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Public Sector Innovation – the case of Sweden

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Foreword

Public sector actors will face major challenges in the coming decades and their innovation capacity will be a key factor in how successful they are in dealing with several societal challenges.

They represent important facilitators in enabling society to achieve the short and long-term goals regarding welfare and a good living environment for its citizens, in accordance with Agenda 2030 and the Sustainable Development Goals. These issues are affected by the sector's own operations, but in many cases they also establish the rules of play for the rest of society's contributions.

Since 2012, Vinnova has worked strategically to support increased innovation within the public sector. This work includes agreements with the Swedish Association of Local Authorities and Regions (SALAR) and the National Agency for Public Procurement with joint initiatives aimed at supporting expanded knowledge and competence. Vinnova has also issued calls for proposals to fund innovation projects. Through initiatives and contacts with various public actors, Vinnova's knowledge within the area has gradually been built up. This report compiles the lessons learned in the process.

The report has been produced as part of Vinnova's assignment to submit analyses for the Government's research policy (U2019/01906/F). Rebecka Engström has had primary responsibility for compiling and analysing data and material as well as for the writing work with regard to the innovation capacity of the public sector. Several colleagues have contributed with vital expertise in their area, supporting data and viewpoints, in particular Annika Bergendahl, Jenny Engström, Glenn Gran, Jakob Hellman, Cassandra Marshall, Sofia Norberg, Jonny Paulsson and Miriam Terrell. Hanna Mittjas has contributed her expertise within communications. Göran Marklund has assumed the role of project manager and has had the main responsibility for the assignment of submitting analyses for the Government's research policy. The assignment was presented to the Government Offices of Sweden (Ministry of Education and Research) on 31 October 2019.

Vinnova, November 2019

Göran Marklund
Director and Deputy Director General

Public sector actors will face major challenges

Summary

THE INNOVATION CAPACITY OF THE PUBLIC SECTOR IS ESSENTIAL FOR SOCIETAL DEVELOPMENT

A public sector with well-developed innovation capacity is a key factor in solving various societal challenges. The Sustainable Development Goals and Agenda 2030 define these challenges. Specifically in regard to public sector work, this can relate to issues such as how welfare can be safeguarded despite cost increases, a scarcity of funds and a shortage of competence, or the problems involved with climate adaptation and the conversion of the energy and transport systems. Many of these issues are both complex and acute. Digitisation and AI create opportunities but also difficulties, entailing major changes in working methods before these new technologies work efficiently.

The innovation capacity of public actors is not solely required in issues where they themselves assume the main responsibility. They are key customers for innovative solutions from the business sector through their procurements, and they set the rules for others through policy and legislation. In addition, they are pivotal players for collaboration on issues that require the development of system solutions through interaction between multiple actors.

INNOVATION IN THE PUBLIC SECTOR IS DIFFERENT THAN IN THE PRIVATE SECTOR AND GIVE PUBLIC AGENCIES A DIFFERENT ROLE IN TERMS OF INNOVATION

Innovation in the public sector is in many ways different in nature than corresponding activities within the private sector. It is easy to associate innovation with products, technology and business. In the public sector, innovation often involves new services or new ways of providing services, but it also involves developed organisational solutions that streamline how the public actors carry out their assignments. Unlike the business sector where the pursuit of competitive advantage is a driving force for innovation, public sector innovation pursues other more complex goals. It is about meeting the demands and needs of citizens through values such as democracy, efficiency and service, objectivity and legal certainty.

The public sector is the carrier of central functions in society and assumes roles such as that of the rule of law, democracy and welfare state. There are inherent tensions between these roles that are significant in the context of innovation. Narrow interpretations of privacy principles can entail obstacles in digitisation projects. Difficulties can arise when testing new innovations within healthcare in terms of patient safety. This can be perceived as preventing or complicating innovation but is based on the contradiction of the different functions, whereby trade-offs must be made.

Innovation in the public sector often involves developing the function as a welfare state. However, innovation also frequently demands changes in legislation or application, which concerns the rule of law. Public sector activities also play a vital role in safeguarding democratic values and public interests so that these are not lost in innovation processes.

THE CURRENT SITUATION OF INNOVATION IN THE PUBLIC SECTOR

A survey study on innovation in the public sector in Sweden (Innovation Barometer) indicates that a large majority, around 80 per cent of respondents, say that they have implemented one or several innovations in recent years. The most common type of innovation is new or changed ways of organising the work, for example, new processes or working methods. The least common type is a new or changed product. The vast majority of innovations are said to be inspired by another solution and adapted to the workplace in question. The same study also shows that less than one-fifth feel that the workplace is characterised by a culture that promotes experimentation and risk-taking. Fewer than one-third indicate that there are methods, tools or processes that support innovation work, that there is a clear idea or set of goals that describe what the innovation work should lead to, that there is access to competence, or that top management or politicians have expressed their support for innovation.

In another survey study of just over 1,300 executives in the public sector in Sweden, the respondents indicated a lack of time and financial resources as the biggest hurdles in working with innovation. “A lack of knowledge regarding what to actually do” was also given as a dominant obstacle.

Two-thirds of all Swedish municipalities, all administrative regions and just under half of the administrative government agencies have participated in Vinnova-funded projects. Among the municipalities, the larger cities are represented to a much higher extent than smaller cities/towns, rural municipalities and commuter municipalities.

INNOVATION IS MULTIFACETED

Innovation can be expressed simply as being something new that creates value. But it is also a multifaceted phenomenon where the understanding of what innovation can entail can be deepened through a breakdown into different types. The Observatory for Public Sector Innovation (OPSI) within the OECD divides innovation into four different aspects, centred on the public sector. In the everyday work, operations may need to be adapted to changing external factors, or achieve increased efficiency and better results in order to obtain a greater return on invested resources. OPSI calls these aspects **adaptive innovation** and **enhancement-oriented innovation** respectively. A third aspect is called **mission-oriented innovation**, or is often referred to simply as missions. This is about ensuring that innovation takes place in order to achieve set priorities and ambitions where something radically new is needed, for example, bringing about carbon-neutral cities. In mission-oriented innovation, prevailing systems need to be challenged to a greater extent than in the case of enhancement-oriented innovation. The fourth aspect is about exploring emerging issues that will shape future stances and commitments, and can be called **anticipatory innovation**. This involves radical changes that will likely be difficult to accommodate in existing structures, such as the development and implementation of AI. These different aspects of innovation require the public sector actors to assume different roles in the context of innovation, independently or in cooperation with others.

THREE DIFFERENT ROLES IN INNOVATION WORK IN THE PUBLIC SECTOR

The public sector can be said to have different roles when it comes to innovation: firstly, focusing on innovation within its own operations; secondly, using the demand as a driving force for innovation; and thirdly, as a co-creator of system solutions. These three roles are intertwined.

Being able to work with innovation **within the organisation's own operations** is in many ways a prerequisite for being able to work with the other two roles. Essential elements of the role involve:

- A deepened understanding of the needs and how innovation can contribute to these. All organisations have both short and long-term needs, so as to increase efficiency or the qualitative content of various activities. Deepening the understanding of needs in the short and long term includes understanding the contradictions between needs and interests and the potential conflicts thereof. Innovation that contributes effectively to the sector's own operations takes its starting point in these needs, both the short-term and long-term needs.
- Understanding the organisational prerequisites for supporting innovation work. Innovation issues are incongruent with key operational rationale and it may be necessary for working methods in the operational activities to be able and allowed to change. The administrative logic is often based on having extended investigations and analyses as the basis for decisions, rather than applying experimental approaches in the work so that ideas can be tested, can fail and can be further developed. For various reasons of efficiency, the work is often specialised in ministries, administrations and the like, which is usually referred to as a silo culture. While there are good reasons for this sectorisation, it can often prevent or hinder innovation, with missed opportunities to find better ways of solving problems in the operations.
- Ensuring mechanisms for learning, continuity, upscaling and dissemination. Innovation work tends to be conducted in projects, with or without external funding. Temporary projects provide the opportunity to experiment, reflect and learn by testing and seeing how ambitions can be realised in the specific environment. For the duration they run, innovation projects can contribute to overcoming boundaries, but when the project ends, the need to implement successful results remains. The results then end up back in the sectionalised organisation, which has difficulty handling the transboundary nature of the results. The way in which the organisation can build up its capacity with the help of temporary projects is therefore central.

The public sector's **demand** can constitute an important driver for innovation. Demand from the public sector is often manifested through procurements, which are an important part of this role. Aside from procurement, objectives, compensation models, manuals and other soft or hard instruments can be said to be based on public sector demand.

As public procurement in Sweden involves such large sums, there are often great expectations on how it can contribute to conversion and renewal for the public sector actors themselves, but also as a driving force for innovation in the business sector. The procurement issue is also often expressed as a barrier to innovation. The regulatory framework itself and the processes surrounding the procurement are just one of several ingredients that make it complicated. A demand that is directed at existing goods and services may seem simple and involve low risk, but it does not generate any driving forces for development or innovation. Changing needs expressed through public procurement can promote innovation through the demand for solutions that do not yet exist. Such renewal process requires significant decision-making power and

creativity. In addition to technical innovations, organisational renewal and new processes are often required. The risk of wrong investments increases with unpredictable renewal processes where the risks for management and employees are often significantly greater than the rewards that can be expected if the renewal work is successful. The incentives to satisfy immediate or short-term needs dominate, which means that urgent yet long-term needs that are hard to define have difficulty finding sufficient space.

In order to exploit the innovation potential of procurement, the ability to develop and conduct this type of project needs to be strengthened:

- An important basis for the projects that succeed is that there is strong support from the highest level of management which makes it possible to mobilise resources and competence from different parts of the organisation. Organisations that have developed their organisational learning on these issues also engage in innovation procurements to a greater degree than others. To be able to allocate such resources, it is crucial that the projects are founded on the real needs of the organisation.

