration contributes to its open organisational culture, for instance, through organising events among personnel or publishing blogs about the open organisational culture (see Figure 22).

Figure 22 Blog about the importance of openness in organisational culture[24].

4.2.5 Enablers of open service innovation

The data from Keva showed that customer-centricity revolves around customer collaboration. In addition, customer collaboration, other stakeholder collaboration and open organisational culture were identified as the main elements in open service innovation. A systematic and transparent process was recognised as the main enabler. However, the data demonstrated also other themes as being enablers when developing open service innovation. The following section presents these themes and the open service innovation outcome.

---

[24] Translation: Corporate culture does not change on its own. Most of the organisations identify their aims as customer centricity, open and agile culture. No wonder because value for an organisation is created by customers who challenge the organisation to constantly change and adjust to their needs (Toimintakulttuuri ei muutu julistamalla - Keva).

Top management support

Keva emphasises the support and recognition of top management in open service innovation. In practice, this is seen in management presentations, blogs and management interest in open innovation, stakeholder collaboration and customer-centricity through training, workshops and research projects. This empathy reflects the importance of open innovation and customer-collaboration in the daily work of personnel. One of the specialists at Keva described the role of management as follows: '*Management's role is to start new things, create enablers, sponsor and then allow freedom for teams to work toward aims*'. However, there are also some challenges in management, such as managers resisting organisational change or wishing to continue in their current positions. As one of the directors explained, '*Our challenge is too strictly keeping the organisational structure the same and holding too strongly to our roles or making sure that our own benefit is the main priority*'. Another director said, '*We have here people who want to have safety in their work. It might be that their own careers are in that stage that it would be from their own perspective to continue in the same jobs*'. The overall commitment of management to open service innovation was highlighted as important throughout the data-gathering.

Strategy

The importance of customer-centricity is highlighted in Keva's strategy, which states that '*Keva aims to offer better customer service by offering excellent service*'. Their strategy was renewed during the data collection. They now cite the need for strong relationships with various partners and close cooperation internally and externally. Their strategy document explains that Keva aims to work with various stakeholders in an open environment by focusing on customers, staying attuned to changes in society and creating ecosystems among partners. Overall, Keva's strategic primary focus is customer-centricity and the secondary focus is open innovation using stakeholder collaboration and ecosystems.

According to the interviews, strategy is well understood in practice in Keva as related by one director: '*We find it necessary to be involved with society development, and this is actually needed by our customers…we see that this is the direction where the world is heading*'. Personnel view support from outsiders as positive, as supported by one interviewee involved with customer collaboration: '*We are not so huge an organisation that we can discover everything by ourselves. We need others and outsiders. We understand our limitations, and also we see all the opportunities outside our organisation*'. Keva has a strategy which supports open service innovation and there seems to be concrete understanding of what it means among personnel.

Training and workshops

Keva offers training to its personnel, especially in customer collaboration such as service design, as well as training related to innovation development. This has enhanced the overall internal understanding of the importance of customers and other stakeholders. The enabler in successful training and workshops, especially in open service innovation, has been that the same people take part in the various training and workshops, ensuring that learned skills are implemented in practice and that knowledge of open service innovation strengthens among the same personnel. Throughout the data-gathering, Keva systematically involved the same people in training and workshops as well as in practical implementation. This was helpful when the open service innovation process was internally developed. Training sessions and workshops were interactive and personnel were excited and committed to take part in them as well as contribute their knowledge to their organisation (see Figure 23).
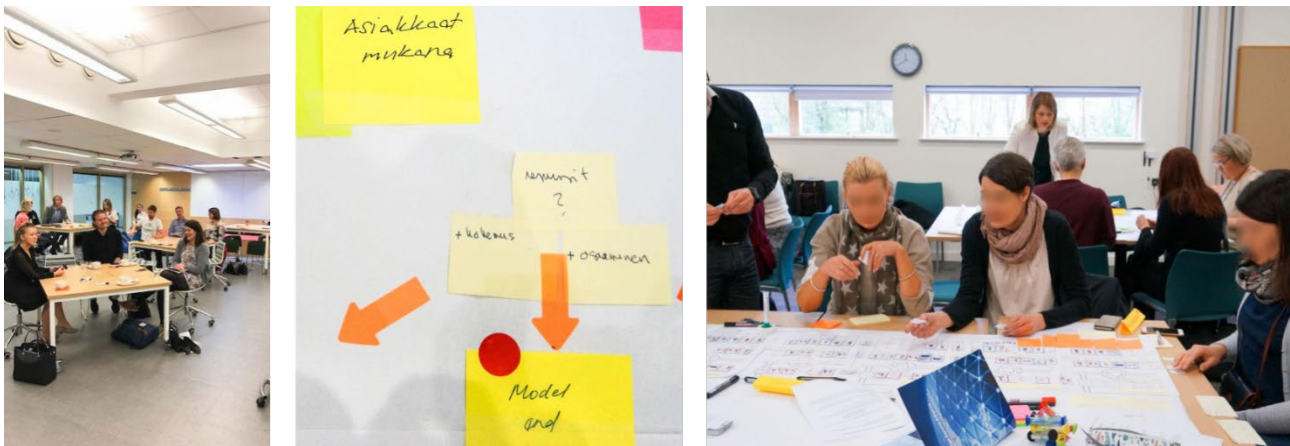
Figure 23 Pictures from Keva's training and workshop sessions.

Co-creation

The value of co-creation is well-recognised at Keva. Especially in the last few years, the importance of co-creating with customers has increased. One director explained that, '*In the past few years, we have opened up for customer perspectives, and curiosity has increased among personnel, and we have very good examples of successful co-creation*'. Another manager stated: '*Customer understanding and customer needs we need to understand it so well that customer needs to be involved our development work and we don't necessarily satisfy customer needs alone but we might need another partner with whom we can satisfy customer need and this is something what I think about co-creation*'. Keva regularly meets their customers internally face-to-face or online. They are also considering if they could use digitals tools to co-create with customers according to one of the managers: '*We are*

now thinking even more how we could facilitate workshops by online as all kind of digital tools are developing'. Future co-creation for Keva could be by using online tools or by working together with other partners to satisfy customer needs.

Internally Keva is also using co-creation among personnel by bringing different teams together to develop their services. As one director explained: *'Traditionally, we have a good history to involve people from different units, but how genuine the co-creation is can divide opinions'.* Keva regularly uses different online tools for internal communication. They also use a digital platform called Viima in their innovation work to co-create, gather and develop different ideas from personnel (see Figure 24). One of the managers explained: '*Viima and other online tools are widening our way of thinking and way of working as well as the way how we see how to do co-creation by online'*. Keva personell are also writing about the importance of co-creation in blogs as well as on their webpage.

Figure 24 *Keva's Digital innovation platform Viima*[25].

Keva is actively discussing co-creation with stakeholders from various organisations through meetings about developing their services and benchmarking others rather than by doing actual co-creation. As one manager said, '*We are actively meeting other organisations, especially public organisations.*

---

[25] https://www.viima.com/

I would say that this is quite routine – to discuss with other public organisations how we should work more together'. Another manager explained: *'We have been meeting potential co-operation members and trying to start a conversation with others, for instance, public administrations, therefore I would say that we have a good base from where to start and widening this to co-creation. At least we are not in the very beginning and there is some progress done'.* The data implies that co-creation is a valuable method for Keva, mainly with customers and internally among personnel, but it is rarely used when working with stakeholders.

Data utilisation

At Keva, there is various data about customers, but it is not always used effectively. Currently, Keva lacks the competence to use the data. As one director explained: *'We have a huge amount of data which we don't understand, even ourselves, how to utilise…we have data from our customers and their behaviour, and we could predict better the future and find trends and other issues…if we would just know how to use these data and how to draw conclusions from data'.* The organisation's overall aim regarding data is to analyse different forms of data related to customers. Currently, different sets of data are analysed differently, but the overall challenge is how to combine these sets of data to draw novel conclusions. The situation was described by one of the managers: *'We are analysing different sets of data here, but how IT, business development, customer feedback and other data could be connected would be beneficial'.* Personnel felt that that data could be useful also when combining different sets of data from various organisations to offer better services to customers. In this business eco-system with various partners, such a strategy would be valuable summarise on manager: '*Utilising data with stakeholders the result can be efficient service'.*

Open service innovation outcome

For Keva, successful open service innovation outcomes with value capture means that the customer is satisfied, and the organisation can offer the services for the customer needs. This calls for the use of customer collaboration and other stakeholder collaboration. One of the managers summarises this as follows: '*We are looking for synergy with other organisations, especially in larger development projects'.* Another manager said, '*We are trying to see larger projects and processes in our services…we can do things more intelligently by offering services jointly with several other organisations, based on customer needs. We need to think about what will benefit our customers most and, then, we should engage in collaboration with others'.* In order to achieve successful open service innovation outcomes in Keva, the main element, mentioned by various staff members, is a transparent

process, meaning that the organisation needs to see what is happening among various stakeholders. As one director stated, '*The process of collaborating with others needs to be transparent*'. Overall, open service innovation outcomes in successful value capture are achieved when the customer is satisfied, and the process of collaborating with others is transparent.

4.2.6 Summary of Keva case

Customer-centricity is Keva's main emphasis, and it is implemented in collaboration with customers and various other stakeholders. Keva focuses strongly on customers, but it has also identified the need and importance of working with various other stakeholders. This was particularly evident when there were pension law changes at government level. Thus, Keva is open to collaboration with various stakeholders. They identified that in the public sector collaboration with stakeholders can be simple and rapid when there is an internal process. Keva recognised the need to develop a systematic and transparent processes for customer and other stakeholder collaboration. Furthermore, one of the main elements of Keva's development of open service innovation processes was an open organisational culture, which was supported in practical ways.

The data led to the identification of several enablers of open service innovation. Top management support and strategy created an important climate for open service innovation, as did management support for training and workshops for personnel. Keva successfully implemented new skills during training by involving core personnel responsible for developing open service innovation. Co-creation was one of the enablers which Keva actively used among customers, personnel and other stakeholders, considering customers as the main focus. Keva has a real interest in data utilisation and actively plans to analyse different forms of customer-related data. Keva has chosen an organisational structure in which the development of open service innovation is part of daily work, obviating the need for central innovation or customer collaboration units. However, the adequacy of this process in Keva is subject to constant monitoring and review.

Overall, during data gathering, Keva aimed to achieve open service innovation value capture. In practice this means for Keva that services are offered based on customer needs, customers are satisfied, and the process of collaborating with customers and other stakeholders is systematic and transparent.

4.3 Finnish Tax Administration

Taxation in Finland represents the most important source of public income, and the revenue is collected to maintain and develop public services. Tax Administration's task is to ensure that the operations are effective, and the systems are reliable. The objective is to encourage taxpayers to pay their taxes on their own initiative in real-time and charge any taxes due as soon as income is realised. Tax Administration's vision is the following: Tax Administration as among the best in the world – by reputation and by results. Tax Administration has three published values: building trust, working together and embracing new ways of working. Its strategic objectives are to shrink the tax gap considerably, to ensure taxpayers meet their liabilities in full, and to have smooth and effective processes of taxation at all levels as well as capable and motivated employees.

Tax Administration is divided into departments according to tasks and responsibilities: The Individual Taxation Unit, the Corporate Taxation Unit, the Tax Collection Unit and the Taxpayers Services Unit. Furthermore, there are two autonomous bodies within Tax Administration: The Central Tax Board that issues advanced rulings, and the Board of Adjustment which processes appeals against tax decisions. Six service units take care of IT services, legal matters and other assisting functions. Tax Administration collects over 50 billion euros in taxes yearly. It employs approximately 5 300 people and has over 100 local tax offices in Finland. Tax Administration has strongly developed its e-services during recent years. Its employees are specialists from many fields. Tax Administration also provides customer service in addition to personal service by phone, e-files, forms, chats and web pages.

Tax Administration individuals under the study

The personnel at Tax Administration, who took part in data-gathering, were staff members, mainly from the headquarters in Helsinki but also from other cities in Finland. Their work was related to open service innovation development from various perspectives, such as organisational development, process development, strategy, innovation, services and digitalisation. Altogether, 51 people from various units, with titles such as specialists and directors, participated in the data collection. It should be noted that, in Tax Administration, specialist, manager or director are common job titles that are not indicative of the work context. These individuals, from different units, had multidisciplinary backgrounds, and they were committed to active development work. In Tax Administration, constant development was part of each individual's job. Open service innovation was already on the organisation's development agenda. Therefore, Tax Administration had already developed some approaches towards open service innovation prior to data-gathering.

The data were collected from interviews and observations during training and workshops and from other meetings. The connection between the researcher and Tax Administration was intense, with regular meetings taking place over two years (Appendix 1 gives a more detailed explanation of the data-gathering intensity). Individuals openly discussed the phenomenon being studied, often showing the researcher internal plans and papers to illustrate the topic being discussed. The following documents were examined to develop an all-inclusive view: Tax Administration strategy, innovation process plan, processes for interactions with higher education institutions, processes for experimentation, other general internal processes, web pages and social media posts (Twitter and LinkedIn).

4.3.1 Tax Administration case study analyses

In the following case study analyses, the initial conceptual framework is discussed. The longitudinal approach to data-gathering over two years provided an overview of how the phenomenon being studied evolved over time. Figure 25 illustrates how the open service innovation development processes changed prior, during and after the data-gathering for the Finnish Tax Administration. In other words, operational details of how open approaches to innovation for services are being developed in Tax Administration were demonstrated through examination of practical issues during the process of open service innovation design and development. It is noteworthy that the aim was mainly to collect real-time data but, while individuals were developing open service innovation approaches, it was very natural that they referred to past and future plans. In other words, development processes towards open service innovation are continuously evolving.

Consultancy support in the field of customer collaboration	Participant in hackathons and start-up events	Use of research knowledge in their management decisions
Constantly developed internal processes and organisational improvement	Internal instruction and process on how to interact with higher education institutions	Active to take part in various global networks, seminars and forums
Training provider in customer collaboration	Consultancies used regularly	Possibility to do staff exchanges in other public organisations in Finland

Prior (label on left)

Started to develop services more from customer needs	Personnel responsible for stakeholder collaboration	Internal processes on how to act to secure agile experimentation
People who are responsible for bringing outsider knowledge to their organisation	Established a focused agile team from data analytics which work was to serve other units	Experimentation philosophy launched by the management
		Provided training and workshop about open innovation

During

Jan 2018 -
Jan 2020

Establish internal unit to focus on customer collaboration

Additions in future

Figure 25 Tax Administration's open service innovation development prior to, during and after data-gathering.

4.3.2 Customer collaboration

The importance of customer-centricity is well-understood in Tax Administration. In practice it is implemented through customer collaboration and the concept of service design is known to the

personnel. Their strategy emphasises customers and positive customer experience. This requires engagement with customers in numerous ways as well as engagement with various other stakeholders. The aim of Tax Administration's customer service is to make their services effortless by developing new and current services with various partners. On a practical level Tax Administration offers training in service design and the role of some of the staff members' is to focus on how to develop current and new services for their customers. As one director explained: *'We have lots of personnel who are educating themselves for service design and I think it's superb…and solution service unit so clearly have identified that our job is to make sure that service design in reality is present'.* Furthermore, Tax Administration uses consultancy support in the field of customer collaboration. They openly explain how they have redesigned their organisation and reformed their culture to enable better customer experience with the help of consultancies (see Figure 26). However, customer collaboration or other stakeholder collaboration is not visible in official job titles as those involved are public officers which means that job titles are set and do not always reflect the actual work accomplished as part of the role. Nevertheless, overall, the personnel in Tax Administration are interested in communicating with their customers to find the best possible ways of offering services and this is seen in strategy, which highlights the importance of customers. Tax Administration's strategy was renewed in 2018, and customer focus was highlighted even more than in the previous strategies.
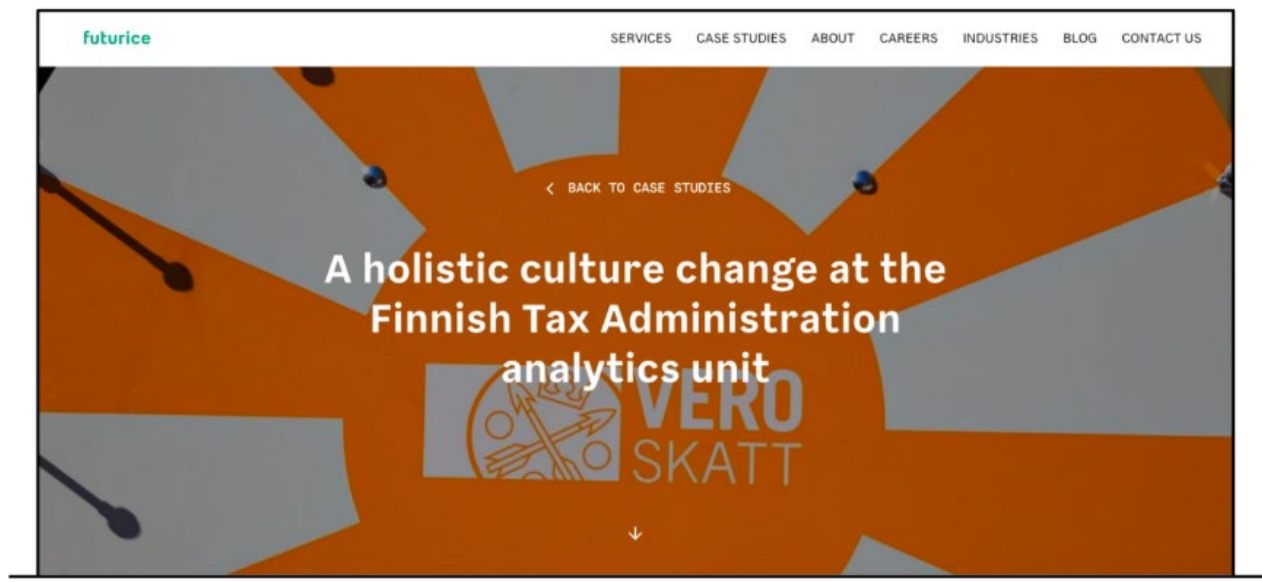
Figure 26 *Tax Administration consultancy support[26].*

---

[26] https://futurice.com/case-studies/finnish-tax-administration-tribe-experiment

However, Tax Administration also faces challenges with regard to customer collaboration. Personnel explained that they should play a more active role especially in the beginning of service development to involve customers. Furthermore, transparent and systematic ways by which to collect understanding and knowledge from customers were seen as important, as articulated by one specialist: '*We are not active enough getting to understand from our customers*'. The challenge is that Tax Administration sometimes focuses too much on internal working process rather than on customers' needs, as one interviewee explained: '*...often we still all are starting somehow from our (internal) processes or our channels and not from customer needs. Somehow that is still the world...*'. Although internal processes are being actively and constantly developed and are used for improvement, the customer's voice is not always heard. One director described this situation in the following way*: 'Could I somehow explain this situation that we have so many tasks in our development line from our internal development needs and internal processes that we don't have enough resources to focus more to our customer*'.

During data gathering, the recognition of customer collaboration was highlighted by one of the specialists: '*Lately it's been empathised and improved that we are starting to develop services more from customer needs and we are noticing customers...and this is seen lately*'. By the end of the data gathering, at the beginning of 2020, management said they were establishing an internal unit to focus on customer collaboration. This unit will internally serve other units whenever needed to gain customer insight information.

4.3.3 Other stakeholder collaboration

The aim of Tax Administration is to develop services by placing customers at the centre and interacting with other stakeholders in parallel. Therefore, Tax Administration actively meets other stakeholders. In particular, they collaborate with various stakeholders in an agile way when there is change required from the government. Overall collaboration with other stakeholders is important for Tax Administration and this is well understood among personnel.

Collaboration with higher education institutions is valued by Tax Administration and there are internal instructions and processes on how to do so. Tax Administration supports student projects (see Figure 27) and is interested in being involved with university research projects. For instance, Tax Administration's management expressed an interest in supporting this thesis. The results were presented to personnel and the General Director. There was also a request for another meeting about the

results to provide the opportunity for more detailed discussion. This illustrates that Tax Administration is keen to learn from research results and use research knowledge in their management decisions.
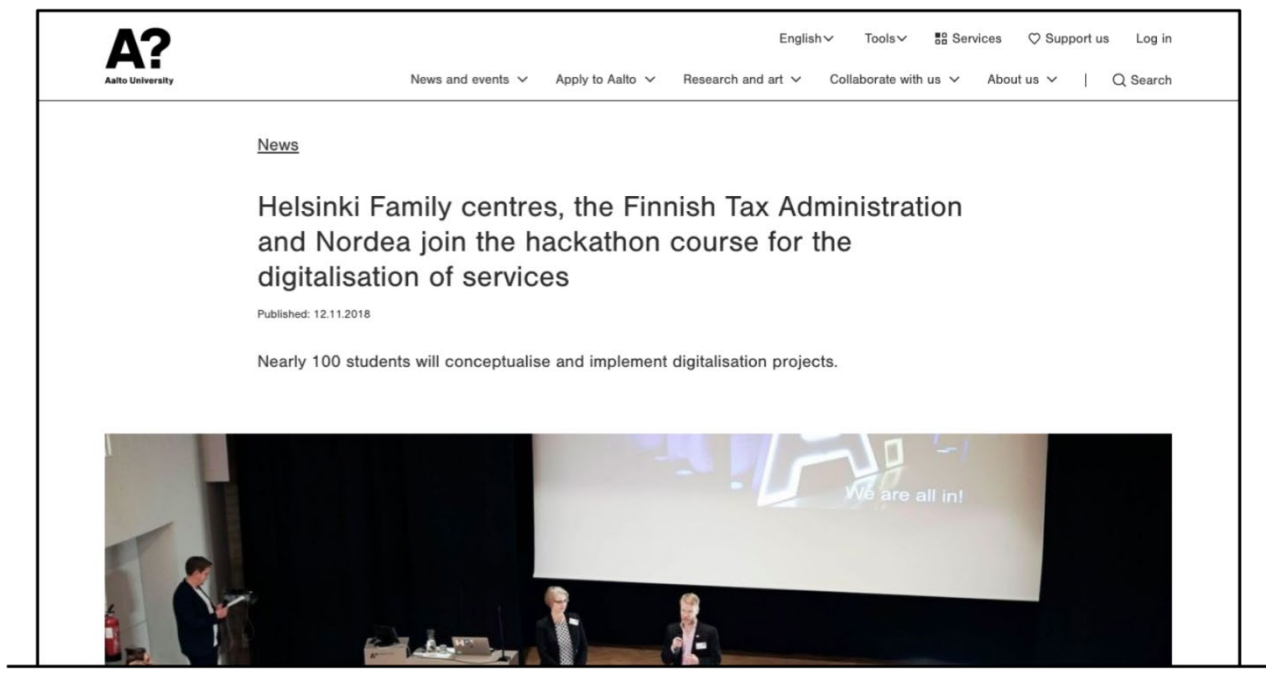
Figure 27 Higher education institutions collaboration among Tax Administration[27].

To meet international stakeholders, personnel are active in various global networks and seminars. They regularly meet colleagues in other countries by benchmarking their services and discussing daily work. Furthermore, they seek new ideas by doing staff exchanges in other public organisations in Finland. This is achieved across personnel in all departments from the top management to the lower levels if individuals express an interest in staff exchange. The aim is to learn from others and increase personnel know-how. During the data collection it became increasingly clear that Tax Administration is using other stakeholders' collaboration actively internationally as well as nationally.

Internal co-operation among different units is quite active and the need to interact internally is recognised. Tax Administration has internally created teams where members are from different units around Finland. For instance, some staff members' managers might be 600 km from other team members. According to personnel, distance does not bother them as they are used to digital communication tools and sometimes personnel use internal flights to meet each other in person.