- The link to procurement is lacking in many innovation processes. If it is ultimately necessary to procure the new solution developed in the innovation project, and this has not been planned for at an early stage of the project, this often leads to it being difficult to implement the results. Therefore, it is important to involve procurement competence in innovation projects and plan cooperation with actors that may become tenderers in a procurement, taking into account the different tools for this that are allowed in the procurement regulations.

The role of public sector organisations in cooperating with other actors as **co-creators of system solutions** is often the most difficult to tackle. It involves issues where the public actor does not have sole ownership in a project but at the same time plays an important role in enabling development. Co-creation for system innovation is often linked to all of the three public functions - the rule of law, democracy and welfare state. This applies, for example, when changed policies and regulations are key elements of solutions that are tested. This is also the role that challenges existing structures the most and identifies the need for new working methods, service roles and collaborative methods. In collaborative projects of this nature, the needs of the public actor may clash with the interests, logic and objectives of other participating organisations in the project.

In order to strengthen its capacity in this type of project, there is often reason to strengthen the organisation's leadership capabilities in intermediate organisational spaces. Intermediate spaces can refer, for example, to issues that intersect silos within or between organisations, or to intermediate spaces between innovation projects and regular activities.

When organisations or entities have different rationales and approaches and there is no shared language or common models, a gap emerges where leadership is lacking and pressing issues that intersect areas may get lost because nobody has formal responsibility, or those in charge are afraid of making mistakes as defined processes have not been established. At the same time, intermediate organisational spaces create room for renewal and innovation potential if they are highlighted and dealt with. Strengthened capacity to work across existing structures is also beneficial for innovation in the organisation's own operations and in terms of demand as a driver for innovation, but it is particularly important in order to utilise the results of complex collaboration projects.

01. Introduction

Public sector actors will face major challenges in the coming decades. They represent important facilitators in enabling society to achieve the short and long-term goals regarding welfare and a good living environment for its citizens, in accordance with Agenda 2030 and the Sustainable Development Goals. The area is impacted through the sector's own operations, but they also establish many of the rules of play for the rest of society's contributions. They are key players in system innovation and the transformative development that will be needed to solve the major societal challenges.

In their Economy Report in May 2019[1], the Swedish Association of Local Authorities and Regions (SALAR) conclude that the municipalities and administrative regions are at the beginning of a period that will place great demands on conversion. They predict significant cost increases for welfare and envision shortages in terms of both money and expertise in the form of manpower. Schools, preschools, homes for the elderly, water and sewage networks and more will need to be expanded to accommodate the growing needs resulting from demographic change. Subordinated investments need to be taken on, and the ongoing urbanisation must be addressed. There is also a need for a shift in perspective in favour of more preventive measures.

Long-term confidence in society and the public authorities requires the trust of the citizens, achieved through fulfilling the expectations of citizens to a reasonable degree. Many of the challenges are transboundary in nature and complex, and they are difficult to predict and evaluate and to define in time and space. It can be hard to build up a secure knowledge base in this regard and there are often divided opinions on what is really right.

Rather than being able to find perfect solutions, it is a question of making trade-offs between goals and between different interests, which are interconnected in various ways. Complex problems are nothing new for public sector organisations and they are handled in many ways on a daily basis. At the same time, an increasing number of todays challenges cut across current organisational boundaries, which poses a challenge for the existing administration-based organisation. Shortcomings and uncertainties in leadership, collaboration, responsibility, mandate and communication are becoming evident, and it is often difficult to mobilise relevant resources, competence and support.

Digitisation will represent a vital component of many solutions, while simultaneously posing a challenge in itself that will require new ways of working and thinking. Digitisation is in many ways an illustrative example of the challenges. It is partly a challenge for each individual organisation to find its way forward and to adopt the new working methods that are made possible and are in different ways necessitated by digitisation, while meeting the needs of the citizens in this context. At the same time, digitisation requires far-reaching cooperation to ensure efficient digital infrastructure, standardisation, interoperability, open interfaces and the like to enable the emergence. The opportunities created by, for example, artificial intelligence and sharing economy will also entail a challenge to the fundamental nature of the public sector and other institutions. It raises questions about how these actors can maintain and develop the fundamental values and principles on which society rests, such as democracy, human rights and sustainable development.

This report discusses the R&D and innovation capacity of the public sector in Sweden. It begins with a presentation of a number of perspectives on public sector innovation. This is followed by sections outlining different aspects of what we know about innovation in the Swedish public sector, partly in the form of compiled statistics and surveys, and partly through using the results from evaluation, impact assessments and the like. An overview of policy initiatives in the area is then provided.

1 Swedish Association of Local Authorities and Regions, 2019a.

02. Perspectives on innovation in the public sector

In the 2010 administrative policy bill[2], the Swedish Government set a new objective for administrative policy. According to the Swedish Parliament's approval of the Government proposal[3,4], the objective is worded as follows:

> *Innovative and cooperative public administration that is legally secure and effective, has well-developed quality, service and accessibility, and thereby contributes to Sweden's development and effective EU work.*

In its final report,[5] the Swedish National Innovation Council emphasised that there is a need for clearer support for innovation, renewal and development in order to fully realise the goal of innovative and cooperative public administration. They suggested that there was a lack of "infrastructure" for learning, idea development and knowledge management within the state.

However, the word innovation is often used without further specifying what is meant. This contributes to confusion over the concept which may constitute an obstacle to introducing innovation as a routine for public actors. Without a common understanding of innovation issues with some degree of consensus on what it is, what it entails and why it is important, it will be difficult to get support for innovation. If consensus is lacking, this will likely exacerbate the difficult task of introducing and applying new approaches.

Public sector innovation is aimed at achieving societal impactr

It is often said that innovation in the public sector is different in nature than corresponding activities within the private sector[6]. This may relate to the nature of the innovations or the desired effects. There is a lingering perception that innovation is something primarily linked to products, technology and business. This can stand in the way of evolving a deeper understanding of what innovation can be in the public sector. Some publications suggest that innovation in the public sector is largely a question of service innovation or organisational process innovation[7]. Service innovation can in this context mean new services that the public sector offers to its citizens, or new ways to offer similar services. Process innovations can include methods that streamline how the public sector carries out its assignments. Innovation in the public sector is aimed at achieving effects different to those desired in the private sector[8]. In the business sector, the pursuit of competitive advantages is the main impact of innovation. In the public sector, however, it concerns more complex values. The fundamental state values, figure 7.1, can be taken as an example of values to which the public sector can be expected to contribute.

Figure 7.1
Six basic principles in the fundamental state values

Source: Statskontoret, 2018. Den statliga värdegrunden – professionella värderingar för en god förvaltningskultur (The fundamental state values – professional values for a good administrative culture)

Comment: Vinnova translation

Inherent tensions in the public role

In order to understand how innovation in the public sector differs from innovation in the private sector, we first need to understand the different roles of the public sector: concerning rule of law, democracy and welfare state[9], figure 7.2. The various roles are to some extent incompatible and create tensions, which is significant in the context of innovation. For example, narrow interpretations of privacy principles can

2 Govt. Bill 2009/10:175.
3 Report 2009/10:FiU38.
4 Parliament Decision 2009/10:315
5 SOU 2013:40.
6 For a discussion and oversight, see for example Nählinder and Fogelberg Eriksson, 2017.
7 For example Nählinder, 2012.
8 For example https://oecd-opsi.org
9 See, for example, Nählinder, 2012.

be problematic in digitisation projects, or difficulties can arise when testing innovations within healthcare in terms of patient safety. This creates tensions between the risk-taking that innovation work entails versus safe-guarding stability and security in the regular operations.

In this context, it may also be worth reemphasising the societal importance of the public sector. Product or process innovations are often linked to the public role of providing welfare, while the rule of law and democracy are instead viewed as obstacles to working innovatively, as different considerations and interests come into conflict.

However, the rule of law and democracy can also be the subject of innovation. With regard to challenges where public sector actors become key collaborators in bringing about change together with others, it will be essential for the actors to be able to distinguish needs and test changes in regulations, applications and approach.

Figure 7.2
Tensions between different roles in the public sector[10]

Comment: Vinnova translation

Innovation is something new that creates value

The Swedish Association of Local Authorities and Regions (SALAR) states on its website that

"Innovation involves new solutions that respond to the needs and demands of daily life and the world around. The value arises in the utilisation and application of an idea. The value created can assume many forms – economic, social or environmental. Innovation can take place incrementally or in big leaps. In this perspective, innovation can be new to the organisation, new to the market or new to the world. The value creation for society arises when new solutions are embraced, disseminated and become a way of working long-term. In short, SALAR defines innovation as something new that is useful and is used."[11]

The Innovation Barometer[12] describes innovation as follows:

> *"Innovation means that we have a new or significantly changed way of improving workplace activities and results. The innovation is new in the workplace but may have been used previously by others or be developed by others – it does not need to be developed internally. An innovation can be a:*
>
> - *New or significantly changed process or way of organising the work*
> - *New or significantly changed way of communicating*
> - *New or significantly changed product*
> - *New or significantly changed service*
>
> *Simply put, an innovation is something new that creates value!"*

The OECD's declaration on innovation in the public sector[13] uses the definition of "implementing something novel to the context in order to achieve impact", but also emphasises that it is a new and emerging research area where development is ongoing.

Innovation is multifaceted

The Observatory for Public Sector Innovation (OPSI) within the OECD[14] suggests that innovation is not one single thing, but rather something multifaceted. It can be a question of big and small changes, things that are likely to work well or a shot in the dark, experiments without the certainty of success. It can range from a pilot, i.e. an innovation applied in a specific context and perhaps only temporarily, to a social intervention that is rolled out across the country.

To define innovation, OPSI takes it as a starting point that it largely involves the development of new processes and new approaches to achieve major impact. They suggest that innovation has three core dimensions:

- Novelty. Innovation involves the introduction of entirely new methods or the application of existing approaches for new contexts

10 From Pettersson and Söderlind, 1993.
11 https://skl.se/naringslivarbetedigitalisering/forskningochinnovation/innovation.25352.html
12 Swedish Association of Local Authorities and Regions, 2019.
13 OECD/LEGAL/0450.
14 Also refer to the description on https://oecd-opsi.org/

- Implementation. Innovation must be implemented in some form or have a tangible impact. It cannot be a theoretical idea, a policy on paper or an invention that is never used

- Impact. Innovation must lead to results - the change must be realised in some form. Ideally, these results include competence, efficiency, better results and increased satisfaction (however, innovation is not always good and it does not always lead to better results).

To clarify the multifaceted nature, OPSI has developed a division based on two questions:

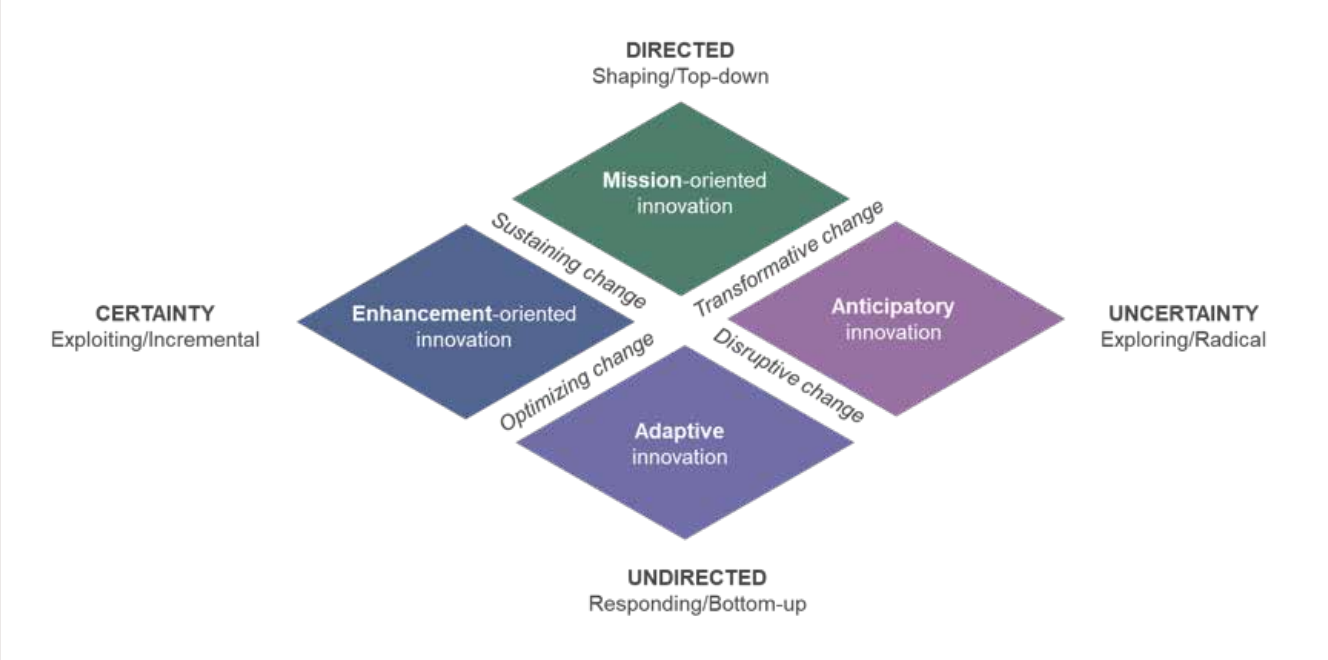
- Does the innovation have a focus? For example, is there a clear intention or goal that it will help achieve, or is it more about exploring and responding (proactive or reactive) to external changes?

- Is there is high level of uncertainty with the innovation? For example, does it explore completely new areas or relate to things that are quite well known?

This division results in a model with four aspects of innovation, see figure 7.3. The concepts are clarified in table 7.1.

The boundaries between the four aspects are not sharply defined. There are innovations that end up in the borderland or that overlap between the aspects, and an innovation that can initially appear to fall within one aspect can, as it evolves, drift over to another. The concepts should not be perceived as suggesting that one type of innovation is better than another. Suitability is dependent on the context. The purpose of the model is to encourage actors to reflect on why innovation is needed in each context and whether they are using the right approach to achieve the purpose of the innovation.

Figure 7.3
Four aspects of innovation



Source: OECD, Observatory for Public Sector Innovation, OPSI

Table 7.1
Description and examples, four aspects of innovation[15]

Aspects of innovation	Description	Example
Enhancement-oriented	Based on the question "How can we do X better?". Involves the leveraging of existing knowledge and investments through updated practices, increased efficiency and better results, rather than questioning the existing system.	Using knowledge of human behaviour to increase the percentage of payments made in time.
Mission-oriented	Based on the question "How might we achieve X?", with X ranging from the world-changing (going to the moon) to the significant but relatively contained (developing better services). This is about ensuring that innovation takes place in order to achieve set priorities and ambitions where something new is needed; that the organisation has the capability to achieve its goals with the help of innovation.	Work to achieve carbon neutrality by a set deadline.
Adaptive innovation	Starts with the question "How might developments change how we do X?". An awareness that unexpected and unpredictable things occur. Is about adapting to changing external factors. Often decentralised and driven by those who see a need for change and find ways to solve this using innovation.	Use social media to enable citizen participation
Anticipatory innovation	Starts with the question of "How might emerging possibilities fundamentally change what X could or should be?", with X being the relevant government response or activity. Often has strong normative elements. Involves ensuring engagement and the exploration of emerging issues that will shape future stances and commitments. Likely radical changes that will be difficult to implement in existing structures.	Exploratory work regarding consequences of large-scale use of AI – ethical and regulatory aspects that prevent negative consequences

15 https://oecd-opsi.org/

Figure 7.4
Different roles for the public sector in terms of innovation, as well as supporting structures

Source: Vinnova

2.1 THREE ROLES FOR THE PUBLIC SECTOR IN TERMS OF INNOVATION

Vinnova has developed a model that describes three different roles that the public sector assumes when it comes to innovation: within its own operations, with its demand as a driving force for innovation, and as a co-creator of system solutions, figure 7.4.

The roles are supported by three important structures: policy, the issue of regulations and the application of regulations; dissemination and implementation; and innovation management. The roles and the supporting structures naturally overlap and it is difficult to define clear boundaries, but this division can serve as a basis for discussion and deeper understanding of what work with public sector innovation can mean. The following sections will elaborate on the description of the three roles and the three supporting structures.

Innovation within the organisation's own operations

Being able to work with innovation within the organisation's own operations serves in many ways as basis for being able to work with the other two roles, i.e. being able to use its demand as a driver for innovation and being able to act as a co-creator of solutions that require far-reaching collaboration. The role includes two important elements: deepening the understanding of the needs and how innovation can contribute to these, and understanding the organisational conditions for supporting innovation work.

Deepening the understanding of needs in the short and long term includes understanding the contradictions between needs and interests and the potential conflicts thereof. All organisations have both short-term and long-term needs. The short-term needs are often about increasing efficiency in a relatively clearly defined operation. The long-term needs to a greater extent involve reviewing the qualitative content of different activities.

All organisations, private and public, and the people who work there almost always find it much easier to identify and define the immediate or short-term needs as opposed to the long-term needs. In commercial markets, this means that established business operations are constantly renewed through being transformed or replaced. This is mainly done through competition between different companies, but also in the form of competition between different business activities within different companies. An important consequence of this is that some companies are established and grow while others suffer in competition and are gradually eliminated. It is this dynamic competition and continuous renewal of economic value creation that is the basis for long-term growth.

Public sector operations are not competitive in the same way as those of private companies. This means that driving forces and mechanisms for the long-term renewal of the content and quality of operations must be established in the public sector that deviate from those of market competition. If such mechanisms are lacking or are ineffective, the level of renewal will be low with the risk that operational quality will stagnate over time. Instead, a reasonable balance must be sought between short-term efficiency and investments in operational renewal.

Incentive structures are equally important in public operations as they are in the private sector. Without clear incentives that drive an operation, the probability is low that it will follow the desired course. In organisations and societies, there are often many types of incentives, which form different patterns. The patterns are often referred to as incentive structures. Sometimes different types of incentives align so that they exert significant influence on human and organisational action in one and the same direction. Sometimes different incentives counteract each other. If the desire is for public sector organisations to renew their operations, it is therefore essential that they are given clear incentives for doing so. Furthermore, if the ambition is for the organisations to implement renewal work in a manner that in turn promotes innovation and renewal in the business sector, this should also be clarified in their incentive structures.

Strategic innovation work also needs to be based on knowledge of the organisational conditions required to support the innovation work. Innovation issues are incongruent with key operational rationales and it may be necessary that working methods in the operational activities can and may be changed. The administrative logic is often based on having extended investigations and analyses as the basis for decisions, rather than applying experimental approaches where ideas can be tested, can fail and can be further developed. For various reasons of efficiency, the work is often specialised in ministries, administrations and the like, which can be referred to as a silo culture.

Silo problems or sectorisation in the public sector are frequently mentioned as a hindering factor for innovation. Not least, the Responsibility Committee (Ansvarskommittén)[16] highlighted reduced sectorisation as an important prerequisite for tackling the challenges facing societal organisation. Organisations that are divided into clear sectors contribute to a clearer delineation of responsibility and a high degree of specialisation and it helps the public sector to manage an increasingly complex environment.