---

[27]   https://www.aalto.fi/en/news/helsinki-family-centres-the-finnish-tax-administration-and-nordea-join-the-hackathon-course

Interest towards start-up co-operation is evident in Tax Administration's participation in hackathons and start-up events as well as in international collaboration (see Figure 28). Furthermore, consultancies are used regularly, for instance internally for developing team functions or externally with customer work. The barrier to these kinds of stakeholder collaboration is that Tax Administration needs to engage in competitive tendering for all non-public partners. Therefore, when working, for instance, with start-ups or consultancies, the process is not always rapid. Nevertheless, Tax Administration are still able to work in an agile way with several partners as they have created internal processes on how to act in these kinds of situation to secure agile experimentation. The main challenge is that co-operation with various stakeholders is not transparent or systematic, meaning that information about those with whom they are co-operating is not gathered in one place.
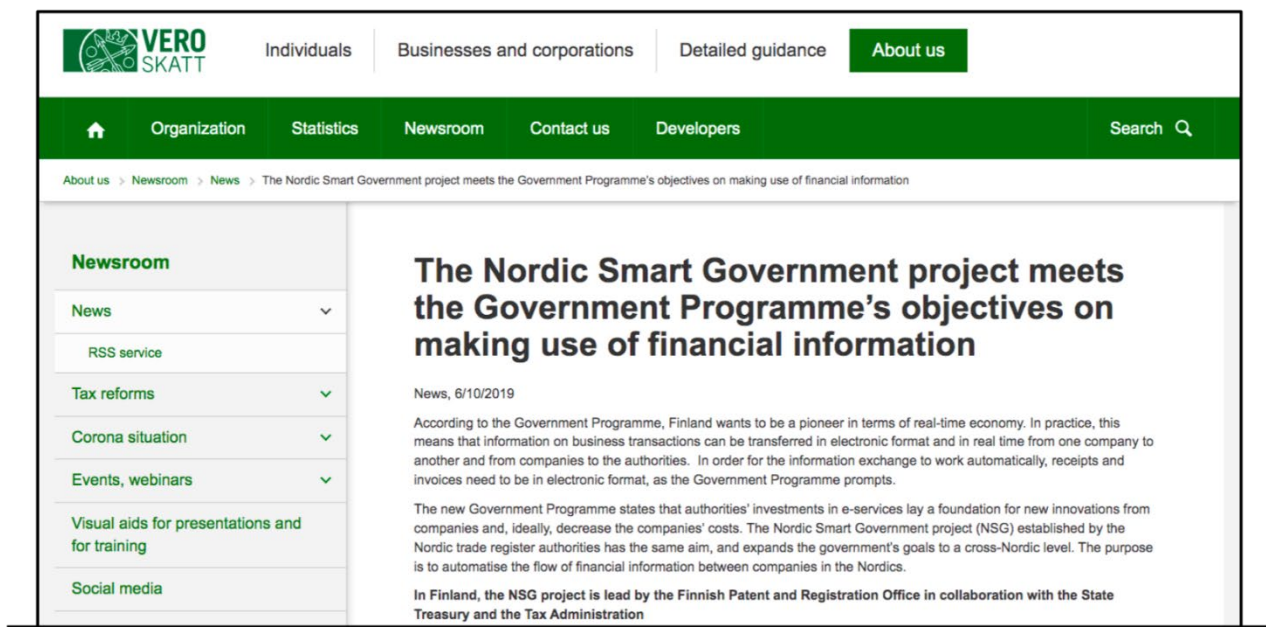
Figure 28 *Tax Administration's international collaboration and hackathon event[28].*

At an operational level the outcome of active customer and other stakeholder collaboration is the many contributions of new ideas from personnel, customers and other stakeholders. The challenge is that only a limited number of ideas can be applied to Tax Administration. Therefore, an internal process exists called 'from idea to solution' where all ideas can be proposed and handled (see Figure 29). One of the directors explained it as follows: *'From idea to solution service is that structure when you have an idea* (how to improve something or create something new) *you will write it to this service*

---

[28]   https://www.vero.fi/en/About-us/newsroom/news/uutiset/2019/the-nordic-smart-government-project-meets-the-government-programmes-objectives-on-making-use-of-financial-information/

and this idea will be examined and if it is good it will be allocated as a new project. We have some support, structure and permission to develop innovations.' One specialist expressed there are still challenges in how to prioritise: *'We have certain systems where we are gathering new ideas and what should be handled next. Then again comes the fact that there are much to do and challenge to prioritise'.*
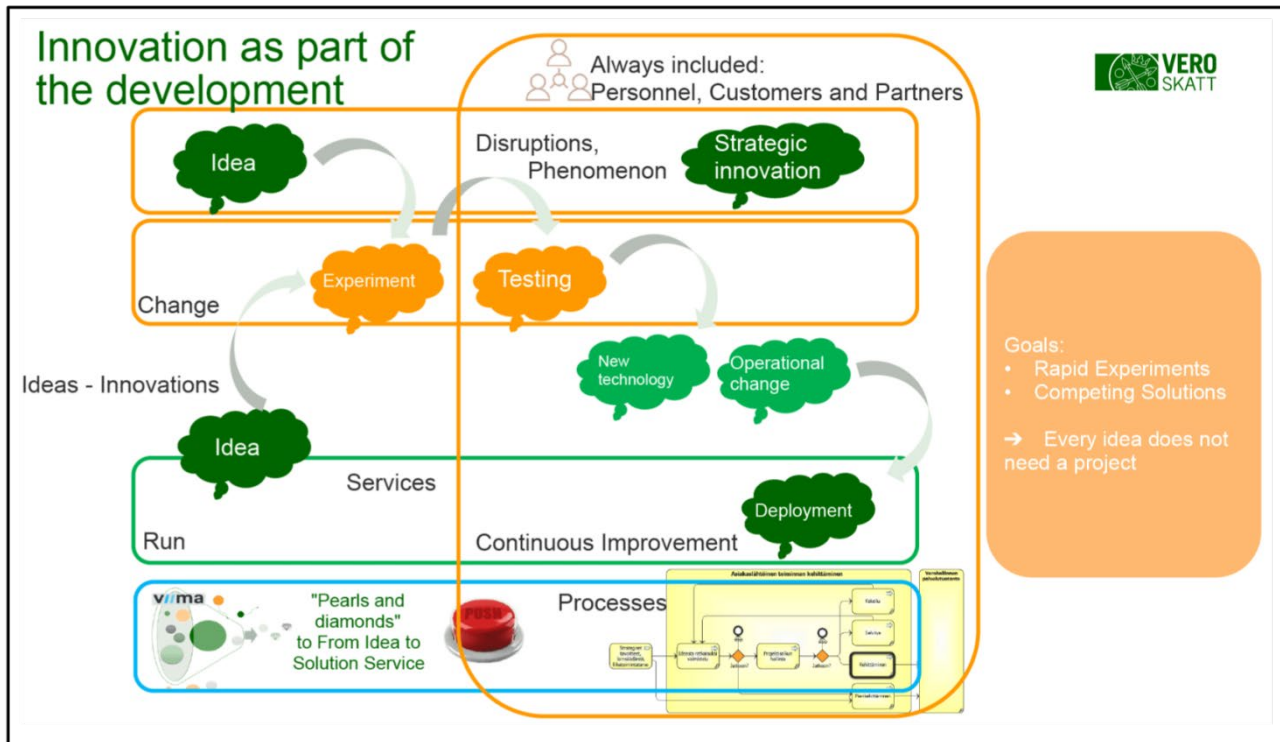
Figure 29 Tax Administration's internal process from idea to solution.

The positive change is that Tax Administration has started to be innovative in an agile way, and to use structure and systematic processes when developing new ideas or innovations, as one specialist described: *'I would say that we have experience about experimentation…we have realised that things could also be done in a different way. And then there is support; innovation – and experimentation policy and some systematics'* (see Figure *30* 30). During the data gathering Tax Administration started to use the online tool to develop innovation process transparency and encourage a larger number of personnel to be involved in innovation development.
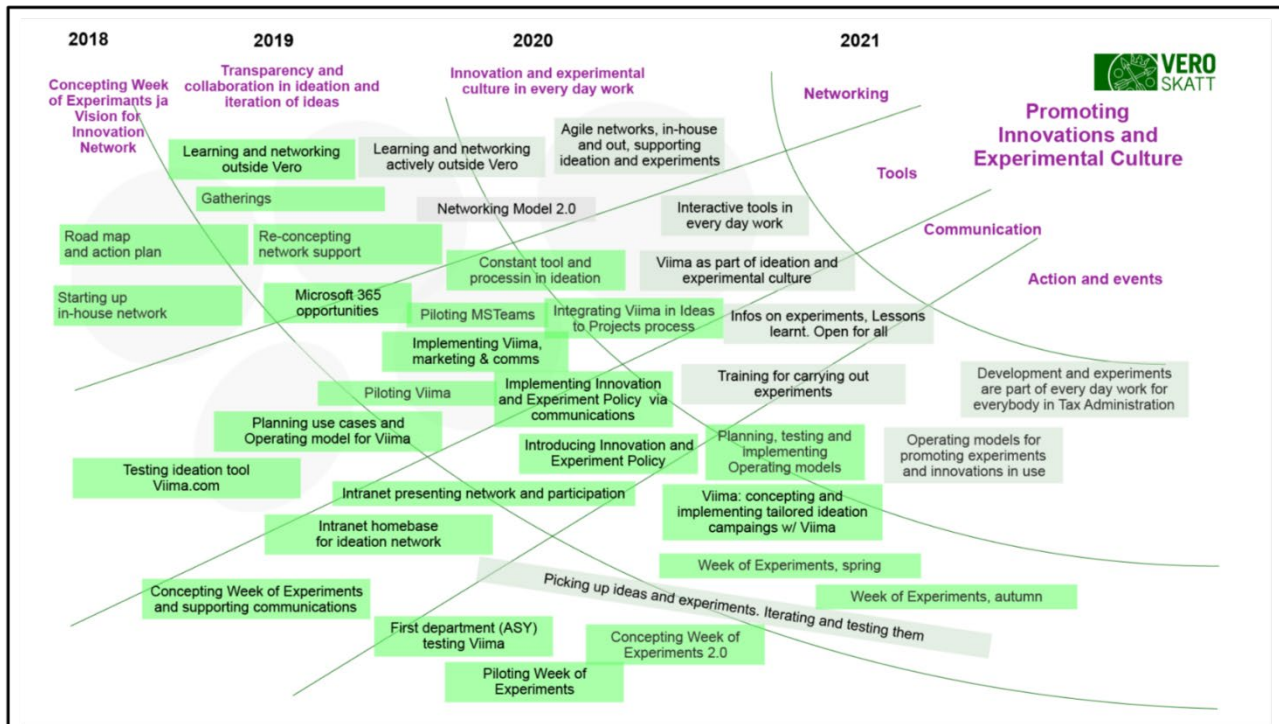
Figure 30 *Tax Administration's internal draft plan of how to promote innovation and an experimental culture.*

Some staff members mentioned that the challenge is that there is no time to do anything else than normal work and there is no time for experimenting as evidenced by one director: *'…Well there is no time for experimentation…even though we have permission to leave outside our workplace or go to seminars to see interesting case-introduction or something else. I don't know how much other people inside in our organisation have time to do this'.* Several personnel expressed hope that in the future there would be more work time allocated to innovation and experimentation. Nevertheless, there is no single innovation unit, manager or director who is responsible for customer centricity, other stakeholder co-operation or innovation but some people are in charge of innovation alongside their other work and other staff members also have permission to take part in innovation work. It is a strategic choice for Tax Administration not to have one single unit for work that focuses on innovation with the focus of stakeholder co-operation.

Tax Administration have named people who are responsible for bringing outsider knowledge to their organisation. According to personnel, this is challenging as interaction with stakeholders is the responsibility only of some people and there is no systematic process of interacting with them. There is only a process by which to present new ideas, as one specialist explained: *'This is something* (interacting with stakeholders) *that happens from individuals and in that way we are quite in the beginning but we are heavily interacting with stakeholders. From the organisational perspective it's not very transparent how much we are doing co-operation with different stakeholders and what we*

achieve by this. We have cases when we would like to utilise our co-operation members, relations and build networks. Also, we need to develop internal and external and to have transparency as well as participation. We have lots of work in progress in this field, but we need to work out more on how to make this more systematic and prioritise it more according to our goals'. Overall, there were several statements from personnel that demonstrated Tax Administration's willingness to utilise stakeholders and relationships, as well as to build networks internally and externally, developing transparency and enhancing contributions. However, there is still work to do in prioritising systematic processes. All in all, there is much interaction with stakeholders but in general management support is lacking and information gathered from stakeholders is not being systematically collected.

4.3.4 Open organisational culture

In particular, the interview data from Tax Administration supports organisational culture as an essential element towards open service innovation. In practice, open organisation culture is enhanced by job exchange internally or in other public organisations and mutual meetings and development days among staff, as one specialist described*: 'I guess staff exchange, open info meetings and development sessions utilise culture to be more open'.* Furthermore, the use of digital communication tools, such as Skype, are seen as enablers towards openness. More specifically, digitalisation easily allows interaction among Tax Administration personnel all over Finland, as one director supports: *'Almost everything can be done through online meeting…also workshops'.* Observations also showed that personnel are very skilful and familiar with digital communication tools and they are frequently used. This enables openness towards different internal units all over Finland as participation in meetings or events is effortless online.

Before data collection Tax Administration renovated their premises, promoting multidisciplinary working patterns. As a result, people work more with others internally. One of the specialists described the changes to the office premises as follows: *'the cultural change is happening. I can see that outsiders are also contacting us more and more because we are so visible nowadays'.* Furthermore, personnel are taking the initiative to contact stakeholders as upheld by one specialist: *'We are much more active than we used to in many ways supported by our premises by networking with several stakeholders'.* The data suggests that an open office is enhancing openness in the organisational culture.

Management has also fostered a greater interest in experimentation at Tax Administration as backed up by one director: *'Grassroots experimentation is one of the issues which we have been developing in the past few years. This means that everyone from personnel have a permission and even duty to develop own work. This means that if you have an idea then you think how to implement that in practice and you just do it. In this way we are trying to change the culture…by doing things'*. The data shows that Tax Administration has taken various concrete steps towards enhancing openness in organisational culture: *'Organisational culture and new ways of working…tax administration has done lately much progress'*.

4.3.5 Enablers of open service innovation

The data from Tax Administration showed that customer-centricity revolves around customer collaboration. In addition, customer collaboration, other stakeholder collaboration and open organisational culture were identified as the main elements in open service innovation. A systematic and transparent process was recognised as the main enabler. However, the data also demonstrated other themes as being enablers when developing open service innovation. The following section presents these themes and the open service innovation outcomes.

Top Management support

Top management in Tax Administration support innovation work to some extent but not yet adequately, as one specialist described: *'I think that open innovation work is not systematically managed, I mean that it deepens how much individuals have contacts and interest I guess it's also a coincidence. However, overall spirit for this kind of work is positive but systemic is in a halfway'*. Another specialist stated: *'If there are lots of different partners with whom we produce that service the problem comes how to manage it, how this kind of situation should be managed'*. During data gathering the top management approach changed to support more innovation, as one specialist explained: *'We have new spirit here. When we had our management days our general director who was standing in front of us and he said 'that I don't know what is going to happen we don't have any plan but we just can do things without careful planning'. In the following week there was so many excited people who wanted to do some experimentation in their work. This is the reason I would say it is management that enables things to happen. The personality of the management who is present and see that we have here wonderful people, lots of know-how and I would like to utilise personnel full potential'*.

During data gathering top management made some changes to support customer collaboration in innovation. They created a group of people (spring 2020) to focus on supporting customer collaboration. All internal units can ask this group for help and support to make sure all are listening to customers. The group of people focusing on customer collaboration has knowledge of service design methods and the ability to use consultancies if needed. Their aim is to gather knowledge from customers systematically. However, currently there is no plan to have a separate innovation unit despite the fact that the personnel involved with innovation seem to prefer the idea of an innovation unit. Instead, Tax Administration's management is focusing rather on customer collaboration.

The personnel explained that the barrier to innovation work is that some managers have worked for a long time in Tax Administration. This sometimes creates a situation where managers do not want to welcome any changes, as one specialist explained: *'Perhaps we have some kind of securing own position, the greed of power…somehow people get excited about new things but they are not ready to see that this means changes what I mean renounce, kill your darlings, and then go towards new. That is quite a step and I think that this is something where all managers are not ready'*. Overall, top management support was often mentioned in the interviews as an enabler in open service innovation.

Strategy

During data collection at Tax Administration, the role of strategy was emphasised as an enabler in open service innovation. One specialist described: *'For me it (strategy) has always been paper where I kind of, I mean certain issues arise from there which are strongly leading what I do and I don't have to find out what is the direction'*. Management support of open service innovation is evidence in Tax Administration's strategy which was renewed during data collection in 2018. One of the strategic aims is a positive customer experience to support customer centricity. Furthermore, strategy emphases experimentation, innovation and an organisational culture where personnel encourage each other to experiment. During data gathering it was observed that strategy is implemented by all, ranging from the top management to personnel. Overall, therefore, strategy supports open service innovation in Tax Administration.

Training and workshops

Training and workshops were helpful when developing open service innovation. Before workshops or training, a briefing on how the training fitted into current development plans was observed as being useful. Tax Administration was successfully able to transfer knowledge from one training session to

another. It was observed that the main reason for this was that some specialists participated in every training session. One person always briefed other participants about lessons learned from previous training sessions before the start of any new training session. Training sessions were often workshops where several people participated (see Figure 31).
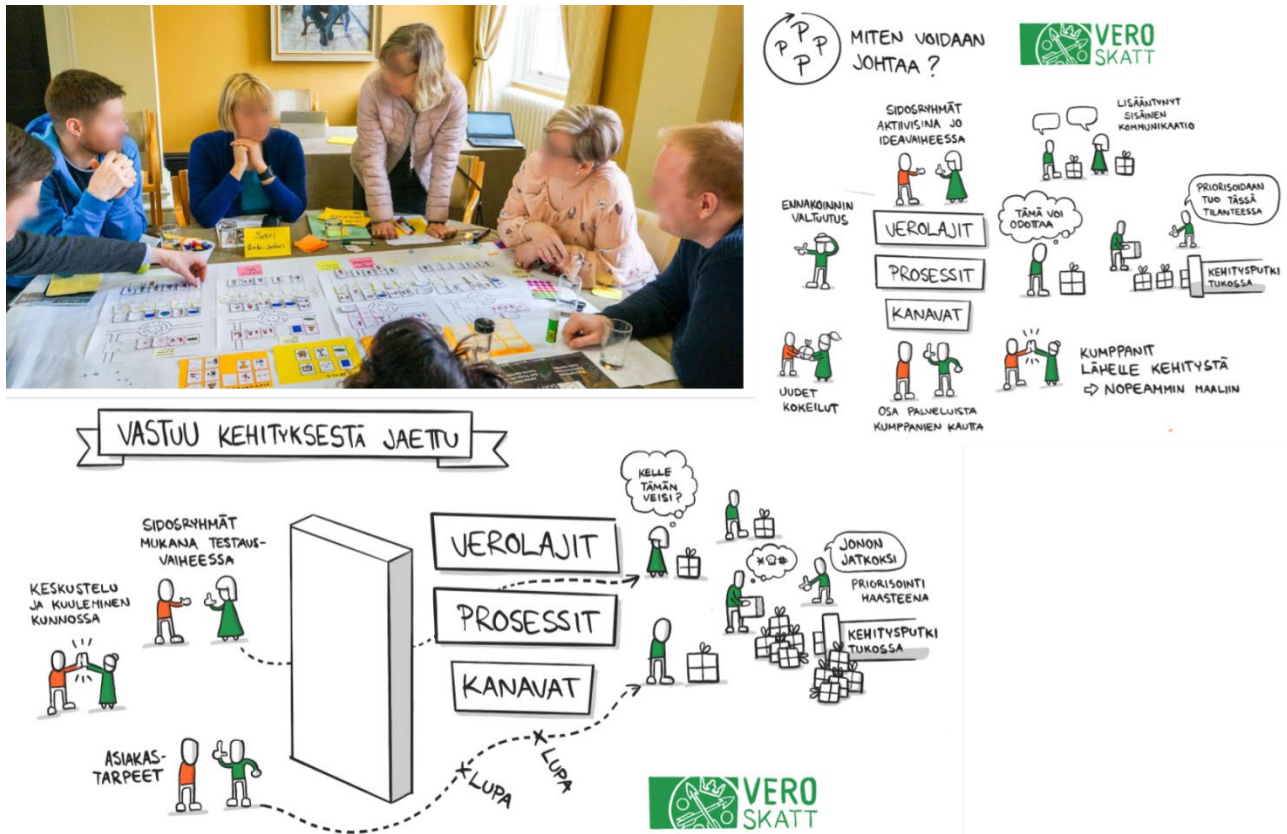
Figure 31 *Tax Administration's workshops pictures developing open service innovation.*

However, on a few occasions training was not as successful when participants were sent by management without any briefing. This created confusion among training participants on how learned knowledge related to current development work in Tax Administration. However, in general, these kinds of events were observed as being useful especially when participants actively networked with others or gathered more information during the breaks from other participants outside their organisations.

Co-creation

Co-creation is mostly associated with customers. This was noted during the interviews when people connected co-creation with customers. One of the specialists commented: *'If I think about co-creation then we test service with customer…but that is something that we already have decided to do or what*

we are going to do. Then this customer is only testing it…we are still in the process of using co-creation in the beginning when developing something'. Personnel felt that there is a need for co-creation to be part of service development from the very beginning. A specialist in service design explained: *'We have had this co-creation for a long time with services by testing them with customers'.* The challenge is that there is not enough know-how as to whether co-creation is needed or when is it needed: *'Co-creation is not instinct value but we should rather understand when to use it…its not be fascinated about co-creation without an idea why to do it'.*

Internally, among personnel, co-creation is accomplished to some extent in Tax Administration. While developing new services Tax Administration asks other internal units for input but this is rarely pure co-creation. In past years Tax Administration has developed internal co-operation, as explained by one of the specialists: *'In the past years' internal co-operation has much increased between different units, I mean that we are not working in silos anymore'.* The organisation has identified that it is important to internally work with different units and therefore they have purposely mixed units to meet each other's needs and work together to achieve a multidisciplinary perspective in service development.

Tax Administration actively meets various stakeholders but again this rarely leads to co-creation as elucidated by one specialist: *'We do have good connections to the outside world where we are discussing with stakeholders, but we are not really co-creating'.* Some of the personnel explained that the aim in the future should be to use co-creation to create ecosystems which serve customers among various stakeholders but the challenge again in this is how to manage it as outlined by one specialist*: 'We would really much like to put together people life situations which they are facing and think who we need in this to offer them services and in this we need co-creation…this means that we need firms and public organisations or third sector and citizens. The big question for us and also in the treasury is how to manage this ecosystem…that is a challenge'.*

Data utilisation

Data and its value in customer-centricity is understood in Tax Administration. According to management, they have people who work in the field of data analysis. They also focus on knowledge management and customer data. Overall, data is identified as one of the focus areas to be developed according to one specialist: *'From data analytics we have had massive projects and there is much to do…other public administration haven't done similar investigations and the sort of groundwork'.* However, there are contradictory perspectives among personnel and management, as in practice data

is not greatly used when developing services for customers, as described by one specialist: '*We are not sitting in the same table with data analytics*', another person explained; '*we are beginning to understand in our organisation a broader perspective what we can do with our data and what the current technologies with data could offer*'. All in all, data is identified as important; however, although management upholds that it is widely used, specialists involved with service development stated that they do not interact with data analytics.

Therefore, during the data collection, management identified that data analytics work should be more agile, usable and visible for personnel. As a result, in summer 2019 Tax Administration established a focused agile team from data analytics whose work is to serve other units. In practice this means that any unit can order services from this team. The overall aim is to make knowledge management part of decision making and manage the societal challenges as well as enhance evidence-based management with the utilisation of data at the core. Nevertheless, the challenge remains and in future Tax Administration will need to focus more on customer-centricity using a multidisciplinary team.

Open service innovation outcome

For Tax Administration, successful open service innovation value capture means that services are developed based on customer needs. This was explained by one of the directors as follows: '*Mistakes can happen when we only develop services to meet our own needs. Fortunately, in recent times, we can develop services more successfully. By this, I mean that, to be successful, we need to focus on the customers' perspective and on fulfilling their needs*'. One specialist involved with customer collaboration stated: '*We are now looking for collaboration with others and, in this way, we can develop our services effectively*'. The challenge is that there is a need for systemic transparency. In the words of one manager: '*Currently, systematic transparency is halfway there, and we are working on improving it*'. Another specialist added: '*This is definitely connected to transparency. I mean that we should not be engaging in parallel collaboration in different units*'. In short, open service innovation outcome value capture occurs when services are developed based on customers' needs in a transparent process of collaboration with others.