Examples of sectorisation include the division into committees in the Swedish Parliament, the division into ministries in the Government Offices, the government agencies, and the organisation into boards within municipalities and administrative regions. The state budget process is also divided into separate expenditure areas and policy areas. However, at the same time as specialisation contributes to tackling the complexity of the environment, it also creates problems, for example within growth and development policy or in connection with horizontal objectives such as gender equality, sustainability and integration. Sectorisation entails a risk of double work, fragmentation with the risk of initiatives that counteract each other, sub-optimisation, confusion, and the risk of issues falling between the cracks. The problems associated with the silo structure can apply within an organisation, e.g. between administrations in a municipality, but also between public organisations at the same level, e.g. municipal cooperation, or between different levels - local, regional, national and international.

While there are good reasons for this sectorisation, it can often prevent or hinder innovation, due to missed opportunities to find better solutions to achieve the goals or efficiency of the operations. Operations characterised by a silo mentality make holistic solutions difficult if there is a lack of coordination within and between different levels, when there is a lack of capacity and competence to exercise leadership over complex and cross-sectoral processes, and where there are insufficient incentives for long-term sustainable decisions. The ability to innovate and find solutions to challenges is central to identifying ways forward, but it also requires competence, capacity, processes and tools to deal with and implement changes while maintaining transparency, legal certainty and equal treatment.

Innovation work tends to be conducted in projects, with or without external funding. Temporary projects provide the opportunity to experiment, reflect and learn by testing and seeing how ambitions can be realised in the specific environment. The projects make it possible to isolate problems and focus on possible solutions, thereby creating elements of efficiency and ordered change in complex decision-making environments with intractable societal problems. It can also provide an opportunity to circumvent existing structures and budgetary processes, and allow for deviations from prevalent procedures and acting in new ways.

However, it may be difficult to synchronise projects with related policy decisions and processes, thus entailing a limited possibility for change and the creation of added value and learning. For the duration they run, innovation projects can contribute to overcoming boundaries, but when the project ends, the need to implement successful results remains. The results then end up back in the sectionalised organisation, which has difficulty handling the transboundary nature of the results and hindering their implementation. The way in which the organisation can build up its capacity with the help of temporary projects is therefore central. If the projects are to be effective, it is important that mechanisms for learning, continuity, upscaling and dissemination are ensured.

Demand as a driving force for innovation

The public sector's demand can constitute an important driver for innovation. Positive interplay between public sector needs and demand on the one side and creativity and innovation in the business sector on the other can make a strong contribution to renewal in public sector operations and can also stimulate innovation and international competitiveness in the business sector. This type of dynamic development relations has historically been shown to be of great significance for innovation and for countries' development.[17]

Demand from the public sector is often manifested through procurements, which are an important part of this role. Aside from procurement, objectives, compensation models,

16 SOU 2007:10.
17 IVA, 2005.

manuals and other soft and hard instruments can be said to be based on public sector demand. However, it is often the case that innovation work ends in something needing to be procured; therefore public procurement becomes a tool for reaping the benefits of innovation capacity in the public sector. This connection has been the focus of investigations and strategies.

Earlier this year in its final report,[18] the Swedish Agenda 2030 delegation proposed that the Government instruct the government agencies to actively set sustainability requirements for their public procurement and also initiate an inquiry within the Government Offices with the aim of producing a specific regulation on sustainability requirements for government agencies' public procurement.

The national procurement strategy[19] mentions that the large sums of money involved in public procurements means that a more strategic procurement will enable both major savings and yield several other positive effects in society. The strategy aims to make innovation procurement a natural part of the contracting authorities' operational development, in order to promote innovations and stimulate renewal with the public sector and in the business sector. It also mentions that public purchases will play a decisive role in Sweden's national implementation of Agenda 2030.

Many studies show that public sector demand can have a very significant impact on innovation and technological development in companies, and that this impact can be more important for R&D and innovation capacity than different forms of R&D support that are disconnected from a concrete demand. Several explanations for this have been alluded to:

- public sector organisations are often demanding customers, and often more demanding than private customers,
- public sector organisations are in certain contexts prepared to pay the higher prices that often apply at the beginning of an innovation cycle,
- public sector demand can quickly lead to a critical mass in demand, if new solutions spread to several authorities,
- public sector demand can communicate strong user impulses of a demonstration nature to private users,
- public sector demand, unlike pure R&D subsidies, leads directly to demand and market connections. [20]

Overall, public procurement has significant potential to promote innovation. Public procurement is a market-oriented tool that can be used as a complement to and even in combination with other forms of public research and development investments. Public sector demand as a driver for innovation and renewal is a type of demand-oriented innovation promotion that has historically played a major role in the economic renewal of Sweden and Europe.

A public sector demand that is only directed at existing goods and services does not generate any driving forces for development or innovation. It also leads to a low degree of development and renewal in public sector organisations. Public needs as expressed in demand through public procurements can promote innovation by stimulating research and development investments aimed at creating innovations. When this happens, it means that the public sector organisations are demanding solutions to public needs that do not yet exist.

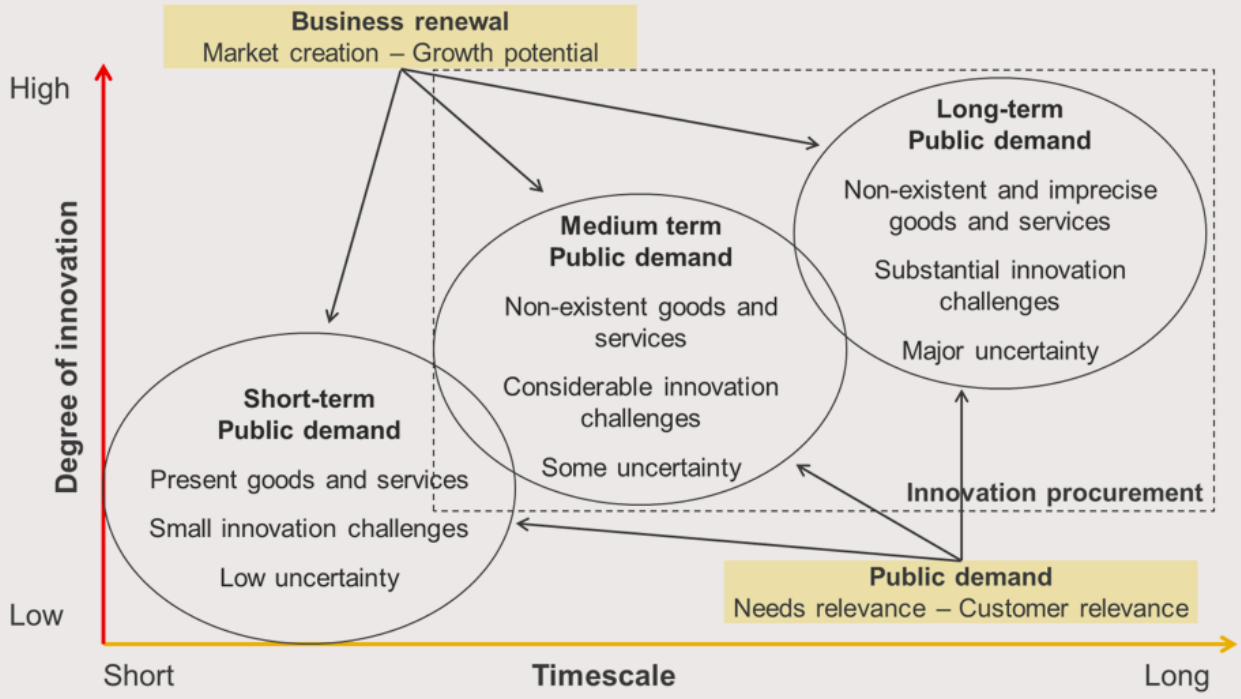
The implementation of new solutions, innovations, in different organisations generally requires complementary changes to the operations of the organisations. Such renewal process require significant decision-making power and creativity. For example, in order for technical innovations to have a positive effect on operations, it often requires both organisational and procedural renewal. Suppliers of new solutions are also usually required to implement procedural and organisational changes to be able to efficiently produce new goods and services.

In general, as in most innovation processes, the higher the novelty value, that is to say, the more radical the innovation, the more advanced and extensive the development work needs to be. At the same time, the longer the required time horizon is for operational development, the greater the uncertainty regarding quality variables usually becomes.

Normally, the incentives to satisfy immediate or short-term needs are a prime dominating factor in all human enterprise. This also applies to activities within the public sector, particularly in the context of acquiring goods and services. For needs that are slightly more long-term in nature, it is often difficult for an organisation to accurately define its demand. Usually, there is more knowledge about which function requires a solution than how to solve it. The product or service that needs to be procured is perhaps not available, or requires development work. This means that there are generally significant uncertainties associated with procuring

18 SOU 2019:13.
19 Ministry of Finance, 2016.
20 In an effective programme for supporting R&D in companies, special attention is paid to companies' market connections and customer relations.

Figure 7.5
General dimensions of analysis and policy for innovation-promoting public procurement



Source: Vinnova

goods and services needed to satisfy long-term needs. The risk of wrong investments increases when dealing with renewal processes in public operations that are difficult to foresee. Figure 7.5 illustrates these relationships.

Although there is an awareness that renewal processes and innovation are necessary for long-term goal fulfilment, quality and efficiency in public sector operations, the incentives for such innovations are nonetheless usually weak. In other words, the risks for management and employees are often much greater than the rewards that can be expected if the renewal work is successful. In the longer term, the needs can be genuinely difficult to predict. It is complicated to specifically formulate what new solutions should look like. In processes for developing such solutions, the risk is great that new solutions will not be used.