4.3.6 Summary of Finnish Tax Administration case

Customer centricity in Tax Administration is well understood and revolves around customer collaboration. However, the way in which customers interact and collect information is not systematic. This was identified in Tax Administration and therefore in future they plan to form a group of people to

focus on customer collaboration and help other units whenever needed. Tax Administration is active in collaborating with various stakeholders in Finland and in other countries, but again a systemic and transparent approach to stakeholder collaboration is lacking. Thus, the results indicate that transparency and a systematic approach are needed to ensure successful open service innovation. Furthermore, openness is in organisational culture was internally developed in various ways to enhance customer and other stakeholder collaboration.

Tax Administration's strategy emphasises customer and other stakeholder collaboration. Innovation and development are accomplished alongside other work tasks, which creates a situation in which there is not always enough time to carry on needed innovation work. The strategic choice is not to have a separate innovation unit, but rather a group of people whose work is partly focused on innovation. Personnel are used to constant development, as they have a history of active internal development. They utilise data when developing services, but it is not transparent internally as to how this is done. Data utilisation was identified as one enabler towards open service innovation. The research results also identified numerous other enablers towards open service innovation. First, top management support was seen as important in encouraging collaboration with various stakeholders and creating a supportive organisational structure. Second, strategy is supportive of open service innovation which is important for personnel to give direction to their work. Third, training and workshops were seen as helpful especially when there was an internal briefing about how the training and workshops related to current development. Furthermore, co-creation was one of the enablers but mainly related to customer collaboration. The overall aim in open service innovation is value capture which means that services in Tax Administration are developed from customer need where there is a requirement to collaborate among various stakeholders.

4.4 Cross case analysis

The previous sections describe each of the case studies structured around the elements of the initial conceptual framework. Furthermore, operational details are given by illustrating processes for implementing open service innovation and practical issues in open service innovation management and development. The cases also highlight some emerging enablers to open service innovation: systematic and transparent processes, management support, strategy, training and workshops, co-creation, and data utilisation. The following section provides summaries of key issues that address the main research question. This section discusses the similarities and differences across the cases in large private

and public sector service organisations, highlighting the frequently noted enablers and barriers. Finally, successful open service innovation outcomes are defined.

4.4.1 Customer collaboration

The case studies in this research included organisations with strong customer-centricity. The data illustrates that customer-centricity is of primary importance and well understood by top management and general personnel in each case study where customer collaboration is regularly implemented. One of the customer collaboration enablers identified across organisations was training offered to employees to understand concepts such as service design and co-creation. Another enabler was found to be the engagement of personnel with service design skills and a commitment to customer-centricity. However, the data demonstrates that the case study organisations still regularly use consultants to find ways of improving customer satisfaction and seeking service innovation. Customer collaboration is also reflected in the organisations' commitment to personnel in everyday work.

Even though the case study organisations have many similarities in their approach to customer collaboration, there are also some differences. One is the organisational structure. The public sector organisations, Tax Administration and Keva, have similar approaches in the way some employees are involved part-time in customer collaboration. In contrast, K-Group has one central unit led by the Head of Customer Experience and Design (see Table 12), along with several service designers who assist internal units with their emphasis on customers. However, when data gathering was complete at the beginning of 2020, Tax Administration noted that they also required an internal unit. Therefore, the management decided to establish a group of people to serve other internal units to enhance customer collaboration and customer-centricity. Keva also considered the future addition of a similar unit to focus on customers. There is an indication in the data that an internal unit or group of people dedicated to customers is useful.

K-Group and Keva highlighted the importance of customer-centricity in both internal and external marketing. For instance, blogs were written by personnel, videos were produced, and webpages were updated with content explaining the companies' customer focus. In addition, management emphasised the importance of customers in their communications. Table 12 shows all the enablers of customer collaboration. It is worth noting that actions focused on customer collaboration in the case study organisations are very similar. The ticks show similar enablers repeated by several people and found throughout the documentation.

Customer collaboration **enablers**

	K Group	Keva	Tax Administration
Strategy support	✔	✔	✔
Use of consultancies	✔	✔	✔
Personnel training	✔	✔	✔
Top management support	✔	✔	✔
Service design skills of some personnel	✔	✔	✔
Offering training on customer-centricity for personnel	✔	✔	✔
Highlighted in internal and external marketing	✔	✔	
Service design unit	✔		

Table 12 Enablers to customer collaboration.

There were also some challenges with regard to customer collaboration among the case study organisations, many of which were similar. The primary obstacle was the absence of a systematic approach to improving current services or developing service innovations. More specifically, the organisations often focus on their own needs rather than on customers' needs, even though all agreed that it would be cost-effective and useful to interact with customers from the very beginning when developing services. Ideally, the interaction with customers should continue throughout service development. The data suggests that a service development system in which customers are always involved from the very beginning should be transparent and systematic. Transparent is defined as follows '*if substance or object is transparent, you can see through it very clearly' and s*ystematic is defined as; '*according to an agreed set of methods or organised plan'* (Cambridge Dictionary, 2021).

Similar barriers were visible in the two public sector case-study organisations; they found it challenging that their official job titles do not reflect their work related to customer-centricity. The challenge is that external and internal partners do not always recognise who works in the field of customer-centricity. Personnel hope that this will change in future. Among the case study organisations, customer collaboration barriers and enablers were quite similar, even though the size and nature of the organisations varied (see Table 13). The ticks show similar barriers repeated by several people and found throughout the documentation.

Customer collaboration **barriers**

	K Group	Keva	Tax Administration
Services are often developed from the organisations' internal perspective and not from a customer perspective	✔	✔	✔
Customer collaboration is not systematic and transparent	✔	✔	✔
From the beginning of service development, customers are too rarely involved	✔	✔	✔
Customer collaboration is not reflected in official job titles		✔	✔
There is no internal unit for customer collaboration		✔	✔
Well-managed, systematic and transparent approach is missing	✔	✔	✔

Table 13 Barriers to customer collaboration.

4.4.2 Other stakeholder collaboration

The organisations' aim was to develop services by placing customers at the centre and in parallel interacting with several other stakeholders. This was seen as important in helping case organisations to develop services from various viewpoints by offering customers services which they may not re-alise they need or are aware of themselves. In practice, during data gathering it was observed that customer collaboration work tasks are prioritised as well as other stakeholder collaboration, but only some of the personnel are involved part-time and they need to manage these tasks alongside their other work responsibilities. The need to collaborate with other stakeholders was identified by top management while their efforts at customer-centricity have started prior data collection. In an ideal setting, the case-study organisations would like to create ecosystems that include various stakeholders to benefit customers. Overall, case organisations are managing their open service innovation approach with primary focus on the customer, followed by collaboration with other stakeholders.

The way in which other stakeholder collaboration is implemented varies among the case organisations. Tax Administration identified the importance of other stakeholder cooperation earlier than the other organisations and engaged in several supporting activities. They actively meet with several national and international stakeholders who take part in seminars and other events. In addition, some staff are assigned to bring outside knowledge to their organisation and to actively engage with others outside

their organisation. Tax Administration personnel also have the opportunity to exchange staff with other public sectors in Finland. Tax Administration collaborates with higher education institutions and has created internal processes for this interaction. Research knowledge is valued in Tax Administration and used as part of the decision-making process. All of these practical implications are summarised in Table 14, which lists the enabling actions that contribute to other stakeholder collaboration. Overall, Tax Administration looks favourably on outside knowledge and they have a long history of continuous development and experimentation.

In contrast, K-Group organises some open innovation activities, such as international collaboration events among start-up companies to improve and develop services. These events are well-marketed in social media, attract stakeholder interest and create a positive image for the company. During the initial data gathering, K-Group's attitude toward higher education institutions was not positive. The reason was that it perceived educational institutions as slow and not always compatible with the needs of business. However, during K-Group's open service innovation development, the company started to think that collaboration with higher education institutions could be useful. Keva made a similar observation; however, Keva found it relatively straightforward to collaborate with research institutions as often there is no need to follow public cooperation law. This was also the case with Tax Administration. Furthermore, Keva expressed an interest in research knowledge, despite the fact that one of the primary concerns voiced by many organisations personnel was that collaboration with higher education institutions does not result in immediate benefits. However, the research for this thesis was considered useful and attracted the attention of top management in each organisation after the results were presented. Particularly the public sector showed interest in research knowledge forming a part of the decision-making process and valued collaboration with higher education institutions.

The challenge for K-Group and open innovation is that they are accustomed to having control of almost every initiative. One reason is that as a large matrix organisation K-Group can take advantage of the skills of a variety of its personnel and business opportunities. In contrast, public sector organisations like Keva and Tax Administration welcome information from outside their organisations and are accustomed to utilising stakeholder knowledge. Both public sector organisations are by nature open to external and internal knowledge. Tax Administration has an internal process for managing ideas from customers or stakeholders. The similarity between Tax Administration and Keva is that they must comply with public cooperation laws and treat all collaborators equally. During the early phase of data gathering, Keva found compliance to be a challenge to its traditional business agility. Tax Administration, on the other hand, created an internal process for coordinating with other firms

to make compliance as easy as possible. Table 14 summarises the enablers of other stakeholder collaboration in the case study organisations. It shows that most of the enablers are similar, but Tax Administration is the most advanced in other stakeholder collaboration, incorporating several stakeholder collaboration activities.

Tax Administration has an internal process for coordination with higher education institutions that surpasses the other case study organisations. In contrast K-Group has identified specific universities as their partners in higher education. This arrangement allows K-Group to collaborate with those higher education institutions that are most useful to them. During data gathering, Keva realised that they needed to collaborate more with higher education institutions. In the beginning, none of the organisations identified higher education institutions as essential stakeholders with whom to collaborate. However, during the data gathering process, they all began to recognise the value of collaboration and this was particularly valued by the public sector organisations. Since there is no competition among public-sector organisations, they actively work with each other. When the law changed, Keva coordinated with other similar organisations, even private ones, to comply with the law. Tax Administration was the most active in cooperating with various firms to develop services. Prior to data collection, they were already actively networking with other public sector organisations as well as various private sector organisations. Furthermore, every case study organisation worked regularly with various consulting firms.

Start-up cooperation was also recognised by the case study organisations. However, the way in which it was implemented varied. Tax Administration took part in start-up events and hackathons. During the data collection, K-Group recognised the importance of start-ups and started organising annual international events to attract start-ups and to receive help from them to develop K-Group services. Keva's attitude changed toward start-up cooperation. First, they considered it to be challenging because of competitive tendering for all non-public partners. However, their attitude changed at the end of the data gathering process because they noticed that other public sector organisations were working in creative ways, such as collaborating with start-ups. Table 14 summarises the enablers of other stakeholder collaboration.

Enablers of other stakeholder cooperation

	K Group	Keva	Tax Administration
Collaboration with other stakeholders is identified as necessary by top management	✔	✔	✔
Understands the need to develop services by placing customers in the centre and interacting in parallel with other stakeholders	✔	✔	✔
Some personnel tasks are partly involved with innovation work	✔	✔	✔
Other stakeholder cooperation is recognised in the strategy	✔	✔	✔
Many new ideas from personnel, customers and other stakeholders with internal structured processes		✔	✔
Identified people responsible for bringing outsider knowledge to their organisation			✔
Active in various international networks, seminars and forums			✔
Possibility of staff exchanges with other public organisations in Finland			✔
Actively meets various stakeholders			✔
A long history of constant development and experimentation			✔
Randomly organised open innovation activities with stakeholders	✔		
Start-up cooperation is recognised	✔	✔	✔

Table 14 Enablers of other stakeholder cooperation.

The critical limitation of other stakeholder cooperation in all organisations was that it was not a systematic and transparent process, nor was it actively used in innovation or service development. Outsider knowledge was recognised as necessary, but the data indicate that the benefits would be more significant if a manager or a team member was assigned to use this information and identify opportunities for cooperation. Currently, structured management lacks sufficient time for involvement of personnel in stakeholder collaboration. Personnel feel that an innovation unit would help overcome the challenge, but the organisations' top management is not yet ready to establish an innovation unit. Senior management will decide whether it should be established in the future. During data gathering,

management supported some of the personnel assignments to work with stakeholders and enrich an open, innovative approach. Nevertheless, the challenge was that personnel thought that they did not have enough time to meet stakeholders or develop such activities. Furthermore, other stakeholder collaboration was not integrated into official job titles. Table 15 summarises the barriers to stakeholder collaboration.

Barriers to other stakeholder cooperation

	K Group	Keva	Tax Administration
A systematic and transparent process for other stakeholder cooperation was missing	✔	✔	✔
Insufficient time for stakeholder cooperation	✔	✔	✔
Absence of an innovation unit manager responsible for other stakeholder cooperation or innovation	✔	✔	✔
Absence of structured management	✔	✔	✔
Other stakeholder cooperation was not included in official job titles	✔	✔	✔
Growth of "not invented here" syndrome	✔		
Obligation to follow public cooperation laws and treat all collaborators equally		✔	

Table 15 Barriers to other stakeholder cooperation.

4.4.3 Open organisational culture

Open organisational culture was regularly mentioned in interviews as a central starting point and a key feature in open innovation in service development. There seems to be a pattern in the case organisations which enabled them to develop open organisational culture. One element of the pattern was to renovate the office premises to support multidisciplinary work and this included open office spaces. Another element of the pattern was that case organisations observed the need to have internal projects or personnel whose work is focused on how to develop an open organisational culture. The first step was recognition from the management who established and supported that cultural change. The result was increased openness among personnel and toward stakeholders.

Tax Administration renovated their offices and allocated internal projects to support open organisational culture before data collection started. The other two organisations did this during data collection. It was, therefore, evident that Tax Administration was more receptive to an open organisational culture than the other organisations. This openness was noted in the attitudes of personnel as well as through specific actions, such as internal and external job exchanges. Moreover, at the beginning of data collection, Tax Administration personnel were encouraged to try new things within their allocated budgets without asking management permission every time. Within the budget, experimentation among personnel was active. Top management launched this as an experimentation philosophy. Table 16 shows that Tax Administration engaged in more actions for developing an open organisational culture than the other organisations. All their efforts were designed to enhance openness, customer-centricity, customer collaboration and other stakeholder collaboration.

At the beginning of data collection in 2018, Keva recognised the importance of an open organisational culture. They started by renovating their central office to create a modern open space office; as a result, multidisciplinary collaboration increased. Furthermore, the innovation culture spread throughout the office as previously closed internal teams were now integrated. Internal projects focused on cultural change were also useful for management support. Moreover, they identified personnel needing support and encouragement to work with new open attitudes and approaches. Keva's data indicate that openness in the culture was recognised as essential.

K-Group undertook a substantial change in its physical offices. They built a new modern office building in central Helsinki designed around the concept of openness in the organisational culture. The new office was a success and had a positive effect on K-Group's culture. Multidisciplinary work increased, and several weekly events were organised with various stakeholders. It is useful to recall that K-Group is a large, financially stable organisation and was presented with the opportunity to build a top-quality modern building in a central location while making innovative changes to its office culture. Once the office was fully operational, they nominated two people to run internal projects to explore opportunities for even more enhanced openness in their organisation. Table 16 illustrates that many of those features reflect an open organisational culture.

Enablers of the open organisational culture to enhance open service innovation

	K Group	Keva	Tax Administration
Openness in the organisational culture was emphasised as an key element of open service innovation	✔	✔	✔
Renovated offices to support an open organisational culture	✔	✔	✔
Internal development projects focused on an open organisational culture	✔	✔	✔
Internal job exchanges or with other public organisations			✔
Management launched a philosophy of innovation			✔
Multidisciplinary working	✔	✔	✔
Encourage to try new things		✔	✔
Events organised among personnel and with various stakeholders	✔	✔	✔

Table 16 Features of the open organisational culture affecting open service innovation.

4.4.4 Enablers of open service innovation

The primary features for open service innovation identified in the case studies were customer centricity, customer and other stakeholder collaboration and an open organisational culture, in which a systematic and transparent process was found to be the main enabler. Furthermore, the data indicate that there were also other main enablers in the development of open service innovation: top management support, strategy, training and workshops, co-creation and data utilisation. In the following sections, each enabler is described, followed by closing comments.

Top management support

To be successful, it was found that support and recognition of open service innovation development by top management is essential. At Keva, management highlighted open innovation and the importance of customer-centricity in their presentations or blogs. Management also participated in some workshops or training sessions. In the other two organisations, management support for open service

innovation was focused primarily on customer-centricity. Keva was a frontrunner in the sustained support of management.

At the start of data gathering, the case study organisations lacked the structured and transparent management necessary for open service innovation. In particular, work on innovation by central management was lacking. Another common obstacle was that some managers resisted organisational change. Personnel felt that some long-standing managers wished to continue in their current positions and, therefore, opposed any new development that would threaten their job security. This resistance was a common theme in all the case study organisations but was the primary obstacle at K-Group which is a matrix organisation that could place limits on management flexibility, decision-making or business development. Data showed that some managers adhered to a traditional work culture in which management was in control, and the employees' role was to listen. Nevertheless, K-Group wanted to change its management style to be more agile in the future.

Strategy

Instead of strategy focusing on open innovation as a primary area of emphasis, the original strategy focusses in all cases was customer-centricity. Despite the fact that open innovation was highlighted in the organisations' strategy, how that strategy was carried out varied among the organisations. More specifically, it appeared that some managers focused on the importance of open innovation more than others. During data gathering, the organisations renewed their strategy and added new elements to support open innovation. However, customer-centricity was still the main focus of the renewed strategy. Common to all the case study organisations was that enabling open service innovation provided an overall direction to personnel and encouraged their work on open service innovation. Some differences in the case study organisations' strategies were documented. Keva specifically emphasised open innovation. In contrast, K-Group and Tax Administration supported open innovation in their strategies, but it was less visible than in Keva's strategy. On the other hand, Tax Administration's strategy emphasised experimentation, innovation and organisational culture to support open innovation. Despite some differences in the renewed strategy, all organisations encouraged open innovation. The three organisations were able to develop open service innovation by ensuring that their strategy supported it. However, personnel involved with innovation expressed a desire for open innovation to be more visible in their organisation's strategy.

Training and workshops

Training and workshops were helpful in developing open service innovation. It was particularly useful when, before the workshops or training, an internal briefing was held on how open service innovation fitted into the organisation's current development plans. Another successful element of training was attendance of the same employees at multiple events, which enabled participants to gain a better understanding by adding knowledge to previously learned information and consistently applying it to their work. When employees did not receive an internal briefing on how a training event applied to current internal development, the training was of little use.

Each case study organisation supported its personnel through training and workshops. These events were useful for Keva and Tax Administration. The challenge for K-Group was that during the two years of open service innovation training, the personnel involved in development changed three times. On the other hand, their strength was active benchmarking and meetings with other organisations that were more advanced in their open innovation. The primary obstacle was that top management did not allow its employees to implement their learned knowledge. In comparison, Keva's and Tax Administration's management supported training and ensured that their personnel were highly motivated to attend workshops and other events.

Co-creation

The data indicate that co-creation was first a method used with customers during the process of openly developing services, and second, the method used internally among personnel in development work as well as stakeholder collaboration. Co-creation was defined as different parties creating services together systematically in close collaboration using, for instance, workshops where co-creation methods are used.

Co-creation with customers typically occurs at the end of service development when customers test the service. Despite this, the case study companies believed that co-creation was ideal for use throughout the service development process. Data indicate that the customers' voices needed to be heard throughout the process. All cases agreed that it is cost effective when customers are involved from the very beginning of service development. Therefore, although co-creation offers valuable methods, there are also other methods which can be used. In other words, co-creation is not an essential element when involving customers and not always needed.

Regarding stakeholder collaboration, meetings are held but personnel explained that the meetings do not represent real co-creation. The data suggested that there is not enough time, or that co-creation is not always needed. Ideally, co-creation with stakeholders is done in ecosystems creating customer services among several parties. However, this does not happen often. The public sector organisations Keva and Tax Administration use co-creation and find it useful. Furthermore, both employ internal multidisciplinary teams utilising co-creation for service development as well as using digital online platforms that enables innovations to be co-created internally among personnel. In the future, Keva hopes to use digital co-creation with their customers. Keva highlights the importance of co-creation in its internal and external marketing, which can be seen also in blog posts or on their webpage. Keva personnel explained that they have successfully utilised co-creation several times. Compared to other case studies, co-creation is a well-established internal process at Keva.

A similarity between the case studies was that their future visions include co-creation to develop ecosystems serving customers among various stakeholders. Nevertheless, throughout the data gathering process, co-creation was not the topic of long discussions nor emphasised by personnel. In other words, co-creation does not seem to be a dominating concept in open service innovation. Co-creation was seen as one enabler among others. Instead, customers and other stakeholder integration, as well as openness in organisational culture, were the primary focus of personnel involved with open service innovation development.

Data utilisation

A common theme was that data was recognised as valuable in all the case study organisations. However, the condition of the data varied along with the ability to use it. Case study results indicated that K-Group was the most advanced in data utilisation. They have their own internal team that provides support to other units on how to best use data. During data collection, it was clear that K-Group personnel were familiar with data use. The internal team provided tools for different departments and advised on how to utilise data and purchase data from outside sources. As a result, they have their own data as well as data from various stakeholders. The weakness in data utilisation at K-Group was the primary focus on the use of quantitative data but in the future, their goal is to utilise a mix of qualitative and quantitative data.

Tax Administration also has its own unit responsible for data utilisation. However, the study reveal that data analytics was conducted separately from service development, and their work was not familiar to personnel. Tax Administration attempted to correct this problem, but transparent internal

cooperation is still absent. Therefore, during data gathering, they established a central team responsible for data analytics and serving other internal units. In contrast, Keva conducted very little data analysis. One obstacle was that their data was not always satisfactory for use. Nevertheless, Keva and Tax Administration hope to improve data utilisation when developing their services.

Open service innovation outcome

Successful open service innovation outcomes with value capture infer that the customer is satisfied, and the organisation can offer the services the customer needs. In practice this means customer collaboration and other stakeholder collaboration is transparent and follows systematic processes. The case organisations needs to know what is happening among various stakeholders. The main difference between the case organisations with regard to the expected outcome of open service innovation was the private sector's ultimate aim to increase profitability.

Differences between private and public sector

The data indicate that, in the public sector, there are five common features of open service innovation compared to the private sector. First, the public sector, by its very nature, seems to be open to collaboration with several stakeholders. The public-sector case study organisations are accustomed to collaborating with others, especially when the government requests changes, as happens when there are legal changes to be implemented. In these cases, collaboration with other stakeholders is agile, rapid, and transparent because the public sector is obliged to respond quickly to government requests. In contrast, the K-Group, the private sector organisation, has a complex matrix structure. As a result, collaboration with stakeholders can sometimes be slow because decision-making takes time. Second, public sector collaboration with higher education organisations is seen as easy because there is no legal obligation to enforce partner equality. Third, in the public sector case study organisations, research knowledge is valued as a part of the decision-making process. Overall, the attitude towards higher education and research organisations is positive in the public sector.

A fourth feature specific to the public sector case study organisations was that job titles did not reflect what people did in practice. This was identified as a challenge, especially when working with people outside the public sector. Therefore, the personnel prefer job titles that reflect the work they do. Furthermore, the organisational structure is similar in the two public sector case study organisations regarding not having a central unit for customer collaboration or innovation. However, it should be noted that they are both considering central units in the future. In contrast, the private sector

organisation, K-Group, had a central unit for customer collaboration, and it was planning to have another central unit to focus on open innovation as well as job titles that reflect the content of employees' work.

Fifth, collaboration with various stakeholders in the public sector can be agile and rapid when there is an internal process. This situation was illustrated in the data through collaboration with start-ups. The public sector organisation, Keva, found collaboration with start-ups difficult at first. However, the public sector organisation, Tax Administrator, actively and effortlessly collaborated with start-ups and other stakeholders because it had created processes for interaction with various stakeholders and had nominated people to take responsibility for the processes. Furthermore, the top management of Tax Administration supports experimentation. This situation became a model for Keva when it became clear that other public sector organisations had overcome related problems by creating processes. In other words, public sector rules and regulations in stakeholder collaboration can be overcome by developing internal processes.

4.5 Revised conceptual framework

The case study data gathered over two years from the large private and public sector organisations was cross-case analysed based on the initial conceptual framework (Figure 3). The initial conceptual framework provided a valuable basis for the analysis of the case study data because some elements introduced in the initial conceptual framework were present in the data. The data demonstrated operational details of how open approaches to innovation for services are being managed, how processes are developed, what the main enablers are and what differences there are between the approaches used in private and public sector service organisations. In this section, the initial conceptual framework, which was built upon constructs sourced from the current literature, is improved by the addition of changes arising from the case study analyses. The outcome is a revised open service innovation framework.

The rich case study data indicate weaknesses in the initial conceptual framework. Therefore, the initial conceptual framework needed to be revised and reframed based on the case study results that reveal the whole process of open service innovation design and development. The case study data for all the studied organisations clearly identified specific and central recurring elements associated with open service innovation, which were not all included in the initial conceptual framework. These elements were: openness in organisational culture, the role of customers and other stakeholders, co-

creation, five main enablers regarding the overall development of open service innovation and specific features typical of open service innovation in public sector organisations. An explanation follows of the elements identified in the data that differ from the initial framework.

Openness in organisational culture

Openness (Kratzer et al., 2017) in organisational culture (Hofstede, 1998) is known in the literature as one enabler among others towards open service innovation. However, the case study material reveal that openness in organisational culture is a fundamental and central factor in open service innovation process design. Open organisational culture is a basic requirement for successful collaboration with customers and other stakeholders. Furthermore, all case studies demonstrate a similar pattern for how to enable an open organisational culture:

- Renovate offices with open spaces and areas for interaction with others
- Increase multidisciplinary working
- Encourage internal development projects supporting openness

In the initial open service innovation framework (Figure 3), the culture of an organisation was not the main element. As indicated in the research literature, it was seen as an enabler. However, case study results indicate that it is a central factor.

Customer collaboration and other stakeholder collaboration

The literature showed that customer collaboration is emphasised in services (Aarikka-Stenroos & Jaakkola, 2012) as well as with other stakeholders (Ostrom et al., 2015). The case study data shows how they relate to each other. The primary focus for organisations is the customer, followed by collaboration with other stakeholders. The studied organisations aim to develop services by placing customers at the centre of operations while interacting in parallel with several other stakeholders. Some of the personnel involved in part-time innovation focus on stakeholder collaboration, emphasising an open approach. Furthermore, the case study organisations' strategies clearly identify customer centricity with customer collaboration as a central aspect. However, the collaboration of other stakeholders is seen as an important but not a central aspect, which differs from the initial open service innovation framework, where equal priority was given to customers and other stakeholders.

Main enablers for organisations in open service innovation

Six dominant themes recurred as enablers in an open service innovation framework in both the private and public-sector case study organisations:

Systematic and transparent process

The findings reveal systematic and transparent (see definitions from Cambridge Dictionary, 2021) processes as one of the main enablers in open service innovation. The case study data demonstrated that systematic and transparent processes were repeatedly mentioned together with customer collaboration, other stakeholder collaboration as well as openness in organisational culture. Some prior research supports this finding (i.e. customer centricity can be improved by upgrading the structure and processes (van den Hemel & Rademakers, 2016; Shah et al., 2006).

Top management encouragement

Encouragement from the top management was seen as a main enabler, supported by management leading by example, creating open environment and encouraging collaboration with all stakeholders. This corroborates results from previous studies (Ahn et al., 2017; van der Meer, 2007).

Strategy primarily supporting customer centricity, secondarily supporting other stakeholder collaboration

The case study data indicate that strategy is a guideline for personnel and supports open service innovation implementation as mentioned in the literature (Crema et al., 2014). However, the case study findings contribute further by demonstrating that the primary emphasis in case organisations' strategy is on customers and secondarily on other stakeholders.

Training and workshops with internal briefing in advance

It was useful for all case organisations to have training and workshops in open service innovation. Previous research has also emphasised the importance of training programmes (Burcharth et al., 2014). However, the data indicate that when there was an internal briefing in advance, training and workshops were useful because they allowed personnel to connect learned skills and knowledge to the organisations' development plans.

Co-creation

Co-creation is a central concept in open service innovation (Chesbrough, 2010), as particularly high-lighted by service innovation literature (Prahalad and Ramaswamy, 2000). However, the data indicate that although co-creation is useful, it is not a central element in the open service innovation framework. It should be noted that in the initial open service innovation framework (Figure 3) co-creation was identified as being a central element. The case study results reveal that co-creation is only sometimes used with customers and other stakeholders to facilitate collaboration. It is used primarily with customers during the process of openly developing services in all case studies. It is also used as a secondary strategy along with other stakeholder collaboration and in internal collaboration. All the case studies strongly illustrate that co-creation is not essential and not always needed for collaboration with a customer or with other stakeholders. It is, therefore, one enabler, among others, in the development of approaches to open service innovation by organisations.

Data utilisation

Recent studies related to services have highlighted the importance of data utilisation (Zaki, 2019). The case study results show that data utilisation was one of the main enablers in all case organisations, even though the skills and basis for utilising the data differed among the organisations.

Private and public sector

The data indicate that there are many commonalities between the approaches to design and use of open service innovation processes in the case study organisations. However, the data also reveal specific features of open service innovation management in the public sector concerning open service innovation, which were not identified in the initial open service innovation framework:

- The public sector seems by its nature to be open to collaborating with various stakeholders.
- Public sector collaboration with higher education organisations is seen as easy because it is not subject to legal requirements.
- Research knowledge is valued.
- Stakeholder collaboration is effortless once the process is up and running.
- Job titles do not often reflect the jobs people do. This could be a challenge for the public sector, especially when working with outsiders.

Open service innovation conceptual framework visual representation

The revised framework is depicted in Figure 32 (for a comparison with the initial framework, see Figure 3). The deep analysis of the case studies reveal that the elements connected to open service innovations and the main enablers are the same in all cases. The open service innovation framework begins with customer centricity and then identifies openness in organisational culture as central when collaborating with customers, who are the main priority, followed by other stakeholder collaboration. Open organisational culture is an element which was not in Figure 3 initial conceptual framework for open service innovation. Although co-creation was depicted as a central element in the initial framework (Figure *3* 3) it is listed in the revised framework (Figure 32) as one enabler among others. The revised framework below also demonstrates specific features in large private and public sector organisations. The data shows that specific features can be found in public sector organisations that are not prevalent in private sector organisations. The novel case study findings are highlighted in bold text in Figure 32.

The elements connected to open service innovation appear in square boxes. The modified elements are in bold text (i.e. specific issues emphasised in the cases); other elements not in bold text are also considered important. The arrows illustrate connections between concepts. The focus of the study is shown using a dotted line. The unique and typical features of the public and private sectors are listed in connection with the research context. Open service innovation outcomes fall outside the dotted line since they are not the main focus of this study (see the legend in Figure 32).

Research context

Value creation

Value capture

Customer centricity → **Open organisational culture** → **Customer collaboration**

→ Open Service Innovation outcomes

→ Other stakeholder collaboration

Main enablers for open service innovation:

Systematic and transparent process
Top management support
Strategy
Training and workshops
Co-creation
Data utilisation

Public sector unique features

Typically, innovation in the public sector seeks to improve or create new services.

Citizens are treated as customers.

Diffusion of innovation is open, transparent and shared among others.

Approach to innovation is cautious due to the public nature of organisations.

Public sector rules and regulations impact stakeholder collaboration.

Obligation to serve public interest by offering services for common good.

Public sector employees are not financially rewarded for innovation.

Open to collaborating with various stakeholders.

Collaboration with higher education institutions is seen easy without legal requirements.

Research knowledge is valued.

Job titles not always reflect what people do in practice.

Public sector rules and regulations in stakeholder collaboration can be overcome by developing internal processes.

Private sector unique features

The financial aspect is central in innovation, due to the aim to increase productivity.

Innovation diffusion is generally not open due to competition.

Owners and shareholders have a direct financial incentive to monitor and control.

Managers are likely to financially benefit from successful innovation.

Innovation plays an important role in terms of competitiveness.

Legend
→ Connection
···· Research context
Bold Research findings

Figure 32 *Revised Conceptual Framework for Open Service Innovation.*

This revised framework represents the application of the case study results to the initial framework based on the conceptual constructs drawn from the current literature on open service innovation development in private and public sector organisations. The revised framework represents one stage of the process of building theory from case study material and provides a structure for the analysis of the behaviour of organisations when developing approaches to open service innovation.

4.5.1 Chapter summary

From the data, this cross-case analysis identified key elements and interdependencies common to open service innovation in both private and public sector organisations and culminated in an improved revised open service innovation framework. Even though public and private sector organisations are different in terms of structure, size and type, they all face similar challenges and employ many common enablers when developing open service innovation. However, it is also important to note the differences between sectors and the fact that there are specific features of open service innovation management in the public sector.

Customer-centricity is strong in all cases, and the organisations employ several practical functions to support it. When customer collaboration is practiced from the very beginning in open service innovation development, this allows the customers' voices to be heard throughout service development and is cost-effective when utilised from the very beginning. In other words, services catering to customers' needs and wants are effective when customers are involved in service innovation throughout the development process. The primary obstacle is the absence of a systematic and transparent approach to improving current services or developing open service innovations. The data suggests that structured processes supported by management and implemented via an internal team are useful. In the end, only K-Group had an internal team focusing on service development. Nevertheless, they also experienced challenges with transparency and customer involvement in service development. After data gathering, Tax Administration decided to establish a central service team focusing on customers. Keva's future plan is to have a service development process model for personnel. The overall goal of the case organisations was to develop services that place customers at the centre and, in parallel, interact with several stakeholders.

In contrast with customer collaboration, other stakeholder collaboration has only developed more recently. One of the primary enablers of other stakeholder collaboration is the same as in customer collaboration, namely a structured and transparent process supported by central management. Personnel in the case study organisations found that an open innovation unit would be useful. However, some of the management was not convinced about having an open innovation unit; therefore, the case organisations identified people responsible for stakeholder collaboration or improving it. Consultants, start-ups, and institutions of higher education were primarily considered as external stakeholders with whom to collaborate. Tax Administration identified the importance of stakeholder cooperation earlier than the other organisations. Consequently, their attitudes and practical functions supported stakeholder collaboration more effectively than other case study organisations.

Regarding collaboration with higher education institutions, K-Group developed a more positive attitude towards this type of collaboration during the data collection. At first, higher education institutes were not valued among K-Group´s personnel as collaborators, but during the subsequent two years, they were recognised for their usefulness and the K-Group realised it would take some time to see results while collaborating with higher education institutions. However, overall, both public sector organisations in the study especially valued research knowledge and used it as part of the decision-making process. Furthermore, collaboration with higher education institutions in the public sector was seen as easily accomplished since they did not need to adhere to the public cooperation law. Tax Administration was most experienced in this and had a process in place for how to interact with institutions of higher education.

It can be seen from the case studies that promoting an open organisational culture is a central part of open service innovation process design. Openness in organisational culture is essential and a starting point, together with customer-centricity, to allow effective customer and other stakeholder collaboration. Case-organisations found that the renovation of their buildings to contain modern and open office space increased internal multidisciplinary collaboration and improved attitudes towards working with others. Openness in organisational culture was supported by internal development projects and increasing multidisciplinary working.

Co-creation with target groups, customers, other stakeholders, and internal personnel is one enabler among others in open service innovation development. The data demonstrates that co-creation is associated primarily with customers. However, in practice, co-creation is not always used as there are also other methods by which to receive information from customers as well as from other stakeholders. In reality, the nature of the interactions among customers and other stakeholders is often more like collaboration rather than co-creation, since there is often not time to co-create with others and co-creation may not be needed. Therefore, although co-creation is not considered an essential or central concept of open service innovation it is still one useful enabler in open service innovation.

Training and workshops facilitate the process of change. In these events, personnel receive information and network with other participants. Successful training includes internal briefings of staff about the content of an upcoming event and its relation to current development plans. It is also useful for the same people to participate in multiple training events. The value of some training and workshops is diminished when participants do not receive their organisations' internal briefing on the training's scope and how it fits into their organisation's development plans.

Top management and organisational strategies supporting open service innovation are among the conditions for success noted by all organisations. In all cases, the strategies were renewed during data collection, with the main focus on customer-centricity, but stakeholder collaboration was also introduced. An obstacle to open service innovation was managers who were reluctant to change. Data indicate that some long-time managers found it difficult to embrace needed change. Another common theme was that all of the organisations found the data to be valuable for developing services. K-group was the most accomplished in that regard.

Data utilisation was seen in all three case organisations as an enabler in open service innovation development, even though the capabilities and straining point varied among organisations. K-Group's use of its own data and the data from various stakeholders was directed by the Vice President of Data analytics and a team specialising in data utilisation. K-Group expressed their willingness to further develop use of data by mixing qualitative and quantitative data in future. Tax Administration also had an internal unit for utilising data; Keva was less experienced in this regard. However, Keva was interested in developing data utilisation in the future and recognised its importance.

The findings show that, in the public sector, there are some common features between the approaches to design and use of open service innovation processes as compared to the private sector. Despite the differences between private and public sector organisations, the key elements connected to open service innovation were the same in all case studies. Similarly, the results indicate that the elements which are enablers in the open service innovation process are the same in all the cases studied. The rich case study data uncovered the areas where the initial conceptual framework was lacking and provided new elements to strengthen the framework.

5 Discussion and conclusions

The study contributes to our knowledge on open innovation in services in the following main areas. First, it provides an open service innovation framework that identifies the key elements and interdependencies of a generic process for managing and developing open service innovation. This framework introduces an initial conceptualisation of open service innovation. Second, this framework provides knowledge from private sector and public sector innovation, in the context of open service innovation. The case studies reveal that there are many commonalities between the management and development of open service innovation processes in the public and private sector case-study organisations. However, the results demonstrate that in the public sector there are specific features of open service innovation management. Furthermore, this study delivers knowledge to practitioners concerning the management of design and development in open service innovation which was identified by participants as complex and challenging. The in-depth research and rich data collected from one private sector and two public sector organisations in this study offer insight into the case study organisations, confirming and elaborating some of the findings of previous research as well as resulting in novel research findings. The discussion in this chapter relates back to the research question and sub-questions first introduced in Chapter 1. The answers to the research questions can be summarised according to this study's findings as follows:

Research question:

How is open service innovation managed in large private and public sector organisations?

- Open service innovation is managed through similar key concepts: customer centricity, open organisational culture, customer collaboration and other stakeholder collaboration in both private and public sector organisations (see Figure 32 illustrating how these concepts are dependent on each other).
- Customer centricity is a starting point for open service innovation. Customers are the priority in collaboration, and other stakeholders are the secondary focus.
- Open organisational culture forms a central part of open service innovation and is the fundamental issue underpinning open service innovation management and the encouragement of collaboration among stakeholders.
- The public sector differs from the private sector in its approach to innovation management. The unique and typical features of the public and private sectors are listed in connection with the research context in Figure 32.

Sub-question 1:

How are open service innovation processes developed?

- Multidisciplinary personnel from different teams are involved with open service innovation development processes; structured, transparent management is needed.
- There are specific features in public sector organisations which influence open service innovation processes: open to collaborate with stakeholders, collaboration with high education institutions is seen easy, research knowledge is valued, job titles not always reflect what people do in practice and public sector rules and regulations.

Sub-question 2:

What are the enablers for open service innovation?

- A systematic and transparent process was identified in all case organisations as the main enabler for open service innovation.
- Other similar enablers in case organisations are top management support, strategy, training and workshops, co-creation and data utilisation.

In this chapter further answers to the research questions are given together with their contribution to the literature. First, the conceptualisation of open service innovation and the enablers of the open service innovation approach are described, along with the management and processes required to develop open service innovation. Second, the results which impact on the extent of open service innovation management are discussed in relation to the differences between private and public sector innovation. Third, the contribution to practice concerning the management of open service innovation is explained. Finally, the limitations of the study are outlined, and suggestions for future research are proposed.

5.1 The theoretical contribution

The following discussion summarises the theoretical contribution of the main findings. It reveals novel insights, as well as both building upon, and, in some cases, contradicting current literature on open service innovation.

5.1.1 Open service innovation concept constructs

The open innovation approach is used in services to create value mainly by focusing on engagement with customers (Chesbrough, 2010; Feller et al., 2011; Mina et al., 2014). As discussed in section 2.2 previous research has identified that there has been little research on the extent of the use of open approaches to innovation across service sectors (Randhawa et al., 2018; West & Bogers, 2017). Therefore, this study conceptualises open service innovation to understand the management of open service innovation, the processes used to develop open service innovation and its enablers. The findings of this research show, for the first time, the relationships among concepts using this study as the reference point.

The data collected from the three case studies identified the same main concepts in the open service innovation construct. These concepts are customer centricity, openness in organisational culture, customer collaboration and other stakeholder collaboration with a systematic and transparent process as the main enabler. Furthermore, when the case organisations developed approaches to open service innovation, other main enablers were identified: top management support, strategy, training and workshops, co-creation and data utilisation. The main elements and main enablers are visualised in Figure 32 and, in light of their contribution to the current theory, they are explained in the following sections.

Customer centricity is a core value for all three case study organisations. As discussed in section 2.3.2 the literature explains that in customer centricity the role of the customers is central in their participation as co-producers in the service production process (Grönroos, 1978; Gummesson, 1979). This was also supported by the case study results demonstrating that from the beginning of service development there was insufficient involvement of the customer. Customers create value for customers and value capture for organisations (van den Hemel & Rademakers, 2016), and they ensure the financial success of an organisation (Rust et al., 2004). The findings show that the case organisations all understood the importance of customer centricity since their approach aligned with previous research. It is also important to reiterate that the importance of customer centricity was a criterion in the choice of organisations to be case studies in this research (see Section 3.2.2).

In particular, the findings of this research show that *openness in organisational culture* is a central element of open service innovation process design and is thus connected to customer centricity. The literature on customer centricity also mentions organisational culture as one of the enablers (Kumar et al., 2006; Shah et al., 2006; Sheth et al., 2000). Furthermore, previous findings in the literature on

open innovation propose open organisational culture also as an enabler in stakeholder collaboration (Dodgson et al., 2006; Kratzer et al., 2017; Mortara & Minshall, 2011; van der Meer, 2007; West & Bogers, 2014). Similarly, public sector literature indicates that the stakeholder collaboration approach requires a focus on organisational culture (Albury, 2005; Ţigănaşu et al., 2019).

However, the case studies reveal that openness in organisational culture is not only an enabler. It is a key element in open service innovation because openness is needed when collaborating with customers and other stakeholders. When the case organisations were developing openness in organisational culture, they followed the same process with similar main steps: renovating offices with open spaces and areas for interaction with others, encouraging internal development projects supporting openness and increasing multidisciplinary working. Mortara et al. (2009), in their study regarding open innovation in large organisations, found similar multidisciplinary working to be important, stating that it enhances the internal knowledge flow of organisations. This study interprets the theoretical relationship among customer centricity, customer collaboration and other stakeholder collaboration related to openness in organisational culture to provide practical knowledge and a more complete body of literature through the re-considered framework on how to assist openness in organisational culture. Findings here suggest that openness in organisational culture is not only an enabler but rather an essential element in open service innovation where all case studies followed the same process.

Chesbrough (2010) explains that customers are the central focus in open service innovation which is further elaborated on by this thesis. Indeed, *customer collaboration* was found to be the main focus of the case study organisations, achieved by placing customers at the centre of operations while, ideally, interacting in parallel with several *other stakeholders*. In other words, customers are the priority in collaboration, and other stakeholders are the secondary focus. This was seen in the case study organisations when personnel focused mainly on customers and on strategies emphasising customer importance. Previous research has explained the role of customer collaboration (Aarikka-Stenroos & Jaakkola, 2012) and other stakeholder collaboration (Chesbrough, 2003) separately but has not divulged how they depend on each other. The findings of the present research highlight the central role of customers in the private and the public sectors when organisations manage and develop open service innovation processes where other stakeholders are important but not central. In other words, customers are the priority in collaboration, and other stakeholders are the secondary focus.

5.1.2 Open service innovation enablers

In this study, combining customer collaboration and other stakeholder collaboration was identified as a complex but *transparent and systematic* (see definitions from Cambridge Dictionary, 2021) *process.* This process was in turn identified as one of the main enablers. Prior research also highlights that customer centricity can be improved by upgrading the structure and processes (van den Hemel & Rademakers, 2016; Shah et al., 2006). The case study organisations kept open the future possibility of having one central unit or manager because this might be helpful in the creation of a transparent and systematic process. Overall, the data indicates that a structured and transparent process is helpful when collaborating with customers and other stakeholders.

The literature suggests that *co-creation* is a central element in open service innovation and is used right from the beginning of the innovation process with customers (Chesbrough, 2010; Kristensson et al., 2008) and other stakeholders (Ind et al., 2017; Markovic & Bagherzadeh, 2018) (see Sections 2.2.2, 2.2.3 and 2.3.4). However, the three case studies reveal that co-creation is not a central element in open service innovation as it is not always used. The findings reveal that co-creation mainly occurs when collaborating with customers. Co-creation is used sometimes internally and only rarely with other stakeholders. In other words, the present study indicate that case organisations do not see the role of co-creation as a central element, but it is still viewed as an enabler among other enablers. This study elaborates on the use of co-creation by categorising it as a priority among customers, of secondary importance internally and of less significance among other stakeholders.

One of the enablers was *top management support* along with *strategy.* These findings are in line with other studies on open innovation in terms of senior management encouragement (Ahn et al., 2017, Kratzer et al., 2017; Traitler et al., 2011; van der Meer, 2007). Furthermore, the public sector literature mentions that direction from leadership is needed (Albury, 2005; Ţigănaşu et al., 2019). The importance of strategy is also mentioned in previous studies (Crema et al., 2014; Traitler et al., 2011). The findings of this research, however, broaden the interpretation insofar as the primary focus of strategy is to support customer centricity using customer collaboration, and the secondary focus is on collaboration with other stakeholders.

Training and workshops were seen in this research as one of the main enablers when developing open service innovation. Some previous studies also found training useful in open innovation (Burcharth et al., 2014; Mortara et al., 2009), particularly training employees to think and act with customers constantly in mind (Shah et al., 2006). The results of this study further indicate that training and

workshops are effective, especially if preceded by an internal briefing. In this way, participants can connect the content of training or workshops to the aims, strategies and development projects of their organisations.

In all three case studies, *data utilisation* was identified as one of the enablers when developing an open service innovation approach. The importance of data is also highlighted in other recent studies related to services (Zaki, 2019). The capabilities in the use of data varied among the three cases. K-Group was the most advanced organisation in its use of its own data and the data from various stakeholders. In the future, K-Group wishes to utilise a mixture of qualitative and quantitative data. Tax Administration also has a unit responsible for data utilisation. In comparison, Keva was less experienced in data utilisation. Nevertheless, all three case organisations were interested in data utilisation and wish to advance it in the future to receive information from their customers using various types of data. The findings show that data utilisation is important for all case study organisations and plays a role in open service innovation development.

5.1.3 Differences between private and public sector innovation

The results of this research address the differences between public and private sector organisations that affect innovation. Although common theories of innovation management are mostly shaped by studies of the private sector (Tuzovic et al., 2018), they are often applied to other types of organisations (Chen et al., 2020; Damanpour & Aravind, 2012). Therefore, it cannot be assumed that approaches to managing innovation in the private sector are always transferable to the public sector (Al-Mansour, 2021; Moore, 2000). This study confirms the findings of some earlier studies that there are differences between private sector and public sector innovation. In the following section, the main differences are summarised based on the findings of this research.

Open to collaborating with various stakeholders

The results of the present research indicate that the public sector intrinsically seems to be open to collaboration with stakeholders in terms of sharing and absorbing knowledge. Some earlier studies (see Section 2.4.2) also highlight the importance of public sector collaboration with stakeholders (Chen et al., 2020; Chesbrough & Minin, 2014; De Vries et al., 2018; Mergel, 2015; Randhawa et al., 2019 Sørensen & Torfing, 2011). It has been found that an increasing number of public organisations are cooperating with each other on innovation (Chen et al., 2020; Mergel 2015, 2018). In the public

sector's use of open innovation, diffusion to other organisations is a feature (Chesbrough & Minin, 2014; Hartley, 2005; Ooms and Piepenbrink, 2021; Rashman & Hartley, 2002). The results of the two public sector cases studied align with the above-mentioned studies. Previous knowledge that public sector organisations are accustomed to collaborating with others is expanded through the results of this study to include situations in which at government requests changes, as happens when there are legal changes to be implemented. In these cases, collaboration with other stakeholders is agile, rapid and transparent because the public sector is obliged to respond rapidly to government requests. The case study results show that the public sector has a history of working with various stakeholders. This has helped the public sector to develop an open innovation approach.