The public sector as co-creator of new system solutions

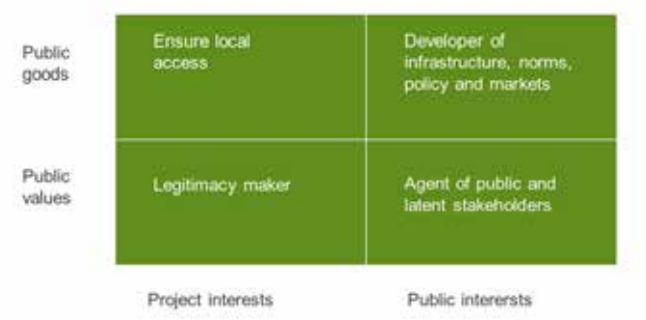
It is becoming increasingly important for public sector organisations to have the competence to involve external actors in various kinds of development. There is also an increased expectation of involving citizens in various decisions or of increased dialogue with companies prior to procurements, and methods and regulations in this regard are continuously developed. Methods for service design are increasingly being used, with examples such as the project Förändra Radikalt (Radical Change)[21] and Förnyelselabbet (Renewal Lab)[22]. This development concerns both innovation within the organisation's own operations and the demand of the public sector actors.

With the societal challenges outlined in Agenda 2030, there is also an emerging need and demand for the public sector actors to become more involved as co-creators of the sought-after solutions and transformation. To link back to the four aspects of innovation that were presented by OPSI, table 7.1, this appears particularly relevant in terms of so-called "Mission-oriented innovation" and "Anticipatory innovation", where the public actor does not have sole ownership in an issue but plays a vital role in facilitating development. With regard to the three public sector roles concerning rule of law, democracy and welfare state, co-creation for system

21 The project Förändra Radikalt (Radical Change) was conducted in 2014-15 with funding from VINNOVA and SALAR, information can be found at www.skl.se.
22 https://www.fornyelselabbet.se/

innovation can relate to all three, for example, when changed policies and regulations constitute key elements of solutions being tested. At the same time as this is a very important role for public sector organisations to assume, it is also the role that challenges existing structures the most, and it often identifies the need for new working methods, service roles, collaborative methods, policies and regulations. In a study on the transformative ability of cities,[23] the authors define four roles that the municipality can take on in collaborative projects, figure 7.6.

Figure 7.6
Four roles that municipalities can assume in collaborative projects for the development of system innovation .[24]



Comment: Vinnova translation

The role as a representative of public and latent stakeholders is interesting as it can be assumed to be closely connected to the public roles regarding rule of law and democracy, and the public sector organisation participating in the collaborative project plays an important role in safeguarding such aspects. Examples of projects where this may be the case include the use of drones by the police, new processes for civic dialogue in urban development, or increased digitisation in welfare, which, depending on the focus, can strengthen or weaken aspects of the rule of law and democracy.

The same study highlights five abilities that they suggest can define the city's capacity to represent an arena for system conversion. These are the ability to

1. collaborate and engage in dialogue,
2. create purpose and meaning,
3. test and develop,
4. implement and consolidate, and
5. coordinate and control

These abilities are assumed to build on each other, and the abilities further down on the list entail greater complexity. Here, we can link back to what was mentioned earlier in the text regarding the ability of organisations to build capacity using temporary projects. This can be said to be a dual ability: firstly, being able to plan participation in and set up projects so that they fit in with the organisation's priority goals and strategies and are adapted to other processes; and secondly, being able to utilise and integrate successful project results in the organisation and adjust the operations in the ways needed to achieve the desired effects. This may relate to innovation within the organisation's own operations, but the issues are even more challenging when it comes to collaborative projects for system solutions where the public sector actor's needs can clash with the logic and goals of other participating organisations in the project.

Innovation collaboration is also discussed within the knowledge area of Open innovation. Smith et al,[25] discuss the specific barriers to open innovation involving the participation of the public sector, starting with an example of mobility as a service (also refer to Facts 7.2). Among other things, they highlight the following:

- Legal barriers pose particular difficulties in public-private open innovation, in particular because of the complex network of overlapping regulations that govern what a public sector actor may and may not pursue.

- With public-private open innovation, there is an incompatibility that creates tensions between parties, such as differing objectives and interests in terms of participation in the process, different time horizons, risk behaviour, incentives for participating and expected gains, and different perceptions of innovation.

- Highly regulated and formalised processes, which are a common feature among many public sector actors, such as the procurement process, are criticised for driving up costs and inhibiting innovation.

- Public actors have to deal with extensive organisational barriers that cause inertia in systems, prevent experimental approaches and complicate agile approaches, for example, through bureaucratic procedures and difficulties linked to political decision-making.

23 Sandoff et al. 2018.
24 Retrieved from Sandoff et al. 2018.
25 Smith et al., 2019.

2.2 PUBLIC SECTOR OPERATIONS – INNOVATION-SUPPORTING STRUCTURE

Supporting structure: policy, regulations and the application of regulations

Policy, regulations and the application of regulations are important areas for innovation in the public sector, both in terms of the regulations public sector organisations have to relate to in their own activities and in terms of how regulations are developed and applied by public actors in relation to other actors. In recent years, initiatives have been taken by both national governments and international organisations such as the World Economic Forum, the OECD and the EU with the aim of not only gaining a better understanding, but also being able to act assertively based on how different regulations affect the innovation climate.

In a broader sense, experimental policy development has been discussed in recent years, not least from an economic perspective. In an uncertain and changing economy, high demands are placed on decision-making within both public and private organisations, and here, small-scale experiments can result in learning and evidence-based policy development. In order for this to happen, political leadership, methodological expertise and a culture that promotes experimentation are needed. A reactive approach to new technologies by legislators and regulatory authorities can lead to legal uncertainty and inefficiency, and also result in risks for citizens, companies and society at large. Although individual research and innovation projects are often conducted with a requirement for collaboration, the solutions do not always manage to pave the way for their own use. The context or system in which the solutions are to be used is sometimes not sufficiently adapted.

Policy labs, regulatory sandboxes and so-called innovation deals are all examples of how innovation methodology surrounding a user-centred approach and experimentation has moved into public policy processes. In Sweden, the role and importance of the public sector as a co-creator in collaboration and innovation processes has been highlighted both in the Swedish National Innovation Council and in the Government's strategic collaboration programmes. This has led to increased focus on the ability of the public sector to identify needs and propose changes in regulations, applications and working methods. The administration needs to develop its ability to collaborate with different actors and to understand and support innovation processes. Continuously developing an understanding of societal and technological transformation processes involving different actors (e.g. companies, civil society, other regulatory practitioners and regulators, both national and international) requires a collaborative and proactive approach.

In this context, the Committee for Technological Innovation and Ethics is also an important player. In autumn 2018, the Government appointed a committee for the national work with changes in policy development and regulatory systems based on a number of emerging technologies. The committee shall coordinate the policy work in Swedish organisations and authorities and facilitate rapid changes. Above all, the aim is to facilitate the implementation of innovative and sustainable societal changes. Initially, priority will be given to the areas of precision medicine, connected industry and connected and autonomous vehicles, vessels and systems.

The public sector actors are issuers of regulations, but they also have a regulatory framework with which they must comply. Uncertainty regarding the legal aspects arising from collaborative relationships between the public and private sphere is a factor that can destabilise development work, or even prevent it from ever starting. Taking the right path and finding solutions for collaboration with external actors takes time and energy. It involves adherence to the Public Procurement Act and rules regarding state aid. It is also about how to reach agreements in terms of goodwill and ownership in co-developed services and products, such as in collaboration and partner agreements.

There is often a great deal of uncertainty about how different regulations are to be interpreted, as well as overlapping regulations with different purposes and origin, which become relevant when public actors work with innovation. This uncertainty is often perceived as an obstacle that inhibits innovation. The combination of bureaucratic administrative culture, municipal competence rules and competition ideology in EU law creates an elusive internal logic that seems to randomly be coherent, contradictory or cancel itself out[26].

During an exploratory phase in the innovation process, the problems of bureaucracy are not particularly intrusive. The free exploration in a pre-commercial phase does not give rise to form-bound decisions or other documentation required to pass through the municipal control machinery. It is first in the development phase that innovations are shaped to conform to the operations, and it is then that the legal contradictions clearly emerge. As far as municipal competence rules are concerned, parts of these exist in a complex symbiosis with the competition rules. This complicates a free exploration of innovations with business sector cooperation as so many alternatives seem to lead to a legal dead end that requires exceptions in law.

26 See Sandoff et al., 2015.

Supporting structure: dissemination and implementation

Usefulness is key for innovation, and solutions that do not gain traction and are applied cannot be said to be innovations, according to the definitions given earlier in this chapter. Being able to achieve dissemination and implementation is therefore essential.

The National Centre for Public Sector Innovation (COI) in Denmark has compiled research on the dissemination of public sector innovation[27] and has also developed a guide based on this[28]. The research overview takes its starting point in three research fields: Innovation theory, network theory and behavioural science. Innovation theory according to their description presupposes that dissemination takes place through diffusion, using communication and the power of the good example. Network theory instead points out dissemination is achieved through relationships and in networks. The personal interaction, trusting relationships and ongoing dialogue become vital ingredients and bridge builders that participate in several different networks and become important idea carriers. Behavioural science suggests that people's irrational behaviour can prevent a successful dissemination process. This may involve underestimating time and resource consumption or undervaluing future gains by reusing other people's innovation. This underlines the need for a strategic and well-anchored process.
In its dissemination guide, COI highlights six different phases for successful dissemination work:

1. **investigate** whether it makes sense to disseminate the innovation from one place to another
2. **test** the innovation in the new context
3. **adapt** the innovation to fit the new context
4. **remove** barriers and old routines that stand in the way of innovation
5. **use** the innovation in the new place
6. **evaluate** what has been achieved by the dissemination

Through the dissemination guide, COI focuses on the fact that dissemination and implementation are work that requires management and processes to be accomplished, and not something that happens by itself in most cases.