In contrast, reluctance to engage in stakeholder collaboration was found in the private sector case in relation to the 'not invented here' syndrome, which seems to occur among some personnel because they are used to the idea that all the information they need can be sourced internally because of the large number of personnel. This was primarily evident in long-serving K-Group personnel being reluctant to change. Chesbrough (2003) introduced the 'not invented here' syndrome: everything coming from the outside is suspicious and unreliable. The current literature explains that extreme openness might negatively impact long-term innovation success by leading to a loss of control over core competencies (Enkel et al., 2009; Huizingh, 2011). Therefore, organisations seek the right balance between an open and a closed approach (Dahlander & Gann, 2010). This concept relates to the idea that spreading or sharing innovation is not taken for granted in the private sector because of competition (Boyne, 2002). In this respect, K-Group, as a large private organisation, was in alignment with previous findings in the literature.

Public sector rules and regulations in stakeholder collaboration can be overcome by developing internal processes

Existing research on the public sector tends to highlight the rules and regulations imposed by policymakers that govern collaboration with stakeholders (Mergel & Desouza, 2013; Raipa & Giedraityte, 2014). The impact on the decision-making processes can be time-consuming (Cankar & Petkovšek, 2013) and bureaucratic (Boyne, 2002; Sørensen & Torfing, 2011; Windrum & Koch, 2008)[29].

---

[29] It should be noted that rules and regulations imposed by policymakers that govern collaboration with stakeholders did not seem to be present during the COVID 19 crisis (Patrucco et al., 2022).

However, the findings of this study suggest that despite rules and regulations on stakeholder collaboration, negative effects can be overcome by developing internal processes, as observed in the two public sector organisations, first in Tax Administration and then in Keva. This study's results indicate that collaboration with stakeholders in the public sector can be rapid and simple.

In contrast, the private sector case organisation, the K-Group, has a large, complex matrix organisational structure. As a result, collaboration with stakeholders can be slow and complex because decision-making takes time. These findings align with earlier studies on large organisations' adoption of open innovation (Brunswicker & Chesbrough, 2018). Research findings demonstrate that although the private sector does not need to consider the regulations of policymakers in the innovation process (Boyne, 2002; Cankar & Petkovšek, 2013), structural issues especially in large organisations may cause innovation development to be time-consuming. Despite some challenges in terms of stakeholder collaboration, the K-Group remains open to outside knowledge and collaboration with various stakeholders.

Collaboration with higher education institutions and research knowledge

This study's findings indicate that collaboration with higher education institutions is mostly in the interest of the public sector. The main reason, according to two public sector case study organisations, is that this form of collaboration is seen as easy and not governed by legally enforced partner equality. Furthermore, the findings suggest that the public sector seems to appreciate research knowledge. This was evident in the interest shown by the personnel towards research information and the research knowledge of management involved in decision-making. This seems to be novel knowledge as prior literature relating to the public sector is limited and does not capture collaboration with higher education institutions. However, a recent study acknowledges the use of research knowledge and collaboration with higher education institutions during crises in COVID 19 in the public sector (Patrucco et al., 2022). Moreover, prior research does refer to the use of research knowledge (Arnaboldi, 2013) through collaboration with consultancies in the public sector (Radnor and O'Mahoney, 2013).

The private sector case also collaborated with higher education institutions, but this collaboration was not seen as being as important as in the public sector. Some personnel of K-Group explained that collaboration with higher education institutions, especially in research, is seen as slow and, therefore, not a central concern. However, the K-Group's attitude towards co-operation with higher education institutions during the data gathering changed as they realised that co-operation with these institutions could be useful, although research results might take time. Prior studies have explained the role of

higher education institutions among private sector organisations (Arnaboldi, 2013). However, prior studies do not explain difficulties faced with higher education institutions. Overall, it was still evident in the case study data that the public sector has more interest in higher education institutions than the private sector. Thus, the results indicate that interest in collaboration with higher education institutions and research knowledge is valued in the public sector in comparison to the private sector, which views collaboration with higher education institutions as useful but with the caveat that receiving research results might be slow.

Job titles

In public sector organisations, there were similar barriers to open service innovation. Job titles do not always reflect the nature of the work being done, and external and internal partners do not always recognise those who work in open service innovation. The public sector personnel in the case study organisations hoped that this would change in the future. In the public sector organisations, job titles are also connected to organisational structures, since they do not have a central unit for customer collaboration or (open) innovation. It is noteworthy, though, that the public sector case study organisations' management were considering setting up central units, and personnel hoped that in the future job titles would reflect the content of their work. Previous research regarding the public sector has focused on job title related topics, such as goal setting in teams (van der Hoek et al., 2018) or cross-functional teams in the public sector (Athanasaw, 2003). However, as noted earlier, public sector innovation is an under-researched area. Thus, it seems that findings related to job titles in the public sector are novel and have not been previously identified in the literature. In comparison, in the private sector, case organisation job titles reflect the nature of the work being done. The private sector organisation K-Group had a central unit for customer collaboration, and they were planning another central unit to focus on open innovation.

5.2 Contribution to practice

High levels of interest in open service innovation were expressed by the personnel and the top management of the organisations involved in this study. Thus, the contribution to practice is significant, with three main implications. First, this study clarifies the nature of open service innovation management, processes development and enablers in organisations. At the outset of this study, open service innovation's operational details were identified by the management of private and public sector organisations as being complex and challenging. Therefore, this study offers understanding and

clarification to management of open service innovation processes, and it identifies the main elements in open service innovation. The framework in Figure 32 identifies and simplifies the main elements and how they relate to each other. The framework is helpful in developing open service innovation approaches.

Second, this study is highly relevant to organisations who wish to implement open services innovation, since it offers knowledge on open innovation and service innovation management as well as on how to combine these two approaches. Furthermore, it provides detailed descriptions of enablers in all three case studies to identify the phases in the development processes of open service innovation. It provides an overview of how to enable the implementation of open service innovation.

Third, private and public sector organisations can identify specific features in this study, which impact open service innovation development approaches based on the nature of the organisations. This study explains the differences in the private and the public sectors based on previous studies and based on the rich case study data. As a result, useful information is provided when the innovation processes of the two types of organisations are compared. This could be useful for management when planning, implementing and managing open innovation and service innovation approaches and when combining the two approaches.

5.3 Limitation and future research

Limitations

This study is not free of limitations. First, it was conducted in just one cultural context, Finland. This could limit external validity and the generalisability of the research findings to other locations (Yin, 2009). Second, the results are from three case studies chosen based on the selection criteria (see Section 3.2.2) as being favourable to open service innovation. Therefore, this study acknowledges that results might not be the same elsewhere or findings may not be able to be directly applied to other situations. Third, the majority of the interviews and observations were focused on management providing in-depth views along with documentation. Interview data from other levels of the organisational hierarchy might have provided valuable insights into more operational aspects of the research context and might have widened the perspective. Furthermore, the various stakeholders with whom the organisations collaborate could have provided knowledge from a different angle. However, it should be recalled that this study was primarily concerned with the management of open service

innovation. Therefore, the data collection was primary focused on management. In addition, triangulated data was collected, aiming to capture the overall picture of the phenomenon.

Further research

The three above-mentioned limitations could be addressed in further research. First, to improve external validity, Yin (2009) suggests the replication of logic, where the theory is tested by replicating the findings in another location. The same study could also be expanded in another cultural context because the success of organisations in innovation is connected to the national and regional innovation systems (Fagerberg & Srholec, 2008; Freeman, 1987). Therefore, it is worth acknowledging that the country and region in which an organisation is located affect the possibility of and the ability to innovate (see Section 2.4.3). Second, similar selection criteria could identify case study organisations to be surveyed with the aim of statistical generalisation from a wider sample. Third, further research could be conducted at other organisational levels and among the various stakeholders with whom the case study organisations collaborate to achieve a broader perspective of the phenomenon of open service innovation.

In open innovation, the service sector is a largely ignored research topic (West & Bogers, 2017), even though services are important to several countries' economies (Gallouj & Djellal, 2010; The World Bank, 2019). Therefore, this study provides knowledge on open service innovation in private and public sector organisations. However, other types of organisations could also be researched in regard to open service innovation, such as small and medium-sized enterprises. This is because innovation management varies depending on the nature of the organisation (Fagerberg et al., 2005). This perspective could enhance the conceptual framework developed in this study (see Figure 32) and provide additional information on open innovation in services. Furthermore, it could offer a comparison of knowledge among various types of organisations regarding open service innovation. In addition, as noted in section 2.3.1 services can form an integral part of products, which creates a new angle for future research: open service innovation in product service systems (Edvardsson et al., 2005).

This study identified central concepts in the open service innovation framework (see Figure 32) and thus provides a platform for further research on this topic. The framework focuses on value creation because open innovation and service innovation literature typically focus on value creation (Chesbrough, 2010; Chesbrough et al., 2018, Hemel & Rademakers, 2016). However, future research might enhance the open service innovation framework by focusing also on value capture (Zott &

Amit, 2008, 2010), for instance, using a business model approach which focuses on value creation and capture (Gay, 2014).

Furthermore, each of the elements in open service innovation framework could be further researched. In particular, this study reveals openness in organisational culture as one of the essential elements in open service innovation. This study also introduced the processes used by the case study organisations to develop openness in organisational culture. However, the cultural aspects still remain a less researched area in the field of open innovation (Naqshbandi et al., 2015; Gassmann et al., 2010; Kratzer et al., 2017). Therefore, future research in this area might add additional knowledge to the literature.

This study's focus was on open service innovation development in organisations which illustrated how, during a two-year span, they managed to develop open service innovation. It should be noted that particularly at the beginning of data collection open innovation in all case study organisations was not so entrenched. Hence, a similar study of open innovation could be repeated in these same organisations or in other organisations with a deep-rooted open innovation approach. However, it is useful to recall that the purpose of this study was particularly to choose organisations where open service innovation processes were still being developed and to demonstrate the full cycle of the development (See 3.3.3 for selection criteria to case studies).

Additionally, public sector innovation lacks research knowledge, as identified in the literature review in section 2.4. Therefore, this study adds to the knowledge in this area. However, future research could explore public sector innovation from other angles. The literature review show that policymakers in government have an impact on innovation in the public sector. Therefore, a future potential research area could be the role of policymakers in public sector innovation. Ţigănaşu et al. (2019) also support this view by explaining that only a limited number of studies have researched public sector organisational innovation in the context of government policymakers. Furthermore, S-D logic in the public sector has potential regarding services (Alford, 2016; Farr, 2016; Osborne, 2018; Osborne et al., 2014; Westrup, 2018). However, S-D logic in the public sector is similarly under-researched, thereby offering a possible future research perspective. Overall, very little research has been conducted on public sector innovation (Kusumasari et al., 2019). Therefore, various research angles on public sector innovation could provide knowledge for practitioners and for academics.

5.4 Conclusions

This study has examined open innovation in services by exploring operational details in the context of what differences there might be between management approaches used in large private and public sector organisations. The main findings reveal that openness in organisational culture is a fundamental concept in open service innovation. Earlier studies, particularly in open innovation, mention the importance of openness in organisational culture but do not highlight the central role of organisational culture in relation to open service innovation.

Contrary to previous research, this research found that co-creation is not a central concept in open service innovation but one of the enablers. The main enabler in open service innovation in this study was a systematic and transparent process. The central concepts found to be the same in open service innovation in both the private and public sector organisations were: customer centricity, open organisational culture, customer collaboration and other stakeholder collaboration.

However, some unique features were identified in public sector organisations that influence open service innovation management. These can be summarised as openness to collaborating with various stakeholders, collaboration with higher education institutions as well as the appreciation and utilisation of research knowledge. Moreover, in the public sector job titles do not always reflect what people do in practice. Furthermore, the rules and regulations typical of public-sector organisations can be overcome by developing internal processes.

This study not only contributes to the literature on open innovation in services, but the framework developed in this study from the findings of both private and public sector organisations also provides a novel conceptualisation of different concepts that form part of open service innovation, as well as a better understanding of the impact of open service innovation on organisations. Furthermore, the framework offers insight into the various aspects, enablers and specific features involved in managing and developing open innovation approaches in services in private and public sector organisations. From the outset, this study identified a high level of interest in open innovation in services among practitioners. Therefore, this research is highly relevant for both theory and for practice and has identified several opportunities for further research in this area.

6 References

Aarikka-Stenroos, L., & Jaakkola, E. (2012). Value co-creation in knowledge intensive business services: A dyadic perspective on the joint problem solving process. *Industrial Marketing Management*, *41*(1), 15–26. https://doi.org/10.1016/j.indmarman.2011.11.008

Ahn, J. M., Minshall, T., & Mortara, L. (2017). Understanding the human side of openness: the fit between open innovation modes and CEO characteristics. *R and D Management*, *47*(5), 727–740. https://doi.org/10.1111/radm.12264

Ahn, J. M., Minshall, T., & Mortara, L. (2015). Open innovation: a new classification and its impact on firm performance in innovative SMEs. *Journal of Innovation Management*, *3*(2), 33–54. https://doi.org/10.24840/2183-0606_003.002_0006

Al-Mansour, J. (2021). The interrelationship between strategy as practice and public service innovation and delivery: Academic history and evidence from Kuwait. *International Journal of Data and Network Science*, *5*, 151–162. https://doi.org/10.5267/j.ijdns.2021.1.001

Albury, D. (2005). Fostering innovation in public services. *Public Money and Management*, *25*(1). https://doi.org/10.1111/j.1467-9302.2005.00450.x

Alford, J., & Greve, C. (2017). Strategy in the Public and Private Sectors: Similarities, Differences and Changes. *Administrative Sciences*, *7*(4), 35. https://doi.org/10.3390/admsci7040035

Alford, J. (2016). Co-Production, Interdependence and Publicness: Extending public service-dominant logic. *Public Management Review*, *18*(5), 673–691. https://doi.org/10.1080/14719037.2015.1111659

Andersson, M., & Karlsson, C. (2002). *Regional Innovation Systems in small and medium sized regions. A critical review and assessment. 2002–2*, 1–25.

Antons, D., & Breidbach, C. (2018). Big Data, Big Insights? Advancing Service Innovation and Design With Machine Learning. *Journal of Service Research*, *21*(1), 17–39. https://doi.org/10.1177/1094670517738373

Arnaboldi, M. (2013). Consultant-Researchers in Public Sector Transformation: An Evolving Role. *Financial Accountability and Management*, *29*(2), 140–160. https://doi.org/10.1111/faam.12008

Åsvoll, H. (2014). Abduction, deduction and induction: Can these concepts be used for an understanding of methodological processes in interpretative case studies? *International Journal of Qualitative Studies in Education*, *27*(3), 289–307. https://doi.org/10.1080/09518398.2012.759296

References

Athanasaw, Y. (2003). Team Characteristics and Team Member Knowledge, Skills, and Ability Relationships to the Effectiveness of Cross-Functional Teams in the Public Sector. *International Journal of Public Administration*, *26*(10–11), 1165–1203. https://doi.org/10.1081/PAD-120019926

Austin, J. E, & Seitanidi, M. M. (2012). Collaborative Value Creation: A Review of Partnering Between Nonprofits and Businesses: Part I. Value Creation Spectrum and Collaboration Stages. *Nonprofit and Voluntary Sector Quarterly*, *41*(5), 726–758. https://doi.org/10.1177/0899764012450777

Aquilani, B., Abbate, T., & Codini, A. (2017). Overcoming cultural barriers in open innovation processes through intermediaries: A theoretical framework. *Knowledge Management Research and Practice*, *15*(3), 447–459. https://doi.org/10.1057/s41275-017-0067-5

Ballantyne, D., & Varey, R. J. (2008). The service-dominant logic and the future of marketing. *Journal of the Academy of Marketing Science*, *36*(1), 11–14. https://doi.org/10.1007/s11747-007-0075-8

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, *47*(8), 1323–1339. https://doi.org/10.1108/00251740910984578

Barras, R. (1986). Towards a theory of innovation in services. *Research Policy*, *15*(4), 161–173. https://doi.org/10.1016/0048-7333(86)90012-0

Bason, C. (2018). *Leading Public Sector Innovation: Co-Creating for a Better Society*. Policy Press.

Battisti, G., Gallego, J., Rubalcaba, L., & Windrum, P. (2015). Open innovation in services: knowledge sources, intellectual property rights and internationalization. *Economics of Innovation and New Technology*, *24*(3), 223–247. https://doi.org/10.1080/10438599.2014.924745

Berger, T., & Frey, C. (2016). *Structural Transformation in the OECD*. *193*, 1–53. https://doi.org/10.1787/5jlr068802f7-en

Berry, L., Shankar, V., Parish, J., Cadwallader, S., & Dotzel, T. (2006). Creating new markets through service innovation. *MIT Sloan Management Review*, *47*(2), 56–63.

Berry, L., & Parasuraman, A. (1993). Building a new academic field-The case of services marketing. *Journal of Retailing*, *69*(1),13–60. https://doi.org/10.1016/S0022-4359(05)80003-X

Bertello, A., Bogers, M., & De Bernardi, P. (2022). Open innovation in the face of the COVID-19 grand challenge: insights from the Pan-European hackathon 'EUvsVirus'. *R and D Management*, *52*(2), 178–192. https://doi.org/10.1111/radm.12456

References

Berthon, P., Mac Hulbert, J., & Pitt, L. (2004). Innovation or customer orientation? An empirical investigation. In *European Journal of Marketing* 38,(9/10),1065-1090. https://doi.org/10.1108/03090560410548870

Bessant, & Tidd, J. (2020). *Managing Innovation: Integrating Technological, Market and Organizational Change* (7th Edition). Wiley.

Bitner, M., Stephem, B., & Matthew, L. (2000). Technology Infusion in Service Encounters. *Journal of the Academy of Marketing Science*, *28*(1), 138–149. https://doi.org/10.4324/9781315690001

Bitner, M., Faranda, W., Hubbert, A., & Zeithaml, V. (1997). Customer Contributions and Roles Service Delivery. *International Journal of Service Industry Management*, *8*(3), 193–205.

Blaike, N., & Priest, J. (2019). *Designing Social Research* (3rd Edition). Polity Press.

Blaike, N. (2010). *Designing Social Research* (2nd Edition). Polity Press.

Blaikie, N. (2007). *Approaches to Social Enquiry: Advancing Knowledge* (2nd Edition). Polity Press.

Blois, K. (1974). The marketing of services: an approach. *European Journal of Marketing*, *8*, 137–145.

Bloomberg. (2021). *Bloomberg Innovation Index*. https://www.bloomberg.com/graphics/2015-innovative-countries/. Accessed 13.05.2021.

Boarman, A., & Vining, A. (1989). Ownership and Performance in Competitive Environments: A Comparison of the Performance of Private, Mixed, and State-Owned Enterprise. *The Journal of Law & Economics*, *32*(1), 1–33.

Bommert, B. (2010). Collaborative innovation in the public sector. *International Public Management Review*, *11*(1), 15–33. http://journals.sfu.ca/ipmr/index.php/ipmr/article/view/73

Borins, S. (2001). Encouraging innovation in the public sector. *Journal of Intellectual Capital*, *2*(3), 310–319. https://doi.org/10.1108/14691930110400128

Bossink, B. (2004). *Managing Drivers of Innovation in Construction Networks*. *130*(June), 337–345.

Bovaird, T. (2007). Beyond engagement and participation: User and community coproduction of public services. *Public Administration Review*, *67*(5), 846–860. https://doi.org/10.1111/j.1540-6210.2007.00773.x

Boyne, G. (2002). Public and private management: what's the difference? *Journal of Management Studies*, *31:1*(January), 97–122.

Brinkmann, S., & Kvale, S. (2015). *InterViews: Learning the Craft of Qualitative Research*

References

Interviewing (3ʳᵈ Edition). SAGE Publications.

Brunswicker, S., & Chesbrough, H. (2018). The Adoption of Open Innovation in Large Firms: Practices, Measures, and Risks. A survey of large firms examines how firms approach open innovation strategically and manage knowledge flows at the project level. *Research Technology Management*, *61*(1), 35–45. https://doi.org/10.1080/08956308.2018.1399022

Brunswicker, S, & Vanhaverbeke, W. (2015). Open Innovation in Small and Medium-Sized Enterprises (SMEs): External Knowledge Sourcing Strategies and Internal Organizational Facilitators. *Journal of Small Business Management*, *53*(4), 1241–1263. https://doi.org/10.1111/jsbm.12120

Bryman, A., & Buchanan, D. (2018). Unconventional methodology in organization and management research. In *Unconventional Methodology in Organization and Management Research* (pp. 1–296). https://doi.org/10.1093/oso/9780198796978.001.0001

Buchheim, L., Krieger, A., & Arndt, S. (2020). Innovation types in public sector organizations: a systematic review of the literature. *Management Review Quarterly*, *70*(4), 509–533. https://doi.org/10.1007/s11301-019-00174-5

Bullock, J., Stritch, J., & Rainey, H. (2015). International comparison of public and private employees' work motives, attitudes, and perceived rewards. *Public Administration Review*, *75*(3), 479–489. https://doi.org/10.1111/puar.12356

Burcharth, A., Knudsen, M. , & Søndergaard, H. (2014). Neither invented nor shared here: The impact and management of attitudes for the adoption of open innovation practices. *Technovation*, *34*(3), 149–161. https://doi.org/10.1016/j.technovation.2013.11.007

Cambridge Dictionary. (2021). https://dictionary.cambridge.org/dictionary/english/transparent

Cankar, S., & Petkovšek, V. (2013). Private And Public Sector Innovation And The Importance Of Cross-Sector Collaboration. *The Journal of Applied Business Research*, *29*(6), 1597-1606.

Carroll, N., & Helfert, M. (2015). Service capabilities within open innovation: Revisiting the applicability of capability maturity models. *Journal of Enterprise Information Management*, *28*(2), 275–303. https://doi.org/10.1108/JEIM-10-2013-0078

Chalmers, D. (2013). Social innovation: An exploration of the barriers faced by innovating organizations in the social economy. *Local Economy*, *28*(1), 17–34. https://doi.org/10.1177/0269094212463677

Chen, J., Walker, R., & Sawhney, M. (2020). Public service innovation: a typology. *Public Management Review*, *22*(11), 1674–1695. https://doi.org/10.1080/14719037.2019.1645874

Chesbrough, H. (2020). To recover faster from Covid-19, open up: Managerial implications from an

References

open innovation perspective. *Industrial Marketing Management*, *88*(April), 410–413. https://doi.org/10.1016/j.indmarman.2020.04.010

Chesbrough, H., Lettl, C., & Ritter, T. (2018). Value Creation and Value Capture in Open Innovation. *Journal of Product Innovation Management*, *35*(6), 930–938. https://doi.org/10.1111/jpim.12471

Chesbrough, H. (2017). The future of open innovation. *Research Technology Management*, *60*(1), 35–38. https://doi.org/10.1080/08956308.2017.1255054

Chesbrough, H., & Minin, A. (2014). Open Social Innovation. In Chesbrough, H., Vanhaverberke,W., West, J. (Eds.), *New Frontiers in Open Innovation* (1st Edition). Oxford University Press.

Chesbrough, H. (2011). Bringing Open Innovation to Services. *Mit Sloan Management Review*, *52*(2), 85–90. https://doi.org/10.1177/1094670503257028

Chesbrough, H., & Bogers, M. (2014). Explicating Open Innovation: Clarifying an Emerging Paradigm for Understanding Innovation Keywords. *New Frontiers in Open Innovation*, 1–37. http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2427233

Chesbrough, H. (2010). *Open services innovation: Rethinking your business to grow and compete in a new era.* Jossey-Bass.

Chesbrough, H. (2007). Why Companies Should Have Open Business Models Using. *Mit Sloan Management Review*, *2*(48), 22–28. https://doi.org/10.3139/9783446467620.035

Chesbrough, H., & Appleyard, M. (2007). Open Innovation and Strategy. *California Management Review*, *50*(1), 57–76. http://journals.sagepub.com/doi/pdf/10.2307/41166416

Chesbrough, H. (2006a). *Open Business Models: How to Thrive in the New Innovation Landscape.* Harvard Business School Press.

Chesbrough, H, & Crowther, A. (2006). Beyond high tech: early adopters of open innovation in other industries. *R and D Management*, *36*(3), 229–236. https://doi.org/10.1111/j.1467-9310.2006.00428.x

Chesbrough, H. (2003). *Open innovation: The new imperative for creating and profiting from technology*. Harvard Business School Press.

Chiaroni, D., Chiesa, V., & Frattini, F. (2011). The Open Innovation Journey: How firms dynamically implement the emerging innovation management paradigm. *Technovation*, *31*(1), 34–43. https://doi.org/10.1016/j.technovation.2009.08.007

Cohen, W., & Levinthal, D. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, *35*(1), 128–152.

References

https://doi.org/10.4054/DemRes.2016.35.13

Cooper, J. (1998). A multidimensional approach to the adoption of innovation. *Management Decision*, *36*(8), 493–502. https://doi.org/10.1108/00251749810232565

Crema, M., Verbano, C., & Venturini, K. (2014). Linking strategy with open innovation and performance in SMEs. *Measuring Business Excellence*, *18*(2), 14–27. https://doi.org/10.1108/MBE-07-2013-0042

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th Edition). SAGE Publications.

Cronholm, S. (2005). Multi-Grounded Theory in practice - A review of experiences from use. *Qualitative Research in IT and IT in Qualitative Research: Challenges for Qualitative Research, QualIT 2005 - 2005 Conference Proceedings*, *January 2005*.

Dahlander, L., & Gann, D. (2010). How open is innovation? *Research Policy*, *39*(6), 699–709. https://doi.org/10.1016/j.respol.2010.01.013

Damanpour, F., & Aravind, D. (2012). Managerial Innovation: Conceptions, Processes, and Antecedents. *Management and Organization Review*, *8*(2), 423–454. https://doi.org/10.1111/j.1740-8784.2011.00233.x

Damanpour, F. (1996). Organizational Complexity and Innovation: Developing and Testing Multiple Contingency Models. *Management Science*, *42*(5), 693–716.

Damanpour, F. (1991). Organizational Innovation: a Meta-Analysis of Effects of Determinants and Moderators. *Academy of Management Journal*, *34*(3), 555–590. https://doi.org/10.2307/256406

Damapour, F., Sabat, K., & Evan, M. (1989). The relationship between types of innovation and organizational performance. *Journal of Management Studies*, *26*(6), 587–601.

Damanpour, F., & Evan, W. (1984). Organizational Innovation and Performance: The Problem of "Organizational Lag". *Administrative Science Quarterly*, *29*(3), 392–409.

De Brentani, U. (2001). Innovative versus incremental new business services: Different keys for achieving success. *The Journal of Product Innovation Management*, *18*, 169–187. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.473.4076&rep=rep1&type=pdf

de Vries, H., Tummers, L., & Bekkers, V. (2018). The Diffusion and Adoption of Public Sector Innovations: A Meta-Synthesis of the Literature. *Perspectives on Public Management and Governance*, *1*(3), 159–176. https://doi.org/10.1093/ppmgov/gvy001

Degnegaard, R. (2014). Co-creation, prevailing streams and a future design trajectory. *CoDesign*, *10*(2), 96–111. https://doi.org/10.1080/15710882.2014.903282

References

den Hertog, P., van der Aa, W., & de Jong, M. (2010). Capabilities for managing service innovation: Towards a conceptual framework. *Journal of Service Management*, *21*(4), 490–514. https://doi.org/10.1108/09564231011066123

Denzin, N. (1989). *The Research Act: A Theoretical Introduction to Sociological Methods*. A Division of Transaction Publishers.

Djellal, F., Gallouj, F., & Miles, I. (2013). Two decades of research on innovation in services: Which place for public services? *Structural Change and Economic Dynamics*, *27*, 98–117. https://doi.org/10.1016/j.strueco.2013.06.005

Dodgson, M., Gann, D., & Salter, A. (2006). The role of technology in the shift towards open innovation: the case of Procter & Gamble. *R and D Management*, *36*(3), 333–346.

Donnely, J. (1976). Marketing Intermediaries in Channels of Distribution for Service. *Journal of Marketing*, *40*(01), 55–57.

Drucker, P. (2002). The Discipline of Innovation. *Harvard Business Review*, *8*, 5–11.

Drucker, P. (1958). Marketing and Economic Development. *Journal of Marketing*, *22*(3), 252–259.

Dubois, A., & Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, *55*(7),553–560. https://doi.org/10.1016/S0148-2963(00)00195-8

Easterby-Smith, M., Thorpe, R., & Jackson, P. (2012). *Management Research* (4th Edition). SAGE Publications.

Eduardo, C., & Yamasaki, S. (2014). Open services innovation: The case of BT in the UK. *Journal of Technology Management and Innovation*, *9*(2), 145–156.

Edvardsson, B., Frow, P., Jaakkola, E., Keiningham, T., Koskela-Huotari, K., Mele, C., & Tombs, A. (2018). Examining how context change foster service innovation. *Journal of Service Management*, *29*(5), 932–955. https://doi.org/10.1108/JOSM-04-2018-0112

Edvardsson, B., Meiren, T., Schäfer, A., & Witell, L. (2013). Having a strategy for new service development - does it really matter? *Journal of Service Management*, *24*(1), 25–44. https://doi.org/10.1108/09564231311304170

Edvardsson, B., Gustafsson, A., Kristensson, P., & Wittel, L. (2010). Service Innovation and Customer Co-development. In P. Maglio, C. Kieliszewski, & J. Spohrer (Eds.), *Handbook of Service Science*. Springer International Publishing.

Edvardsson, B., Gustafsson, A., & Roos, I. (2005). Service portraits in service research: A critical review. *International Journal of Service Industry Management*, *16*(1), 107–121. https://doi.org/10.1108/09564230510587177

Edvardsson, B., Gustafsson, A., Johnson, M., & Sanden, B. (2002). *New service development and*

References

innovation in the new economy. Studentlitteratur.

Edvardsson, B., & Olsson, J. (1996). Key concepts for new service development. *Service Industries Journal*, *16*(2), 140–164. https://doi.org/10.1080/02642069600000019

Eiglier, P., & Langeard, E. (1976). Principe politique de marketing pour les entreprises de service. *Working Paper, Institute d'Administratin Des Enterprises. Universite´ d'Aix-Marseille.*

Eisenhardt, K, & Graebner, E. (2007). Theory Building from Cases: Opportunities and Challenges. *Academy of Management*, *50*(1), 25–32. https://doi.org/10.1007/BF01033590

Eisenhardt, K. (1989a). Agency Theory: An Assessment and Review. *The Academy of Management Review*, *14*(1), 57–74.

Eisenhardt, K. (1989b). Building Theories from Case Study Research. *Academy of Management Review*, *14*(4), 532–550. https://doi.org/10.5465/amr.1989.4308385

Enkel, E., Gassmann, O., & Chesbrough, H. (2009). Open R&D and open innovation: exploring the phenomenon. *R&D Management*, *39*(4), 311–316. https://doi.org/10.1111/j.1467-9310.2009.00570.x

Eurostat. (2021). *Science, technology, innovation - Overview*. https://ec.europa.eu/eurostat/web/science-technology-innovation

European Innovation Scoreboard. (2020). *European Innovation Scoreboard*. https://ec.europa.eu/growth/industry/policy/innovation/scoreboards_en

Fagerberg, J., & Srholec, M. (2008). National innovation systems, capabilities and economic development. *Research Policy*, *37*(9), 1417–1435. https://doi.org/10.1016/j.respol.2008.06.003

Fagerberg, J., Mowery, D., & Nelson, R. (2005). *The Oxford Handbook of Innovation*. Oxford University Press.

Falk, T., Hammerschmidt, M., & Schepers, J. (2010). The service quality-satisfaction link revisited: Exploring asymmetries and dynamics. *Journal of the Academy of Marketing Science*, *38*(3), 288–302. https://doi.org/10.1007/s11747-009-0152-2

Farr, M. (2016). Co-Production and Value Co-Creation in Outcome-Based Contracting in Public Services. *Public Management Review*, *18*(5), 654–672. https://doi.org/10.1080/14719037.2015.1111661

Feller, J., Finnegan, P., & Nilsson, O. (2011). Open innovation and public administration: Transformational typologies and business model impacts. *European Journal of Information Systems*, *20*(3), 358–374. https://doi.org/10.1057/ejis.2010.65

Fisk, R., Brown, S., & Bitner, M. (1993). Tracking the evolution of the services marketing literature. *Journal of Retailing*, *69*(1), 61–103.https://doi.org/10.1016/S0022-4359(05)80004-1

References

Flick, U. (2018). *The SAGE Handbook of Qualitative Data Collection*. Sage Publications.

Flynn, N., & Asquer, A. (2012). *Public sector management*. Sage Publications.

Formica, P., & Curley, M. (2018). *Exploring the Culture of Open Innovation: Towards an Altruistic Model of Economy*. Emerald Group Publishing Limited.

Foroughi, A., Buang, N., Senik, Z., Hajmirsadeghi, R., & Bagheri, M. (2015). The role of open service innovation in enhancing business performance: The moderating effects of competitive intensity. *Current Science*, *109*(4), 691–698. https://doi.org/10.18520/cs/v109/i4/691-698

Franzel, J. (2008). Urban government innovation: Identifying current innovations and factors that contribute to their adoption. *Review of Policy Research*, *25*(3), 253–277. https://doi.org/10.1111/j.1541-1338.2008.00326.x

Freeman, C. (1995). The 'national system of innovation' in historical perspective. *Cambridge Journal of Economics*, *19*(1), 5–24. https://doi.org/10.1093/oxfordjournals.cje.a035309

Freeman, C. (1987). *Technology Policy and Economic Performance*. Pinter.

Freeman. C. (1984). *Strategic management: A Stakeholder's approach*. Pitman.

Gallouj, F, & Djellal, F. (2010). *The handbook of innovation and services: A multidisciplinary perspective.* Edward Elgar.

Gallouj, F., & Weinstein, O. (1997). Innovation in services. *Research Policy*, *26*(4–5), 537–556.

Gassmann, O., Enkel, E., & Chesbrough, H. (2010). The future of open innovation. *Research Technology Management*, *40*(3), 213–221. https://doi.org/10.1080/08956308.2017.1255054

Gassmann, O., & Enkel, E. (2004). Towards a Theory of Open Innovation: Three Core Process Archetypes. *R&D Management Conference*. https://www.alexandria.unisg.ch/274/1/Gassmann_Enkel.pdf

Gay, B. (2014). Open innovation, networking, and business model dynamics: the two sides. *Journal of Innovation and Entrepreneurship*, *3*(1), 1-20. https://doi.org/10.1186/2192-5372-3-2

Giannopoulou, E., Yström, A., Ollila, S., Fredberg, T., & Elmquist, M. (2010). Implications of Openness: A Study into (All) the Growing Literature on Open Innovation. *Journal of Technology Management & Innovation*, *5*(3), 162–180. https://doi.org/10.4067/S0718-27242010000300012

Glaser, B., & Strauss, A. (1970). Discovery of substantive theory. In Filstead, W. (Ed.), *Qualitative Methodology: Firsthand Involvement with the Social World*. Rand McNally.

Glaser, S. (1967). *The discovery of grounded theory*. Aldine.

Goffin, K., & Mitchell, R. (2017). *Innovation Management: Effective Strategy and Implementation*. Palgrave.

References

Goldkuhl, G., & Cronholm, S. (2010). Adding Theoretical Grounding to Grounded Theory: Toward Multi-Grounded Theory. *International Journal of Qualitative Methods*, *9*(2), 187–205. https://doi.org/10.1177/160940691000900205

Goldstein, S., Johnston, R., Duffy, J., & Rao, J. (2002). The service concept: The missing link in service design research? *Journal of Operations Management*, *20*(2), 121–134. https://doi.org/10.1016/S0272-6963(01)00090-0

Gould, R. W. (2012). Open innovation and stakeholder engagement. *Journal of Technology Management and Innovation*, *7*(3), 1–11. https://doi.org/10.4067/s0718-27242012000300001

Govindarajan, V., & Trimble, C. (2010). *The Other Side of Innovation: Solving the Execution Challenge*. Harvard Business Review.

Grama-Vigouroux, S., Saidi, S., Berthinier-Poncet, A., Vanhaverbeke, W., & Madanamoothoo, A. (2020). From closed to open: A comparative stakeholder approach for developing open innovation activities in SMEs. *Journal of Business Research*, *119*(9), 230–244. https://doi.org/10.1016/j.jbusres.2019.08.016

Grönlund, J., Sjödin, D., & Fishammar, J. (2010). Open Innovation and the Stage-Gate Process: A Revised Model for New Product Development. *California Management Review*, *52*(3), 106-131.

Grönroos, C. (2011a). A service perspective on business relationships: The value creation, interaction and marketing interface. *Industrial Marketing Management*, *40*(2), 240–247. https://doi.org/10.1016/j.indmarman.2010.06.036

Grönroos, C. (2011b). Value co-creation in service logic: A critical analysis. *Marketing Theory*, *11*(3), 279–301. https://doi.org/10.1177/1470593111408177

Grönroos, C. (2006). Adopting a service logic for marketing. *Marketing Theory*, *6*(3), 317–333. https://doi.org/10.1177/1470593106066794

Grönroos, C. (1982). An Applied Service Marketing Theory. *European Journal of Marketing*, *16*(7), 30–41. https://doi.org/10.1108/EUM0000000004859

Grönroos, C. (1978). A Service-Oriented Approach to Marketing of Services. *European Journal of Marketing*, *12*(8), 588–601.

Gummesson, E. (2008). Customer centricity: Reality or a wild goose chase? *European Business Review*, *20*(4), 315–330. https://doi.org/10.1108/09555340810886594

Gummesson, E. (1979). The Marketing of Professional Services – An Organizational Dilemma. *European Journal of Marketing*, *13*(5), 308–318.

Gyrd-Jones, R., & Kornum, N. (2013). Managing the co-created brand: Value and cultural

References

complementarity in online and offline multi-stakeholder ecosystems. *Journal of Business Research*, *66*(9), 1484–1493. https://doi.org/10.1016/j.jbusres.2012.02.045

Hakanen, T., & Jaakkola, E. (2012). Co-creating customer-focused solutions within business networks: A service perspective. *Journal of Service Management*, *23*(4), 593–611. https://doi.org/10.1108/09564231211260431

Hameed, W., Nisar, Q., & Wu, H. (2021). Relationships between external knowledge, internal innovation, firms' open innovation performance, service innovation and business performance in the Pakistani hotel industry. *International Journal of Hospitality Management*, *92*(11), 102745. https://doi.org/10.1016/j.ijhm.2020.102745

Hartley, J. (2005). Innovation in governance and public services: Past and present. *Public Money and Management*, *25*(1), 27–34. https://doi.org/10.1111/j.1467-9302.2005.00447.x

Heimstädt, M., & Reischauer, G. (2019). Framing innovation practices in interstitial issue fields: open innovation in the NYC administration. *Innovation: Management, Policy and Practice*, *21*(1), 128–150. https://doi.org/10.1080/14479338.2018.1514259

Heinonen, K., Strandvik, T., Mickelsson, K., Edvardsson, B., Sundström, E., & Andersson, P. (2010). A customer-dominant logic of service. *Journal of Service Management*, *21*(4), 531–548. https://doi.org/10.1108/09564231011066088

Hennala, L., Parjanen, S., & Uotila, T. (2011). Challenges of multi-actor involvement in the public sector front-end innovation processes: Constructing an open innovation model for developing well-being services. *European Journal of Innovation Management*, *14*(3), 364–387. https://doi.org/10.1108/14601061111148843

Hilgers, D., & Ihl, C. (2010). Citizensourcing: Applying the Concept of Open Innovation to the Public Sector. *The International Journal of Public Participation*, *4*(1), 67–88.

Hobday, M. (1995). *Innovation in East Asia: The Challenge to Japan*. Elgar.

Hofstede, G., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind* (3rd Edition). McGrawHill.

Hofstede, G. (1998). Attitudes, Values and Organizational Culture: Disentangling the Concepts. *Organization Studies*, *19*(3), 477–493. https://doi.org/10.1177/017084069801900305

Honderich, T. (2005). *The Oxford Companion to Philosophyitle* (2nd Edition). Oxford University Press.

Huizingh, E. (2011). Open innovation: State of the art and future perspectives. *Technovation*, *31*(1), 2–9. https://doi.org/10.1016/j.technovation.2010.10.002

Iglesias, O., Ind, N., & Alfaro, M. (2013). The organic view of the brand: A brand value co-creation

References

model. *Journal of Brand Management*, *20*(8), 670–688. https://doi.org/10.1057/bm.2013.8

Ind, N., Iglesias, O., & Markovic, S. (2017). The co-creation continuum: From tactical market research tool to strategic collaborative innovation method. *Journal of Brand Management*, *24*(4), 310–321. https://doi.org/10.1057/s41262-017-0051-7

Ind, N., Iglesias, O., & Schultz, M. (2013). Building brands together: Emergence and outcomes of co-creation. *California Management Review*, *55*(3), 5–26. https://doi.org/10.1525/cmr.2013.55.3.5

Johnson, P., & Duberley, J. (2000). *Understanding Management Research: An Introduction to Epistemology*. SAGE Publications.

Kankanhalli, A., Zuiderwijk, A., & Tayi, G. (2017). Open innovation in the public sector: A research agenda. *Government Information Quarterly*, *34*(1), 84–89. https://doi.org/10.1016/j.giq.2016.12.002

Kimbell, L. (2011). Designing for service as one way of designing services. *International Journal of Design*, *5*(2), 41–52.

Kotler, P. (2009). *Marketing Management*. Prentice Hall.

Kratzer, J., Meissner, D., & Roud, V. (2017). Open innovation and company culture: Internal openness makes the difference. *Technological Forecasting and Social Change*, *119*, 128–138. https://doi.org/10.1016/j.techfore.2017.03.022

Kristensson, P., Matthing, J., & Johansson, N. (2008). Key strategies for the successful involvement of customers in the co - creation of new technology - based services. *International Journal of Service Industry Management*, *19*(4), 474–491. https://doi.org/10.1108/09564230810891914

Krøtel, S., & Villadsen, A. (2016). Employee turnover in hybrid organizations: The role of public sector socialization and organizational privateness. *Public Administration*, *94*(1), 167–184. https://doi.org/10.1111/padm.12211

Kumar, V., Lemon, K., & Parasuraman, A. (2006). Managing Customers for Value. *Journal of Service Research*, *9*(2), 87–94. https://doi.org/10.1177/1094670506293558

Kurtmollaiev, S., Fjuk, A., Pedersen, P. E., Clatworthy, S., & Kvale, K. (2018). Organizational Transformation Through Service Design: The Institutional Logics Perspective. *Journal of Service Research*, *21*(1), 59–74. https://doi.org/10.1177/1094670517738371

Kusumasari, B., Pramusinto, A., Santoso, A., & Fathin, C. (2019). What shapes public sector innovation? *Public Policy and Administration*, *18*(4), 430–446. https://doi.org/10.13165/VPA-19-18-4-05

Kwon, D., Li, D., & Sohn, S. (2019). Identifying innovation in socialist countries through patent

References

analysis focused on Cuba and Vietnam. *World Patent Information*, *59*(02), 101898. https://doi.org/10.1016/j.wpi.2019.04.001

Laczko, P., Hullova, D., Needham, A., Rossiter, A., & Battisti, M. (2019). The role of a central actor in increasing platform stickiness and stakeholder profitability: Bridging the gap between value creation and value capture in the sharing economy. *Industrial Marketing Management*, *76*(7), 214–230. https://doi.org/10.1016/j.indmarman.2018.08.010

Lamberti, L. (2013). Customer centricity: the construct and the operational antecedents. *Journal of Strategic Marketing*, *21*(7), 588–612. https://doi.org/10.1080/0965254X.2013.817476

Lampel, J., & Mintzberg, H. (1996). Customizing Customization. *Sloan Management Review*, *38*(1), 21–30.

Larsson, R., & Bowen, D. (1989). Organization and Customer: Managing Design and Coordination of Services. *Academy of Management Review*, *14*(2), 213–233. https://doi.org/10.5465/amr.1989.4282099

Laursen, K., & Salter, A. (2006). Open for innovation: The role of openness in explaining innovation performance among U.K. manufacturing firms. *Strategic Management Journal*, *27*(2), 131–150. https://doi.org/10.1002/smj.507

Lee, S., Hwang, T., & Choi, D. (2012). Open innovation in the public sector of leading countries. *Management Decision*, *50*(1), 147–162. https://doi.org/10.1108/00251741211194921

Leonard-Barton, D. (1990). A Dual Methodology for Case Studies: Synergistic Use of a Longitudinal Single Site with Replicated Multiple Sites. *Organization Science*, *1*(3), 248–266. https://doi.org/10.1287/orsc.1.3.248

Levitt, T. (1960). Growth and Profits Through Planned Marketing Innovation. *Journal of Marketing*, *24*(4), 1. https://doi.org/10.2307/1248397

Lonti, Z., & Verma, A. (2003). The Determinants of Flexibility and Innovation in the Government Workplace: Recent Evidence from Canada. *Journal of Public Administration Research and Theory*, *13*(3), 283–310. https://doi.org/10.1093/jpart/mug025

Loukis, E., Charalabidis, Y., & Androutsopoulou, A. (2017). Promoting open innovation in the public sector through social media monitoring. *Government Information Quarterly*, *34*(1), 99–109. https://doi.org/10.1016/j.giq.2016.09.004

Loureiro, S., Romero, J., & Bilro, R. (2020). Stakeholder engagement in co-creation processes for innovation: A systematic literature review and case study. *Journal of Business Research*, *119*(10), 388–409. https://doi.org/10.1016/j.jbusres.2019.09.038

Lovelock, C., & Gummesson, E. (2004). Whither Services Marketing?: In Search of a New

References

Paradigm and Fresh Perspectives. *Journal of Service Research*, *7*(1), 20–41.
https://doi.org/10.1177/1094670504266131

Lundvall, B. (1992). *National Systems of Innovation: Toward a Theory of Innovation and Interaction Learning*. Printer.

Lusch, R., & Nambisan, S. (2015). Service Innovation: A Service-dominant logic perspective. *Special Issue: Service Innovation in the Digital Age*, 155–176. https://paulallen.ca/documents/2015/08/lusch-rf-and-s-nambisan-service-innovation-a-service-dominant-logic-perspective-2015.pdf/

Lusch, R., Vargo, S., & O'Brien, M. (2007). Competing through service: Insights from service-dominant logic. *Journal of Retailing*, *83*(1), 5–18. https://doi.org/10.1016/j.jretai.2006.10.002

Lusch, R., & Vargo, S. (2006a). Service-dominant logic: Reactions, reflections and refinements. *Marketing Theory*, *6*(3), 281–288. https://doi.org/10.1177/1470593106066781

Lusch, R., & Vargo, S. (2006b). *The service-dominant logic of marketing : dialog, debate, and directions*. Routledge.

Lütjen, H., Schultz, C., Tietze, F., & Urmetzer, F. (2019). Managing ecosystems for service innovation: A dynamic capability view. *Journal of Business Research*, *104*(November), 506–519. https://doi.org/10.1016/j.jbusres.2019.06.001

Mačiulienė, M., & Skaržauskienė, A. (2016). Evaluation of co-creation perspective in networked collaboration platforms. *Journal of Business Research*, *69*(11), 4826–4830. https://doi.org/10.1016/j.jbusres.2016.04.038

Maglio, P., Vargo, S., Caswell, N., & Spohrer, J. (2009). The service system is the basic abstraction of service science. *Information Systems and E-Business Management*, *7*(4 SPEC. ISS.), 395–406. https://doi.org/10.1007/s10257-008-0105-1

Makri, M., Lane, P., & Gomez-Mejia, L. (2006). Ceo incentives, innovation, and performance in technology-intensive firms: A reconciliation of outcome and behavior-based incentive schemes. *Strategic Management Journal*, *27*(11), 1057–1080. https://doi.org/10.1002/smj.560

Mantere, S., & Ketokivi, M. (2013). Reasoning in organization science. *Academy of Management Review*, *38*(1), 70–89. https://doi.org/10.5465/amr.2011.0188

Markovic, S., & Bagherzadeh, M. (2018). How does breadth of external stakeholder co-creation influence innovation performance? Analyzing the mediating roles of knowledge sharing and product innovation. *Journal of Business Research*, *88*(9), 173–186. https://doi.org/10.1016/j.jbusres.2018.03.028

Marques, J. (2014). Closed versus Open Innovation: Evolution or Combination? *International*

References

Journal of Business and Management, *9*(3), 196-203. https://doi.org/10.5539/ijbm.v9n3p196

Mention, A., & Torkkeli, M. (2016). *Open Innovation: A Multifaceted Perspective* (Ed) (Vol. 1). World Scientific. https://doi.org/10.1142/9760

Mention, A. (2011). Co-operation and co-opetition as open innovation practices in the service sector: Which influence on innovation novelty? *Technovation*, *31*(1), 44–53. https://doi.org/10.1016/j.technovation.2010.08.002

Mergel, I. (2018). Open innovation in the public sector: drivers and barriers for the adoption of Challenge.gov. *Public Management Review*, *20*(5), 726–745. https://doi.org/10.1080/14719037.2017.1320044

Mergel, I. (2015). Opening Government: Designing Open Innovation Processes to Collaborate With External Problem Solvers. *Social Science Computer Review*, *33*(5), 599–612. https://doi.org/10.1177/0894439314560851

Mergel, I., & Desouza, K. (2013). Implementing open innovation in the public sector: The case of Challenge.gov. *Public Administration Review*, *73*(6), 882–890. https://doi.org/10.1111/puar.12141

Meyer, S., & Lunnay, B. (2012). The Application of Abductive and Retroductive Inference for the Design and Analysis of Theory-Driven Sociological Research. *Sociological Research Online*, *18 (1)*(12), 1–11.