A concrete multi-step guide for the dissemination of innovation in the public sector has also been developed within the Vinnova-funded project Spridningslabbet (Dissemination Lab). The guide is based on three steps: Understand, Consolidate and Realise, and it is available via the web-based handbook Spridningsguiden (Dissemination Guide) [29]. The handbook gathers concrete tools to use in the process and provides in-depth material on research-based knowledge within the field. The guide is aimed at managers, as leadership is central to implementing changes that come with innovation.

The researchers' model with theoretical departure points for Spridningslabbet is shown in 7.7[30]. The model clarifies that the nature of the intended innovation only represents one aspect as regards the possibility of dissemination. As far as the nature of the innovation is concerned, they indicate that it is easier to disseminate and implement innovations that have a clear purpose, are easier to understand and use, are irrefutably better than current or previous practices, and require a minimal level of expertise. But beyond this, implementation is facilitated by, for example, a favourable context where there is policy that encourages experimentation, as well as an organisation with a high capacity for knowledge absorption.

Figure 7.7
Model of Spridningslabbet's theoretical departure points[31]

Comment: Vinnova translation

Norms, values and culture in the organisation, as well as in their surrounding network of actors, are also stated as having an impact on dissemination, for example, a social climate that looks positively on learning, inclined towards change and tolerant of risk-taking and failures. Individuals' readiness and motivation for change is also assumed to be positive for the implementation of innovation.

Management's experience of having previously introduced innovations is highlighted as a promotion factor, as well as a focus on continuous quality or improvement work. Although context-dependent and organisational factors are emphasised as important in the model, Denti and Krueger point out that the practical barriers to dissemination are uniquely small in Sweden. Although there are regional and local differences, there is also a uniformity and minor variations as regards language, culture, organisation and degree of development.

27 National Centre for Public Sector Innovation 2015.
28 National Centre for Public Sector Innovation 2016.
29 www.spridningguiden.se
30 Denti and Krueger, 2019.
31 Denti and Krueger, 2019.

They therefore believe that successful local innovations are a significant and underused resource for the Swedish public sector.

Supporting structure: innovation management

It is clear that systematic innovation management is important for conducting effective innovation work. Innovation management is about leadership as well as the organisational conditions for working effectively with innovation and achieving the intended benefits. When an organisation has decided to work with innovation, innovation management can be said to be a concept for how the work should be done. Innovation management also includes ways of working to create innovation, such as models, processes or concrete tools. Without a solid foundation in such cases, the innovation work risks becoming unstructured and not sufficiently based on the challenges of the organisations and society. It is a question of understanding the needs and what innovation can be and how it can contribute in relation to these needs. It is about organisational conditions where a change in ways of working may be required, with existing organisational structures (silos) that need to be bridged and with the capacity to plan innovation projects in relation to the existing operation and its decision-making processes in ways that enable project results to be utilised and applied. It is about the ability to manage risks entailed by innovation and being able to implement experimental ways of working.

The OECD highlights a number of important factors in organising and directing innovation in the public sector, figure 7.8. A starting point is the question of how well innovation has really been integrated in public sector operations, where the ambition is shift from innovation being a sporadic activity to being seriously integrated in the core operations. Four prerequisites are underlined: there has to be a reason for innovation, the *possibility* of innovation, the capacity for innovation and *experience* of innovation.

The OECD identifies three different levels in the innovation system where innovation can be initiated; at the individual level, the organisational level, and the system level. All three levels are needed and need to interact. If the innovation system is not sufficiently well developed and guidance is lacking at the system level, the responsibility will be allocated to the organisational level, which is likely to have less of a system view for ensuring the right direction for innovation in relation to an overall level. If the organisation in turn lacks sufficiently well-developed processes for innovation, the responsibility for (or burden of) innovation will end up being shouldered by individuals. In this case, innovation will primarily be driven by needs, opportunities, ability and lessons learned by the individuals.

Figure 7.8
Important factors for innovation in the public sector

Source: OECD, STI Outlook, 2018, p.193

Within the area of innovation management, several training programmes are currently being developed, one international guidance standard[32] and the ongoing professionalisation of the role of innovation leader. Such development can enable more effective dissemination and utilisation of knowledge and methods for innovation management.

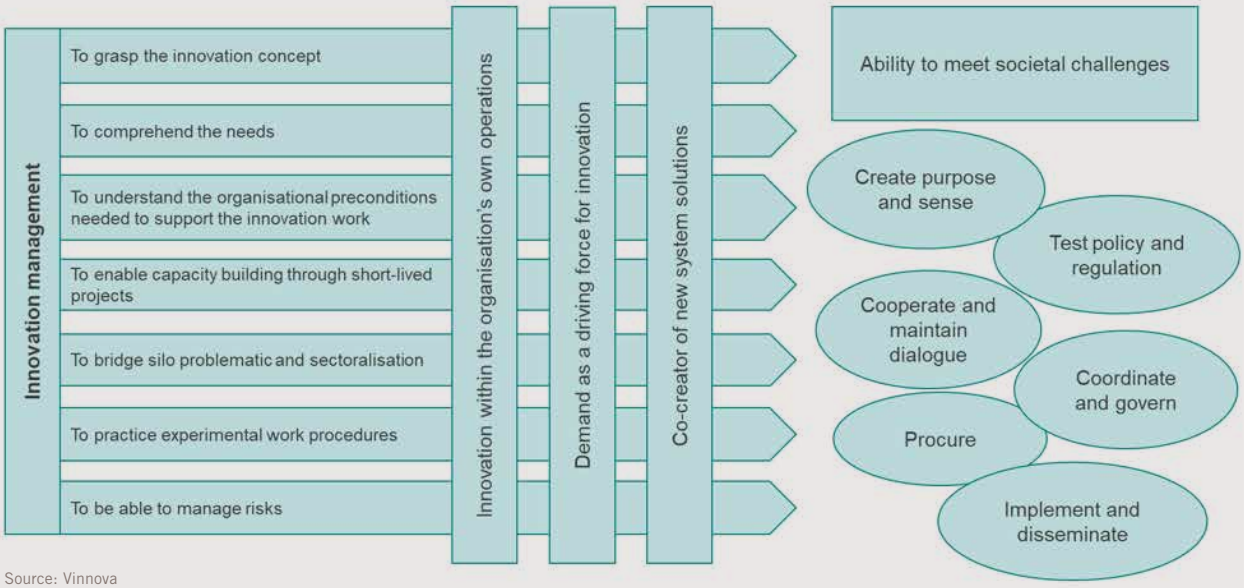
However, innovation management is only partly about standards and leadership programmes, which are often directed at managers. As much of the area concerns leadership in what is known as intermediate organisational spaces[33]. Intermediate spaces may, for example, refer to issues that intersect silos in or between organisations, or intermediate spaces between innovation projects and the regular operations.

When organisations or entities have different logic models and approaches and there is no shared language or common models, a gap emerges where leadership is lacking and pressing issues that intersect areas may get lost because nobody has formal responsibility, or those in charge are afraid of making mistakes as defined processes have not been established. At the same time, intermediate organisational spaces create room for renewal and innovation potential if they are highlighted and dealt with.

Based on the different perspectives that have been presented in this chapter, the conclusion can be drawn that innovation management is so central to innovation in the public sector that it should be the primary focus and constitute the main starting point. Figure 7.9 is an attempt at illustrating this.

32 SIS/TK 532 Innovation Management. The participants on the committee include both private and public organisations. The Swedish committee works with the European committee CEN/TC 389 Innovation Management and the international committee ISO/TC 279 Innovation Management.
33 See, for example, Tyrstrup, 2014.

Figure 7.9
The importance of innovation management for public sector innovation



Source: Vinnova

03. Sweden – public sector innovation

The term public sector is usually used if the operation in question is being run with the help of taxpayers' money. In addition to municipalities, administrative regions and government agencies, there are also other categories of actor that are included in the public sector sphere. One category is publicly owned companies that, for example, are subject to procurement regulations[34]. Another category is activities conducted by private companies but on commission from a public actor, for example, schools or nursing homes.

This section focuses mainly on municipalities, administrative regions and government agencies, although the reasoning may have broader relevance. State universities and university colleges are government agencies within the public sector, but are not included in the supporting material and discussion in this chapter.

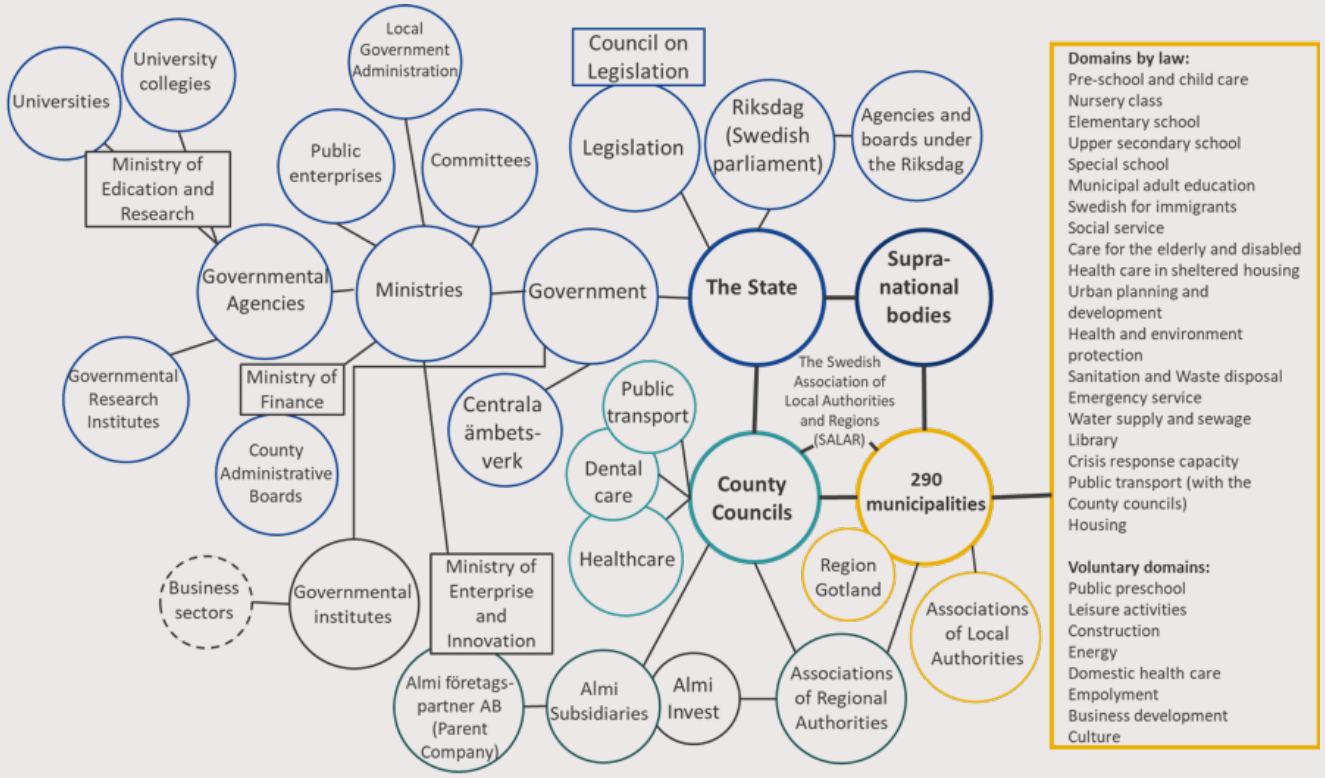
3.1 THE PUBLIC SECTOR IN SWEDEN

There are 290 municipalities and 21 administrative regions in Sweden[35]. The municipalities are responsible for a large part of the community service provided where we live. Among the most important services are preschools, schools and social services. As of 1 January 2019, all county councils have been converted to administrative regions, and thereby also taken over the responsibility for regional development. In addition to these new responsibilities, the administrative regions are also responsible for the tasks for which the county councils have previously been responsible, including healthcare services, public transport and cultural issues.

The Local Government Act regulates the activities of the administrative regions and municipalities. The municipalities are also governed by other laws such as the Social Services Act, the Education Act, and the Planning and Building Act. The administrative regions are additionally governed by the Health and Medical Services Act, the Ordinance on Regional Growth Efforts, and a law concerning regional development responsibility. In a report for the Swedish Association of Local Authorities and Regions, Frankelius[36] has produced a model that describes the public sector, how different parts are connected, and what tasks the municipalities carry out, pursuant to law and voluntarily, figure 7.10.

34 The Public Procurement Act, the Procurement in the Utilities Sectors Act, the Act on Procurement of Defence and Security, and the Act on Procurement of Concessions.
35 The website for the Swedish Association of Local Authorities and Regions (SALAR) summarises information about these, www.skr.se
36 Frankelius, 2014.

Figure 7.10
A model of the public sector in Sweden [37]



Comment: The municipalities are divided by the Swedish Association of Local Authorities and Regions into a number of groups, see Facts 7.1.
Comment: Vinnova translation

The Register of Government Agencies (Myndighetsregistret)[38] includes 460 government agencies categorised as follows:

- State administrative authorities (255)
- Agencies under the Swedish Parliament (4)
- Public enterprises (3)
- AP funds (6)
- Courts of Sweden and the Swedish National Courts
- Administration (84)
- Swedish missions abroad (108)

Another relevant categorisation of agencies is the so-called COFOG classification[39] (Classification of the Functions of Government), which is an international classification that groups public sector expenditure based on function or purpose. This is a system developed by the OECD and UN and it is used, for example, for the bookkeeping of national accounts and for international comparisons of public sector operations.

The broadest categorisation level includes the following breakdown: General public services; Defence, Public order and safety; Economic affairs; Environmental protection; Housing and community amenities; Health; Recreation, culture and religion; Education; Social protection. The Swedish Agency for Government Employers' statistics[40] indicate that most public servants are found in the group Education, and the lowest number are found in the group Recreation, culture and religion. The greatest change since 2007 has occurred within Social protection and within Defence, which have

37 From Frankelius, 2014.
38 http://www.myndighetsregistret.scb.se/
39 For additional information, see for example https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG)
40 https://www.arbetsgivarverket.se/nyheter--press/fakta-om-staten/medarbetare/verksamhetsinriktning/

Facts 7.1

Division of municipalities into different groups according to the Swedish Association of Local Authorities and Regions

A. Large cities and municipalities close to a large city

A1. Large cities - municipalities of at least 200,000 inhabitants, of which at least 200,000 inhabitants live in the largest urban area.

A2. Commuter municipality close to a large city - municipalities where at least 40 per cent of the nighttime population commute to work in a large city or municipality close to a large city.

B. Medium-sized cities and municipalities close to a medium-sized city

B3. Medium-sized cities - municipalities of at least 50,000 inhabitants, of which at least 40,000 inhabitants live in the largest urban area.

B4. Commuter municipality close to a medium-sized city - municipalities where at least 40 per cent of the nighttime population commute to work in a medium-sized city.

B5. Low-level commuter municipality close to a medium-sized city - municipalities where less than 40 per cent of the nighttime population commute to work in a medium-sized city.

C. Small cities/urban areas and rural municipalities

C6. Small city/urban area - municipalities of at least 15,000 inhabitants, of which at least 40,000 inhabitants live in the largest urban area.

C7. Commuter municipality close to a small city/urban area - municipalities where at least 30 per cent of the nighttime population commute to work in another small city/town and/or where at least 30 per cent of the employed daytime population live in another municipality.

C8. Rural municipality - municipalities with less than 15,000 inhabitants in the largest urban area, low commuting pattern (less than 30 per cent).

increased considerably, and within Economic affairs, which has decreased, mainly as a result of government agencies within the area of infrastructure. Table 7.2 indicates the largest agencies (in number of employees) together with their ministry affiliation and COFOG classification.

Table 7.2

The largest government agencies together with their ministry affiliation and COFOG classification[41]. The table shows all agencies with more than 1,000 employees in 2018

Agency	COFOG*	Ministry	Number of employees 2017
Swedish Police Authority	3. Social protection	Ministry of Justice	29,050
Swedish Armed Forces	2. Defence	Ministry of Defence	20,529
Swedish Public Employment Service	10. Social protection	Ministry of Employment	14,316
Swedish Social Insurance Agency	10. Social protection	Ministry of Health and Social Affairs	13,762
Swedish Prison and Probation Service	3. Social protection	Ministry of Justice	12,269
Swedish Tax Agency	1. General public services	Ministry of Finance	10,650
Swedish Transport Administration	4. Economic affairs	Ministry of Enterprise and Innovation	7,406
Swedish Migration Agency	10. Social protection	Ministry of Justice	8,199
Government Offices of Sweden	1. General public services	Swedish Cabinet Office	4,590
The Swedish Defence Material Administration	2. Defence	Ministry of Defence	3,386
Swedish National Board of Institutional Care	10. Social protection	Ministry of Health and Social Affairs	3,977
Swedish Enforcement Authority	3. Social protection	Ministry of Finance	2,395
Swedish Mapping, Cadastral and Land Registration Authority	4. Economic affairs	Ministry of Enterprise and Innovation	1,983
Swedish Customs	1. General public services	Ministry of Finance	2,053
Swedish Transport Agency	4. Economic affairs	Ministry of Enterprise and Innovation	1,937
Swedish Board of Agriculture	4. Economic affairs	Ministry of Enterprise and Innovation	1,320
Swedish Prosecution Authority	3. Social protection	Ministry of Justice	1,397
Swedish Maritime Administration	4. Economic affairs	Ministry of Enterprise and Innovation	1,177
Statistics Sweden	1. General public services	Ministry of Finance	1,275
Swedish Civil Aviation Administration	4. Economic affairs	Ministry of Enterprise and Innovation	1,183
Swedish Pensions Agency	10. Social protection	Ministry of Health and Social Affairs	1,161
National Agency for Special Needs Education and Schools (SPSM)	9. Education	Ministry of Education and Research	1,115
Swedish Civil Contingencies Agency	2. Defence	Ministry of Justice	1,025

* COFOG = Classification of the Functions of Government, en internationell klassificering som grupperar offentliga sektorns utgifter efter deras funktion eller ändamål

41 Based on information from Statistics Sweden's Register of Government Agencies and Statskontoret

3.2 PUBLIC SECTOR INNOVATION

In this section, the basis for the innovation work conducted by public sector organisations is reviewed. This basis consists of data from Statistics Sweden (SCB) concerning research and development in the public sector, data on projects with funding from Vinnova, and surveys conducted on innovation in the public sector.

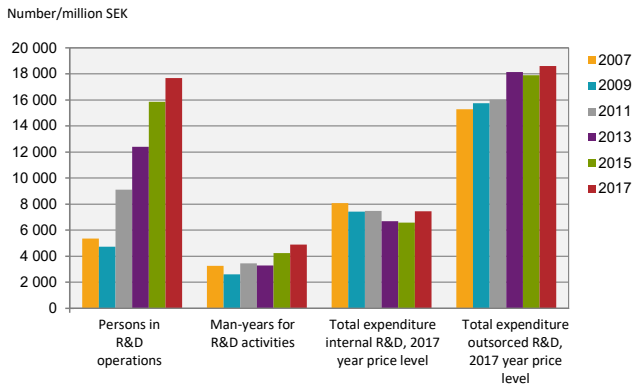
Statistics Sweden' data on research and development in the public sector

Statistics Sweden (SCB) compiles statistics on research and development (R&D) in the public sector[42]. The trend shows a rising curve in the number of people engaged in R&D activities over a ten-year period (2007–2017), figure 7.11. In terms of expenditure, the statistics do not indicate the same clear trend. The total expenditure for internal R&D has decreased, while expenditure for outsourced R&D has increased to some extent.