Michel, S., Brown, S., & Gallan, A. (2008). An expanded and strategic view of discontinuous innovations: Deploying a service-dominant logic. *Journal of the Academy of Marketing Science*, *36*(1), 54–66. https://doi.org/10.1007/s11747-007-0066-9

Miles, M., & Huberman, M. (2014). *Qualitative data analysis* (3rd Edition). SAGE Publications.

Mina, A., Bascavusoglu-Moreau, E., & Hughes, A. (2014). Open service innovation and the firm's search for external knowledge. *Research Policy*, *43*(5), 853–866. https://doi.org/10.1016/j.respol.2013.07.004

Moore, M., & Hartley, J. (2008). Innovations in governance. *Public Management Review*, *10*(1), 3–20. https://doi.org/10.1080/14719030701763161

Moore, M. (2000). Managing for value: Organizational strategy in for-profit, nonprofit, and governmental organizations. *Nonprofit and Voluntary Sector Quarterly*, *29*(SUPPL.), 183–204. https://doi.org/10.1177/0899764000291s009

Moore, J. (1996). *The Death of Competition: Leadership and Strategy in the Age of Business Ecosystems*. Harper Collins.

Moore, M., (1995). *Creating Public Value: Strategic Management in Government*.Harvard

References

University Press.

Moreira, M., Kuk, G., Guimaraes, T. de A., & Albuquerque, P. (2020). The genealogy of service innovation: the research field tells its own story. *Service Industries Journal*, *40*(15–16), 1064–1086. https://doi.org/10.1080/02642069.2020.1732355

Mortara, L., & Minshall, T. (2011). How do large multinational companies implement open innovation? *Technovation*, *31*(10–11), 586–597. https://doi.org/10.1016/j.technovation.2011.05.002

Mortara, L., Jakob N., J., Slacik, I., & Minshall, T. (2009). How to implement open innovation. University of Cambridge. The Institute of Manufactuting. https://doi.org/10.1016/j.technovation.2011.05.002

Moulton, S. (2009). Putting together the publicness puzzle: A framework for realized publicness. *Public Administration Review*, *69*(5), 889–900. https://doi.org/10.1111/j.1540-6210.2009.02038.x

Mu, R., & Wang, H. (2020). A systematic literature review of open innovation in the public sector: comparing barriers and governance strategies of digital and non-digital open innovation. *Public Management Review*, *00*(00), 1–23. https://doi.org/10.1080/14719037.2020.1838787

Nambisan, S. (2013). A Brief Assessment and Some Suggestions for Future Research Information Technology and Product / Service Suggestions for Future Research. *Journal of the Association for Information Systems*, *14*(SI), 215–226.

Neely, A. (2008). Exploring the financial consequences of the servitization of manufacturing. *Operations Management Research*, *1*(2), 103–118. https://doi.org/10.1007/s12063-009-0015-5

Negassi, S., Lhuillery, S., Sattin, J., Hung, T., & Pratlong, F. (2019). Does the relationship between innovation and competition vary across industries? Comparison of public and private research enterprises. *Economics of Innovation and New Technology*, *28*(5), 465–482. https://doi.org/10.1080/10438599.2018.1527552

Naqshbandi, M., Kaur, S., & Ma, P. (2015). What organizational culture types enable and retard open innovation? *Quality and Quantity*, *49*(5), 2123–2144. https://doi.org/10.1007/s11135-014-0097-5

Ojasalo, J., & Ojasalo, K. (2018). Service Logic Business Model Canvas. *Journal of Research in Marketing and Entrepreneurship*, *20*(1), 70–98. https://doi.org/10.1108/JRME-06-2016-0015

Ooms, W., & Piepenbrink, R. (2021). Open Innovation for Wicked Problems: Using Proximity to Overcome Barriers. *California Management Review*, *63*(2), 62–100. https://doi.org/10.1177/0008125620968636

References

Osborne, S. (2018). From public service-dominant logic to public service logic: are public service organizations capable of co-production and value co-creation? *Public Management Review*, *20*(2), 225–231. https://doi.org/10.1080/14719037.2017.1350461

Osborne, S., Radnor, Z., & Strokosch, K. (2016). Co-Production and the Co-Creation of Value in Public Services: A suitable case for treatment? *Public Management Review*, *18*(5), 639–653. https://doi.org/10.1080/14719037.2015.1111927

Osborne, S., Radnor, Z., Kinder, T., & Vidal, I. (2014). Sustainable public service organisations: A public service-dominant approach. *Society and Economy*, *36*(3), 313–338. https://doi.org/10.1556/SocEc.36.2014.3.1

Osborne, S., Radnor, Z., & Nasi, G. (2013). A New Theory for Public Service Management? Toward a (Public) Service-Dominant Approach. *American Review of Public Administration*, *43*(2), 135–158. https://doi.org/10.1177/0275074012466935

Osborne, S., & Brown, L. (2011). Innovation, public policy and public services delivery in the UK. The word that would be king? *Public Administration*, *89*(4), 1335–1350. https://doi.org/10.1111/j.1467-9299.2011.01932.x

Ostrom, A., Parasuraman, A., Bowen, D., Patrício, L., & Voss, C. (2015). Service Research Priorities in a Rapidly Changing Context. *Journal of Service Research*, *8*(18), 127–159. https://doi.org/10.1177/1094670515576315

Ovuakporie, O., Pillai, K., Wang, C., & Wei, Y. (2021). Differential moderating effects of strategic and operational reconfiguration on the relationship between open innovation practices and innovation performance. *Research Policy*, *50*(1), 104146. https://doi.org/10.1016/j.respol.2020.104146

Paskaleva, K., & Cooper, I. (2018). Open innovation and the evaluation of internet-enabled public services in smart cities. *Technovation*, *78*(June), 4–14. https://doi.org/10.1016/j.technovation.2018.07.003

Patrício, L., Gustafsson, A., & Fisk, R. (2018). Upframing Service Design and Innovation for Research Impact. *Journal of Service Research*, *21*(1), 3–16. https://doi.org/10.1177/1094670517746780

Patrucco, A., Trabucchi, D., Frattini, F., & Lynch, J. (2022). The impact of Covid-19 on innovation policies promoting Open Innovation. *R & D Management*, *52*(2), 273–293. https://doi.org/10.1111/radm.12495

Payne, A., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, *36*(1), 83–96. https://doi.org/10.1007/s11747-007-0070-0

References

Pedersen, K. (2020). What can open innovation be used for and how does it create value? *Government Information Quarterly*, *37*(2), 101459. https://doi.org/10.1016/j.giq.2020.101459

Pettigrew, A. (1990). Longitudinal Field Research on Change: Theory and Practice. *Organization Science*, *1*(3), 267–292. https://doi.org/10.1287/orsc.1.3.267

Pisano, G., & Teece, D. (2007). How to Capture Value from Innovation: Shaping Intellectual Property and Industry Architecture. *California Review Management*, *50*(1), 277–296. https://academic.oup.com/icc/article-lookup/doi/10.1093/icc/11.3.529

Polese, F., Vargo, R., & Lusch, N. (2012). Toward a Service (Eco) Systems Perspective on Value Creation. *International Journal of Service Science*, *3*(July-September), 12–25. https://doi.org/10.4018/jssmet.2012070102

Porter, M. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The Free Press.

Prahalad, C., & Ramaswamy, V. (2004). Co-Creation Experience the Next Practice in Value Creation. *Journal of Interactive Marketing*, *18*(3), 5–14. https://doi.org/10.1002/dir.20015

Prahalad, C., & Ramaswamy, V. (2000). Co-Opting Customer Competence. *Harvard Business Review*. 79–87.

Prestes Joly, M., Teixeira, J., Patrício, L., & Sangiorgi, D. (2019). Leveraging service design as a multidisciplinary approach to service innovation. *Journal of Service Management*, *30*(6), 681–715. https://doi.org/10.1108/JOSM-07-2017-0178

Radnor, Z., & O'Mahoney, J. (2013). The role of management consultancy in implementing operations management in the public sector. *International Journal of Operations and Production Management*, *33*(11), 1555–1578. https://doi.org/10.1108/IJOPM-07-2010-0202

Rainey, H., & Bozeman, B. (2000). Comparing Public and Private Organizations: Empirical Research and the Power of the A Priori. *Journal of Public Administration Research and Theory*, *10*(2), 447–469. https://doi.org/10.1093/oxfordjournals.jpart.a024276

Raipa, A., & Giedraityte, V. (2014). Innovation Process Barriers in Public Sector: a Comparative Analysis in Lithuania and the European Union. *International Journal of Business and Management*, *9*(10), 10–20. https://doi.org/10.5539/ijbm.v9n10p10

Ramaswamy, V., & Gouillart, F. (2010). *The Power of Co-creation*. Free Press.

Randhawa, K., Wilden, R., & West, J. (2019). Crowdsourcing without profit: the role of the seeker in open social innovation. *R and D Management*, *49*(3), 298–317. https://doi.org/10.1111/radm.12357

Randhawa, K., Wilden, R., & Gudergan, S. (2018). Open Service Innovation: The Role of

References

Intermediary Capabilities. *Journal of Product Innovation Management*, *35*(5), 808–838. https://doi.org/10.1111/jpim.12460

Randhawa, K., Wilden, R., & Hohberger, J. (2016). *A Bibliometric Review of Open Innovation: Setting a Research Agenda*. *33*(6), 750–772. https://doi.org/10.1111/jpim.12312

Rashman, L., & Hartley, J. (2002). Leading and learning? Knowledge transfer in the Beacon Council Scheme. *Public Administration*, *80*(3), 523–542. https://doi.org/10.1111/1467-9299.00316

Richards, L. (2015). *Handling Qualitative Data: A Practical Guide* (3rd Edition). SAGE Publications.

Robinson, N. (1999). The use of focus group methodology - With selected examples from sexual health research. *Journal of Advanced Nursing*, *29*(4), 905–913. https://doi.org/10.1046/j.1365-2648.1999.00966.x

Robson, C. (2011). *Real World Research* (3rd Edition). John Wiley & Sons.

Rogers, E. (2003). *Diffusion of innovations*. Free Press.

Rondi, E., De Massis, A., & Kraus, S. (2021). Servitization through open service innovation in family firms: Exploring the ability-willingness paradox. *Journal of Business Research*, *135*, 436–444. https://doi.org/10.1016/j.jbusres.2021.06.040

Rust, R., Lemon, K., & Zeithaml, V. (2004). Return on Marketing: Using Customer Equity to Focus Marketing Strategy. *Journal of Marketing*, *68*(1), 109–127. https://doi.org/10.1509/jmkg.68.1.109.24030

Ryzhkova, N. (2015). Does online collaboration with customers drive innovation performance? *Journal of Service Theory and Practice*, *25*(3), 327–347. https://doi.org/10.1108/JSTP-02-2014-0028

Saebi, T., & Foss, N. (2015). Business models for open innovation: Matching heterogeneous open innovation strategies with business model dimensions. *European Management Journal*, *33*(3), 201–213. https://doi.org/10.1016/j.emj.2014.11.002

Salter, A., & Alexy, O. (2014). The Nature of Innovation. In Dodgson, M., Gann, M., & Phillips N., (Eds.), *The Oxford Handbook of Innovation Management*. Oxford University Press.

Sarker, S.,& Sahaym, A. (2012). *Exploring value co-creation in relationships between an ERP vendor and its partners: a revelatory case study*. *36*(1), 317–338.

Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research Methods for Business Students* (4th Edition). Pearson Education Limited.

Schumpeter, J. (1976). *Capitalism, Socialism and Democracy*. Routledge.

References

Schumpeter, J. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle.* Transaction Publishers.

Shah, D., Rust, R., Staelin, R., Day, G., & Parasuraman, A. (2006). The Path to Customer Centricity. *Journal of Service Research*, *9*(2), 113–124. https://doi.org/10.1177/1094670506294666

Sheth, J., Sisodia, R., & Sharma, A. (2000). The Antecedents and Consequences of Customer-Centric Marketing. *Journal of Academy of Marketing Science*, *28*(1), 55–66.

Shostack, G. (1984). Designing services that deliver (Blueprint). *Harvard Business Review*, *62*, 132–139. https://hbr.org/1984/01/designing-services-that-deliver

Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Identifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research*, *69*(7), 2401–2408. https://doi.org/10.1016/j.jbusres.2016.01.009

Solomon, M., & Stuart, E. (2003). *Marketing: Real People, Real Choices*. Prentice Hall.

Sørensen, E., & Torfing, J. (2011). Enhancing collaborative innovation in the public sector. *Administration and Society*, *43*(8), 842–868. https://doi.org/10.1177/0095399711418768

Stanley, L., & Wise, S. (2002). *Breaking Out Again: Feminist Ontology and Epistemology*. Routlege.

Statistic Finland. (2020). *Statistic Finland*. https://www.stat.fi/index_en.html. Accessed 10.09.2021.

Stickdorn, M., Schneider, J. (2010). *This is Service Design Thinking.* BIS Publishers. https://www.dawsonera.com/readonline/9789063693169

Stickdorn, M., Hormess, M., Lawrence, A., & Schneider, J. (2018). *This Is Service Design Doing: Applying Service Design Thinking in the Real World*. O'Reilly.

Strandvik, T., Holmlund, M., & Edvardsson, B. (2012). Customer needing: A challenge for the seller offering. *Journal of Business and Industrial Marketing*, *27*(2), 132–141. https://doi.org/10.1108/08858621211196994

Tate, M., Bongiovanni, I., Kowalkiewicz, M., & Townson, P. (2018). Managing the "Fuzzy front end" of open digital service innovation in the public sector: A methodology. *International Journal of Information Management*, *39*(12), 186–198. https://doi.org/10.1016/j.ijinfomgt.2017.11.008

Teece, D. (1999). Dynamic Capabilities and Strategic Management. *Knowledge and Strategy*, 77–115. https://doi.org/10.1016/B978-0-7506-7088-3.50009-7

Teece, D. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, *15*, 258–305.

References

Teixeira, J. G., Patrício, L., & Tuunanen, T. (2019). Advancing service design research with design science research. *Journal of Service Management*, *30*(5), 577–592. https://doi.org/10.1108/JOSM-05-2019-0131

The World Bank. (2019). *World Development Indicators: Structure of Output*. The World Bank Group. http://wdi.worldbank.org/table/4.2

Thompson, V. (1965). Bureaucracy and Innovation. *Administrative Science Quarterly*, *10*(1), 1–20.

Tidd, J. (2001). Innovation management in context: Environment, organization and performance. *International Journal of Management Reviews*, *3*(3), 169–183. https://doi.org/10.1111/1468-2370.00062

Ţigănaşu, R., Pascariu, G. C., & Nijkamp, P. (2019). Performance and innovation in the public sector of the European Union countries. An analysis based on the dynamics of perceptions, 2009-2016. *Transylvanian Review of Administrative Sciences*, *15*(Special Issue), 94–123. https://doi.org/10.24193/tras.SI2019.6

Toivonen, M., & Tuominen, T. (2009). Emergence of innovations in services. *Service Industries Journal*, *29*(7), 887–902. https://doi.org/10.1080/02642060902749492

Torres, E., Lugosi, P., Orlowski, M., & Ronzoni, G. (2018). Consumer - led experience customization : A socio - spatial approach. *Journal of Service Management*, *29*(2), 206-299. https://doi.org/10.1108/JOSM-06-2017-0135

Torugsa, N., & Arundel, A. (2017). Rethinking the effect of risk aversion on the benefits of service innovations in public administration agencies. *Research Policy*, *46*(5), 900–910. https://doi.org/10.1016/j.respol.2017.03.009

Traitler, H., Watzke, H., & Saguy, I. (2011). Reinventing R&D in an Open Innovation Ecosystem. *Journal of Food Science*, *76*(2), 62-68. https://doi.org/10.1111/j.1750-3841.2010.01998.x

Tucci, C., Chesbrough, H., Piller, F., & West, J. (2016). When do firms undertake open, collaborative activities? Introduction to the special section on open innovation and open business models. *Industrial and Corporate Change*, *25*(2), 283–288. https://doi.org/10.1093/icc/dtw002

Tuzovic, S., Wirtz, J., Heracleous, L., Hollebeek, L., & Andreassen, T. (2018). How Do Innovators Stay Innovative? A Longitudinal Case Analysis. *Journal of Service Marketing*. https://eprints.qut.edu.au/114983/2/__qut.edu.au_documents_StaffHome_StaffGroupl%24_lin dequm_Desktop_ePrints_114983.pdf

Utterback, J. (1971). The Process of Technological Innovation Within the Firm. *Academy of Management*, *14*(1), 75–88. https://doi.org/10.2307/254712 ACAD MANh 1, 1971 vol. 14 no.

References

1 75-88

van de Vrande, V., de Jong, J., Vanhaverbeke, W., & de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*, *29*(6–7), 423–437. https://doi.org/10.1016/j.technovation.2008.10.001

van den Hemel, C., & Rademakers, M. F. (2016). Building Customer-centric Organizations: Shaping Factors and Barriers. *Journal of Creating Value*, *2*(2), 211–230. https://doi.org/10.1177/2394964316647822

van der Hoek, M., Groeneveld, S., & Kuipers, B. (2018). Goal Setting in Teams: Goal Clarity and Team Performance in the Public Sector. *Review of Public Personnel Administration*, *38*(4), 472–493. https://doi.org/10.1177/0734371X16682815

van der Meer, H. (2007). Open innovation - the Dutch treat: Challenges in thinking in business models. *Creativity and Innovation Management*, *16*(2), 192–202. https://doi.org/10.1111/j.1467-8691.2007.00433.x

Vandermerwe, S., & Rada, J. (1988). Servitization of Business: Adding Value by Adding Services Sandra. *European Management Journal*, *6*(4), 314–324. https://doi.org/10.1097/JOM.0b013e318161786f

Vargo, S., & Lusch, R. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, *44*(1), 5–23. https://doi.org/10.1007/s11747-015-0456-3

Vargo, S. , Wieland, H., & Akaka, M. (2015). Innovation through institutionalization: A service ecosystems perspective. *Industrial Marketing Management*, *44*, 63–72. https://doi.org/10.1016/j.indmarman.2014.10.008

Vargo, S., & Lusch, R. (2014). Evolving to a new dominant logic for marketing. *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions*, *68*(01), 3–28.

Vargo, S., & Akaka, M. (2012). Value Cocreation and Service Systems (Re)Formation: A Service Ecosystems View. *Service Science*, *4*(3), 207–217. https://doi.org/10.1287/serv.1120.0019

Vargo, S., & Lusch, R. (2011). It's all B2B...and beyond: Toward a systems perspective of the market. *Industrial Marketing Management*, *40*(2), 181–187. https://doi.org/10.1016/j.indmarman.2010.06.026

Vargo, S., & Lusch, R. (2008). Service-dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, *36*(1), 1–10. https://doi.org/10.1007/s11747-007-0069-6

Vargo, S., & Lusch, R. (2004a). The Four Service Marketing Myths : Remnants of a Goods-Based, Manufacturing Model. *Journal of Service Research*, *6*(May), 324–335.

References

Vargo, S., & Lusch, R. (2004b). Evolving to a New Dominant Logic for Marketing. *Journal of Marketing*, *68*(1), 1–17. http://www.jstor.org/stable/pdf/30161971.pdf

Venturini, K., & Verbano, C. (2017). Open innovation in the public sector: Resources and performance of research-based spin-offs. *Business Process Management Journal*, *23*(6), 1337–1358. https://doi.org/10.1108/BPMJ-10-2016-0208

Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2020). Service Ecosystem Design: Propositions, Process Model, and Future Research Agenda. *Journal of Service Research*. https://doi.org/10.1177/1094670520952537

Virlée, J., Hammedi, W., & Parida, V. (2015). Open Innovation Implementation in the Service Industry : Exploring Practices, Sub-practices and Contextual Factors. *Journal of Innovation Management*, *2*, 106–130. https://doi.org/10.1109/IMNC.2001.984106

von Hippel, E. (1976). The Dominant Role of Users in the Scientific instrument Innovation Process. *Research Policy*, *5*, 212–239.

von Hippel, E. (1986). Lead users: A source of novel product consepts. *Management Science*, *32*(7), 791–805.

von Hippel, E. (1988). *The Sources of Innovation*. Oxford University Press. https://doi.org/10.1007/978-3-8349-9320-5_10

von Hippel, E. (2001). Innovation by User Communities: Learning from Open-Source Software. *Review; Summer*, *42*(4). https://search.proquest.com/docview/224958316?pq-origsite=gscholar

von Hippel, E., & Von Krogh, G. (2006). Free revealing and the private-collective model for innovation incentives. *R and D Management*, *36*(3), 295–306. https://doi.org/10.1111/j.1467-9310.2006.00435.x

West, J., & Bogers, M. (2017). Open innovation: current status and research opportunities. *Innovation: Organisation & Management*, *19*(1), 43–50. https://doi.org/10.1080/14479338.2016.1258995

West, J., & Bogers, M. (2014). Leveraging External Sources of Innovation: A Review of Research on Open Innovation. *Journal of Product Innovation Management*, *31*(4), 814–831. https://doi.org/10.1111/jpim.12125

Westrup, U. (2018). The potential of service-dominant logic as a tool for developing public sector services: A study of a Swedish case. *International Journal of Quality and Service Sciences*, *10*(1), 36–48. https://doi.org/10.1108/IJQSS-02-2016-0013

Wetter-Edman, K., Sangiorgi, D., Edvardsson, B., Holmlid, S., Grönroos, C., & Mattelmäki, T. (2014). Design for Value Co-Creation: Exploring Synergies Between Design for Service and

References

Service Logic. *Service Science*, *6*(2), 106–121. https://doi.org/10.1287/serv.2014.0068

Wetter-Edman, K., Vink, J., & Blomkvist, J. (2018). Staging aesthetic disruption through design methods for service innovation. *Design Studies*, *55*, 5–26. https://doi.org/10.1016/j.destud.2017.11.007

Windrum, P., & Koch, P. (2008). *Innovation in Public Sector Services: Entrepreneurship, Creativity and Management* (Edward Elg).

Wouters, M., & Kirchberger, M. (2015). Customer value propositions as interorganizational management accounting to support customer collaboration. *Industrial Marketing Management*, *46*, 54–67. https://doi.org/10.1016/j.indmarman.2015.01.005

World Economic Forum. (2021). *The world's most innovative countries*. https://www.weforum.org/agenda/2021/09/worlds-most-innovative-countries-innovation/

Xie, X., & Wang, H. (2020). How can open innovation ecosystem modes push product innovation forward? An fsQCA analysis. *Journal of Business Research*, *108*(June 2019), 29–41. https://doi.org/10.1016/j.jbusres.2019.10.011

Yin, K. (2009). *Case Study Research: Design and Methods* (4th Edition). SAGE Publications.

Zaki, M. (2019). Digital transformation: harnessing digital technologies for the next generation of services. *Journal of Services Marketing*, *33*(4), 429–435. https://doi.org/10.1108/JSM-01-2019-0034

Zott, C., Amit, R., & Massa, L. (2011). The business model: Recent developments and future research. *Journal of Management*, *37*(4), 1019–1042. https://doi.org/10.1177/0149206311406265

Zott, C., & Amit, R. (2010). Business model design: An activity system perspective. *Long Range Planning*, *43*(2–3), 216–226. https://doi.org/10.1016/j.lrp.2009.07.004

Zeithaml, V. (2009). *Delivering Quality Service.* Free Press.

References

Appendices

Appendix 1 Data collection timetable

Data collection timetable

K Group	**Keva**	**Tax Administration**
2018	**2017**	**2018**
15.1 Interview 1.5h	**18.12** Group interview 1.5h	**9.1** Interview 1.5h
29.1 Participant observation, 3h	▼	**29.1** Participant observation, 3h
5.2 Skype interview, 30min	**2018**	**7.2** Skype interview, 30min
26.3 Group interview, 1h	**29.1** Participant observation, 3h	**13.3** Skype interview, 1.5h
10.- Participant observation during	**27.3** Group interview, 1h	**10.-** Participant observation during
12.4 workshops and other activities	**10-** Participant observation during	**12.4** workshops and other activities
in the UK, 30h	**12.4** workshops and other activities,	in the UK, 30h
7.5 Participant observation, 3h	30h	**7.5** Participant observation, 3h
18.5 Skype meeting, 30min	**7.5** Participant observation, 3h	**17.5** Skype meeting, 30min
8.6 Interview, 1h	**16.5** Skype meeting, 30min	**7.6** Interview, 2h
20.8 Participant observation, 1h	**6.6** Group interview, 1.5 h	**5.9** Participant observation during
29.8 Participant observation, 1h	**5.9** Participant observation, 3h	workshop, 3h
5.9 Participant observation, 3h	**26.9** Observation during training, 3h	**26.9** Participant observation during
26.9 Participant observation, 3 h		lecture, 2h
	& other occasional meetings *(e.g.*	**26.9** Observation during training, 2h
& other occasional meetings *(e.g.*	*coffee breaks, lunch, dinner)*	
coffee breaks, lunch, dinner)	▼	& other occasional meetings *(e.g.*
▼	**2019**	*coffee breaks, lunch, dinner)*
2019	**29.1** Participant observation, 3h	▼
29.1 Participant observation, 3h	**7.2** Skype meeting, 30min	**2019**
6.2 Skype interview, 30min	**6.3** Observation during workshop &	**29.1** Participant observation, 3h
27.3 Group interview, 1h	training, 3h	**5.2** Skype meeting, 30min
3.5 Interview, 1h	**28.3** Group interview, 2h	**6.3** Observation during workshop &
10.5 Introducing results so far and	**4.6** Introducing results so far and	training, 3h
discussion about the results, 2h	discussion about the results, 1.5h	**11.3** Group interview, 2h
19.6 Interview, 1h	**30.9** Participant observation, 3h	**13.5** Introducing results so far and
30.9 Participant observation, 3h	**25.9** Skype meeting, 30min	discussion about the results, 1.5h
11.10 Skype meeting, 30min	**30.10** Participant observation during	**22.6** Participant observation in
30.10 Participant observation, 3h	workshop and lecture where the	European Innovation Forum in
29.11 Interview 30min	aim is to develop open service	the Netherlands, 8h
29.11 Interview 1h	innovation, 3h	**30.9** Participant observation, 3h
	5.11 Interview 1,5h	**10.10** Skype meeting, 30min
& other occasional meetings *(e.g.*		**30.10** Participant observation during
coffee breaks, lunch)	& other occasional meetings *(e.g.*	workshop and lecture where the
▼	*coffee breaks, lunch)*	aim is to develop open service
2020	▼	innovation, 3h
21.1 Introducing research results to	**2020**	**20.11** Interview 1h
gain additional information 1,5h	**21.1** Participant observation 1h	
	9.3 Introducing results to gain	& other occasional meetings *(e.g.*
& other occasional meetings *(e.g.*	additional information 1,5h	*coffee breaks, lunch, dinner)*
coffee breaks, lunch)		**2020**
●	& other occasional meetings *(e.g.*	**21.1** Introducing research results to
	coffee breaks, lunch)	gain additional information 1,5h
TOTAL; **66,5 hours**,	●	
observation and interviews		& other occasional meetings *(e.g.*
23 people	TOTAL; **67 hours**,	*coffee breaks, lunch)*
	observation and interviews	●
	18 people	TOTAL; **76 hours**,
		observation and interviews
		51 people

References

Appendix 2 Interview themes and questions

The questions in individual interviews were divided into five themes: (1) background, (2) innovation (3) open innovation (4), service innovation, (5) customer collaboration and other stakeholder collaboration and end questions.

1. **Background**
- How long you have worked in this organisation?
- What is your current role?
- What does your work consist of?

2. **Innovation**
- How your work is related to innovation?
- How do you organise your innovation activities?
- What goes smoothly or what is easy concerning innovation?
- Where do you find challenges in innovation?
- How would you describe your innovation process?
- When developing innovations is the process open?

3. **Open Innovation**
- Is the term open innovation familiar to you?
- What kind of meaning open innovation has in your organisation?
- What have you done in your organisation regarding open innovation?
- What is going well in open innovation?
- What are the challenges in open innovation?
- What would you like to develop in the future in open innovation?
- What is successful open innovation outcome?

4. **Service Innovation**
- What service innovation means to your organisation?
- What have you done in your organisation regarding service innovation?
- How do you develop your current services or create new ones?
- What is going well in service innovation?
- What are the challenges in service innovation?
- What would you like to develop in the future in service innovation?
- What are the challenges in service innovation?

- What is successful service innovation outcome?

5. Customer collaboration and other stakeholder collaboration

- How are your customers and other stakeholders involved in innovation development?

- How do you work through others inside and outside the organisation?

- With whom (stakeholders) you would like to work in the future?

- How do you work with universities?

- How do you work with start-ups?

- How do you work with customers?

- How do you work with other stakeholders?

- Do you have co-creation?

- Could you describe co-creation practices?

- What outcome do you expect from co-creation?

- What is going well in co-creation?

End questions

- To whom should I speak to better understand innovation in your organisations?

- Is there anything else you would like to tell me or ask from me?

The questions in group interviews:

- Could you explain or draw the organisational structure and explain how new services are openly developed in your organisations and how they are connected to other functions?

- Could you explain by reflecting on the organisational diagram that you explained or drew what kind of processes you have when openly developing services with different stakeholders?

- Could you explain by reflecting on the organisational diagram that you explained or drew what kind of roles you have when openly developing services with different stakeholders?

- How would you change this structure for future development purposes (in the next five years)?

- What is the role of co-creation in your organisation when openly developing services?

- How do you manage the knowledge from your customers and other stakeholders when openly developing your services?

References

- How should this be done in the future? (in next 5 five years)

- In next the 5 minutes write enablers and barriers to post it papers in regard to open service innovation. Once you have done it, each person can introduce them.

Appendix 3 From raw data to research findings

The process below demonstrates how the raw data in this study contributed to the research findings by introducing an open service innovation framework. First, the data were gathered from individual and group interviews, observations during workshops, training sessions and other meetings with personnel and collecting documentary information. Second, these data were analysed in phases A, B, C, D, as illustrated in Figure 6 in single case reports and then in cross case analysis. Third, an open service innovation framework was constructed. This process enabled the research questions to be answered.

Interview data

Observation

Documentary

M1: Ja se määrittää ehkä se innovointi osaks sitä muuta kehitysprosessia, et onks se, tavallaan, et ku ideoita varmaan kerätään kai-, et siel pitää olla, ideoita pitää pystyy kerään kaikilta ja sit pitää olla joku, se innovaatioporukka joka tavallaan sitte kävis sitä isoa ice boxia läpi ja kattoo sieltä mitä potentiaalii siellä on, ideoita ja ja määrittää et kuinka pitkälle me viiään sitä ideaa ennen ku se tulee jonkunnäköseen päätöspisteeseen sitte. Et hei, et täs kohtaa arvioidaan, voisko tästä olla täällä mahdollisuuksia.

M2: Sit lisäks toihan vaatii myös sitä et se fiidi toimii yhteen suuntaan et oisko, tässä ois meillä juttu, olisko täst mahollisuuksii tohon, tohon vai tohon, mut tarvii olla myös toisin päin se luuppi että, ennen ku lähetään muodostaan niitä ideoita niin pitää olla ymmärrys siitä et mitkä on ne haasteet ja toisaalta mitkä on strategian painopisteet.

M1: Joo, totta kai, joo.

. . . . .

M1: No mä voin alottaa sen verran tälleen tuoreen henkilön vinkkelistä, et mun mielest suunta on ihan oikee tavallaan siinä, että nyt selvästi tää innovaatiokulttuurin lanseeraaminen ni se on käynnissä ja nimenomaan ehkä se, että tää innovaatiot ei oo vaan jotain mikä tapahtuu jossain osassa taloo joka ei kuulu mulle, vaan et se on tarkotus et se tuodaan jokaisen työntekijän dna:han sillä tavalla, et samalla tavalla kun tekee töitä ni jatkuvasti niin havainnoi, pyrkii kehittämään toimintaa ja miettimään voitasko asioita tehä paremmin, ja tavallaan mietitään yhtenä sitä toimintaa ja millä tavalla voi tulevaisuudessa kehittyä ja tehdä asioita paremmin, ni kyl mä näen että tavallaan tosta on menty eteenpäin, mut ilman muuta kokeilukulttuuria ja muuta tääntyyppistä ni edelleen toki tarvitaan, ja työ on hyvin vahvasti niin kesken vielä tän innovaatio- voisko sanoo mindsetin jalkauttamisessa.
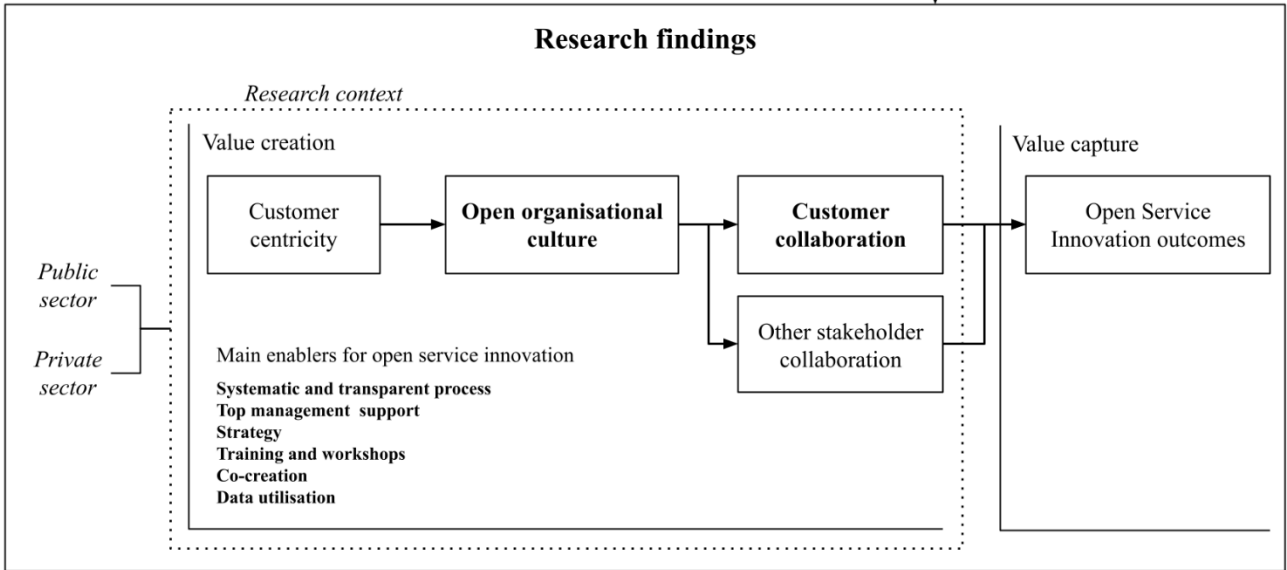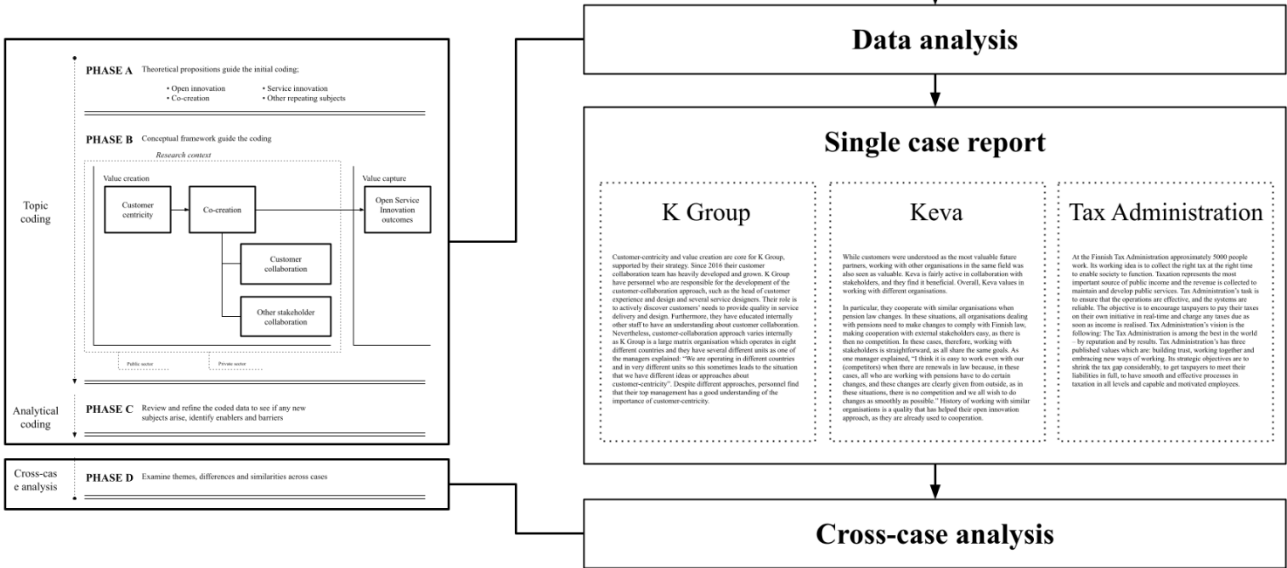
N1: Joo, siis en mäkään ehkä ihan allekirjoita tota, että uusia kehitysehdotuksia ei tuu, koska siis ehkä johtuen tietysti mun roolista kun mä oon kehittämispäällikkö tai tälle mulle tulee kaikki meiän järjestelmään liittyvät muutospyynnöt kulkee mun kautta, mul on 300 siellä jonossa ja joka päivä semmone, tai joka viikko tulee 15 viiva 20 lisää, et kyl niit tulee ovista ja ikkunoista, sen lisäks että mä oon ollu kymmenissä, jossain sadoissa tämmösissä erilaisissa tilaisuuksissa missä mietitään just näitä innovaatioita ja kehittämistä ja miten nyt strategian kannalta ja kysellään ihmisiltä ja on mahdollista vaikuttaa melkein jopa väsymykseen asti, joskus ihmiset on sillee et ei taas tätä, et ehkä se on mun mielestä ehkä niin, että niissä on kerätty tosi paljon tosi arvokasta tietoa, mutta sit tavallaan se että siitä

PHASE A — Theoretical propositions guide the initial coding:
- Open innovation
- Co-creation
- Service innovation
- Other repeating subjects

PHASE B — Conceptual framework guide the coding

Research context

Value creation — Customer centricity → Co-creation → Customer collaboration, Other stakeholder collaboration — Value capture → Open Service Innovation outcomes

Public sector — Private sector

Topic coding

PHASE C — Review and refine the coded data to see if any new subjects arise, identify enablers and barriers

Analytical coding

Cross-case analysis — PHASE D — Examine themes, differences and similarities across cases

---

Data analysis

Single case report

K Group

Customer-centricity and value creation are core for K Group, supported by their strategy. Since 2016 their customer collaboration team has heavily developed and grown. K Group have personnel who are responsible for the development of the customer-collaboration approach, such as the head of customer experience and design and several service designers. Their role is to actively discover customers' needs to provide quality in service delivery and design. Furthermore, they have educated internally other staff to have an understanding about customer collaboration. Nevertheless, customer-collaboration approach varies internally as K Group is a large matrix organisation which operates in eight different countries and they have several different units as one of the managers explained "We are operating in different countries and in very different units so this situation leads to the situation that we have different ideas or approaches about customer-centricity". Despite different approaches, personnel find that their top management has a good understanding of the importance of customer-centricity.

Keva

While customers were understood as the most valuable future partners, working with other organisations in the same field was also seen as valuable. Keva is fairly active in collaboration with stakeholders, and they find it beneficial. Overall, Keva values in working with different organisations.

In particular, they cooperate with similar organisations when pension law changes. In these situations, all organisations dealing with pensions need to make changes to comply with Finnish law, making cooperation with external stakeholders easy, as there is then no competition. In these cases, therefore, working with stakeholders is straightforward, as all share the same goals. As one manager explained, "I think it is easy to work even with our competitors) when there are renewals in law because, in these cases, all who are working with pensions have to do certain changes, and these changes are clearly given from outside, as in these situations, there is no competition and we all wish to do changes as smoothly as possible." History of working with similar organisations is a quality that has helped their open innovation approach, as they are already used to cooperation.

Tax Administration

At the Finnish Tax Administration approximately 5000 people work. Its working idea is to collect the right tax at the right time to enable society to function. Taxation represents the most important source of public income and the revenue is collected to maintain and develop public services. Tax Administration's task is to ensure that the operations are effective, and the systems are reliable. The objective is to encourage taxpayers to pay their taxes on their own initiative in real-time and charge any taxes due as soon as income is realised. Tax Administration's vision is the following: The Tax Administration is among the best in the world – by reputation and by results. Tax Administration's has three published values which are: building trust, working together and embracing new ways of working. Its strategic objectives are to shrink the tax gap considerably, to get taxpayers to meet their liabilities in full, to have smooth and effective processes in taxation in all levels and capable and motivated employees.

Cross-case analysis

Research findings

Research context

Value creation

Value capture

Customer centricity → **Open organisational culture** → **Customer collaboration** → Open Service Innovation outcomes

Other stakeholder collaboration

Public sector — *Private sector*

Main enablers for open service innovation
Systematic and transparent process
Top management support
Strategy
Training and workshops
Co-creation
Data utilisation

References

Appendix 4 Examples of topic coding, phases A and B

First phase of coding: topic coding

Phase A) The following topics guided the coding:

- Open Innovation
- Service Innovation
- Co-creation
- Other repeating topics

Phase B) all the text from one topic was gathered together according to an initial conceptual framework drawn from the literature. The topics were:

- Customer centricity
- Co-creation
- Customer collaboration
- Other Stakeholder collaboration
- Other repeating topics

Research context
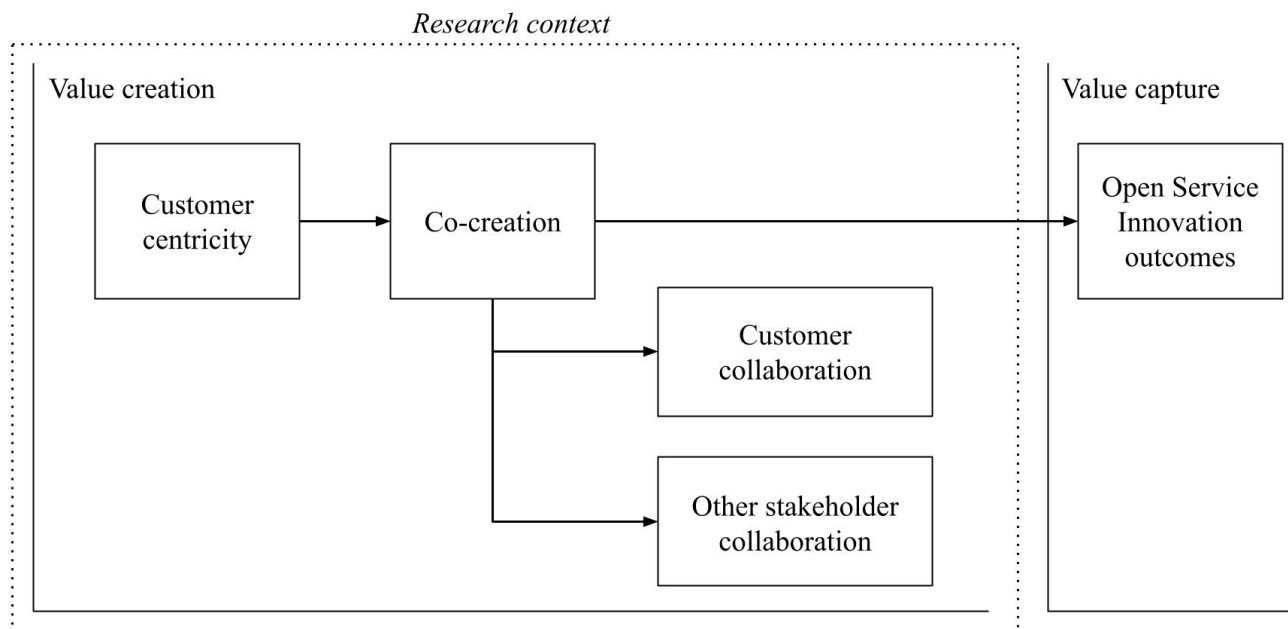
Phase A) First phase of coding, topic coding

We have a great history of engaging our employees. When we start to develop and drive a project forward, we gather people from all around the company to participate in the process. Different units end teams are represented in the discussion, even if there is only one unit leading the project. I believe people have different opinions about the genuineness of our practices of employee engagement. Nevertheless, we include everyone in our projects in any case. Regarding the involvement of clients, we think, process and advance matters very far on our own before showing anything to clients. Although I have only been working here for two years, I believe our process has previously been even more concentrated on providing our customers with nearly-finished results. These days, we perhaps dare to involve the client a tittle more in the project and at an earlier development stage than before. On the other hand, we also co-operate a lot especially with our bigger customers to provide the services. In other words, in certain situations we also create new practices and ideas together with our customers. The question is how to adopt these innovations in the whole organisation. One way is to raise the awareness of the rest of the organisation. We have to create complete concepts that can be utilised when working also with other customers. So, in some way, we currently have two practices: we either exclude customers from our processes or co-operate very closely with them when creating certain services and solution

Open innovation

Co-creation

Service innovation

Phase B) First phase of coding: topic coding, according to the initial conceptual framework

We have a great history of engaging our employees. When we start to develop and drive a project forward, we gather people from all around the company to participate in the process. Different units end teams are represented in the discussion, even if there is only one unit leading the project. I believe people have different opinions about the genuineness of our practices of employee engagement. Nevertheless, we include everyone in our projects in any case. Regarding the involvement of clients, we think, process and advance matters very far on our own before showing anything to clients. Although I have only been working here for two years, I believe our process has previously been even more concentrated on providing our customers with nearly-finished results. These days, we perhaps dare to involve the client a tittle more in the project and at an earlier development stage than before. On the other hand, we also co-operate a lot especially with our bigger customers to provide the services. In other words, in certain situations we also create new practices and ideas together with our customers. The question is how to adopt these innovations in the whole organisation. One way is to raise the awareness of the rest of the organisation. We have to create complete concepts that can be utilised when working also with other customers. So, in some way, we currently have two practices: we either exclude customers from our processes or co-operate very closely with them when creating certain services and solution

Other stakeholder collaboration

Co-creation

Customer collaboration

References

Appendix 5 Example of analytical coding, phase C

Phase C) The purpose of analytical coding is to gather material to review and refine the coded data and to create new topics.

Expansion of new topics in analytical coding:

- Open organisational culture
- Systematic process
- Transparent process
- Management support
- Training and workshops
- Strategy
- Data utilisation
- Research organisation collaboration
- Start-up collaboration

Phase C) Analytical coding, example

I think that this is (customers and other stakeholder collaboration) not always managed comprehensively or systematically. It seems that a person's contacts and interests are factors in this. It could partially be a coincidence. In any case, the spirit has always been positive, but the practice has not been systematic enough.		

Topic coding → Customer and other stakeholder collaboration

Analytical coding → Systematic Process

There is a desire to take advantage of these partners and relationships and build both external and internal networks. The organisation wants to create more transparency and engagement. We certainly have many ideas in this direction, but I believe there is still work to be done regarding systematic practices.

We could employ a person or organisation to coordinate and quickly test practices we are unsure about.
We do not currently have a systematic process that would systematically involve our customers.