In an international comparison, R&D in the Swedish public sector represents a relatively small proportion of the total investments, figure 7.12.

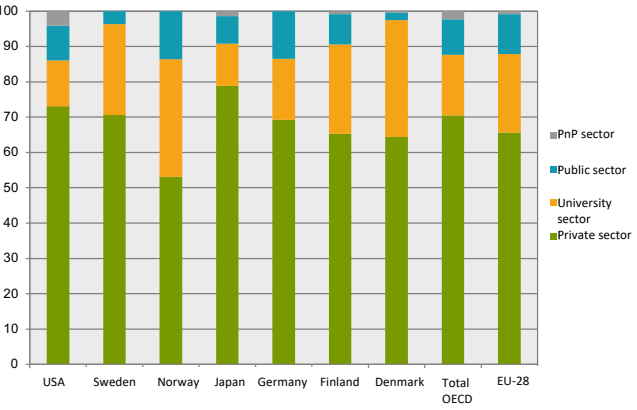
According to the statistics, self-financing represents the primary source of financing for the internal R&D activities, followed by ALF funding[43] and other direct government grants. The focus of the internal R&D activities is dominated by healthcare, followed by defence. In terms of gender balance, it appears to be a relatively even distribution overall, table 7.3. Out of these figures, women feature more often within R&D support staff, while a greater percentage of the men are researchers, product developers or equivalent. Within the county councils however, women are in the majority in both groups.

Figure 7.11
R&D in the public sector during the period 2007–2017 according to SCB statistics



Comment: PnP = Private non-profit
Comment: Vinnova translation

Figure 7.12
The proportion of R&D conducted within different sectors in 2017 according to SCB statistics



Comment: PnP = Private non-profit
Comment: Vinnova translation

Table 7.3
Annual working units (AWU) in R&D activities in the public sector by gender and occupation according to Statistics Sweden's statistics

	Totalt		Researchers, product developers or equivalent		R&D support staff	
	Women	Men	Women	Men	Women	Men
Government agencies	845	1,361	578	1,161	267	200
County Councils	1,398	876	1,018	732	380	144
Municipalities	164	78	98	57	66	21
Local and regional R&D units	145	28	120	24	25	4
TOTAL	**1154**	**982**	**796**	**813**	**738**	**738**

42 https://www.scb.se/hitta-statistik/statistik-efter-amne/utbildning-och-forskning/forskning/forskning-och-utveckling-i-sverige/
43 ALF stands for the Medical Training and Research Agreement and is a national agreement between the Government and seven county councils

Projects with funding from Vinnova

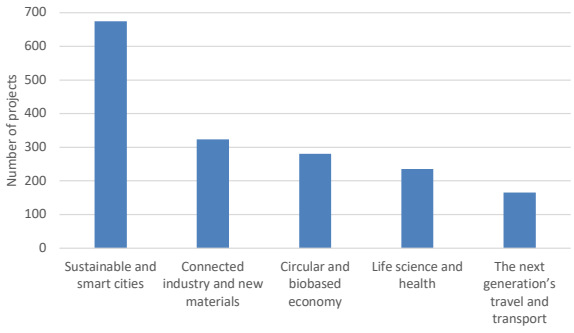
An indicator of the extent to which public actors are working with innovation is establishing which of them are involved in projects funded by Vinnova. Of course, this does not provide comprehensive information, since innovation work is also conducted without external project funding or funding from other sources, but it nevertheless provides some insight.

In Vinnova's portfolio as a whole since 2011, 192 municipalities, 20 administrative regions and 112 government agencies have participated in projects with funding from Vinnova. The participation may be distributed among different subgroups.

Among the municipalities, all large cities (A1 according to SALAR's municipal group division) and medium-sized cities (B3 according to the same) are represented. Thereafter, the participation rate declines from commuter municipalities close to a large city (A2), small cities/urban areas and rural municipalities (C) and commuter municipalities close to a medium-sized city (B4), with 46 per cent participation in the latter category. Within all groups (A-C), commuter municipalities are represented to a significantly lower extent than the main centres. In terms of the number of projects, it is clear that the three large cities are a category of their own and participate in most projects, followed by medium-sized cities like Lund, Helsingborg, Uppsala, Västerås and Eskilstuna. The northern parts of the country follow thereafter with Skellefteå and Luleå. It is only in eleventh place that the first commuter municipality, Nacka, features.

With a thematic division according to five priority areas at Vinnova, we can see that most of the projects where municipalities receive funding from Vinnova have a focus on sustainable and smart cities, figure 7.13.

Figure 7.13
Distribution of the number of Vinnova projects with municipalities as beneficiaries of funding per priority area during the period 2011 to May 2019

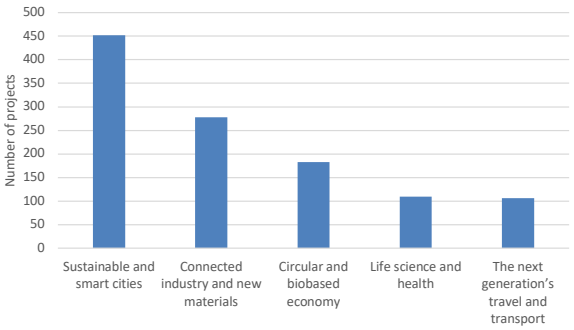


Comment: Note that with the classification applied by Vinnova, one and the same project can in some cases fall within more than one category. The figure therefore does not show the number of unique projects.

Among the administrative regions, there is no division corresponding to that of the municipal group division. All regions have participated in one or more projects with funding from Vinnova since 2011. The three large city administrative regions are the biggest beneficiaries among the regions when it comes to funding for innovation projects in Vinnova's portfolio during the period 2011 to May 2019. Region Västra Götaland is at the top, followed by Region Skåne and Region Stockholm. Region Västerbotten, Östergötland och Värmland feature next on the list as major actors.

With a thematic division according to the same principle as for the municipalities, we can see that most of the projects that the administrative regions participate in have a focus on Life science and health, which is not so surprising given their responsibility for healthcare. However, projects with a focus on transportation are not so common, despite the administrative regions' responsibility for public transport, figure 7.14.

Figure 7.14
Distribution of the number of Vinnova projects with administrative regions (formerly county councils) as beneficiaries of funding per priority area during the period 2011 to May 2019

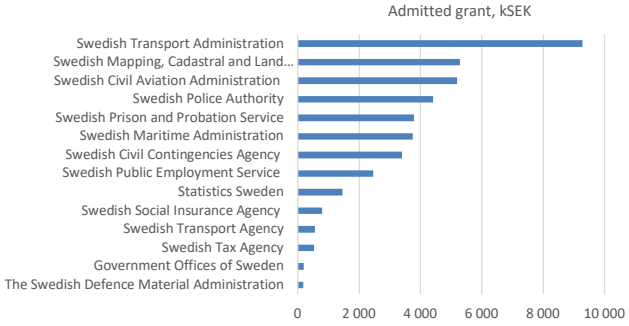


Comment: Note that with the classification applied by Vinnova, one and the same project can in some cases fall within more than one category. The figure therefore does not show the number of unique projects.

Among the government agencies, it is exclusively administrative authorities and public enterprises that participate in projects funded by Vinnova. Excluding higher education institutions, a total of 223 agencies are included in these categories, of which 112 have participated in projects with funding from Vinnova. In addition, the Riksbank, which is an authority under the Swedish Parliament, has participated in projects. The three government agencies that have received most funding from Vinnova during the period in question (2011 to May 2019) are the Swedish Transport Administration, the National Veterinary Institute, and the Swedish Meteorological and Hydrological Institute. These all belong to COFOG group 4, Economic affairs, which is also

the group that receives the most funding in total. Among the biggest agencies, see table 7.2, 14 of these (out of 23 with over 1,000 employees) have participated in projects funded by Vinnova, figure 7.15.

Figure 7.15
14 of the biggest agencies have been granted project funding from Vinnova to participate in innovation projects (the period 2011 to May 2019)



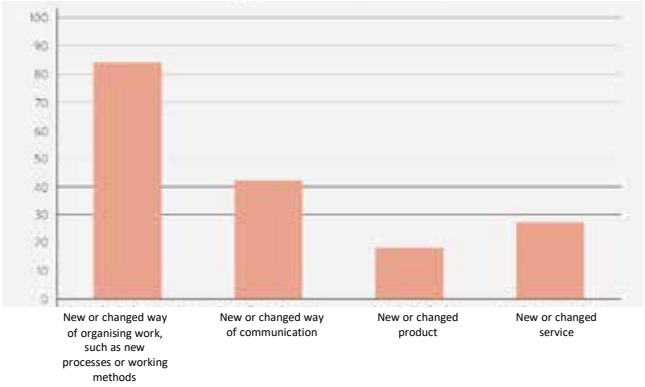
The distribution presented so far relates only to the prevalence of participation in projects, regardless of the role the organisation assumes in the project. Project participation may include everything from minor participation of a reference group nature with minimal time and resources expended, to the public sector actor assuming the role of coordinator for the entire project. In cases where the public actor has a significant level of participation, there may also be a variation in the focus of that participation, from focusing on building innovation capacity in the organisation to being a more technical project aimed at developing a solution to a specific problem.

Some of Vinnova's initiatives have a more pronounced focus on the development of innovation capacity in the public sector, i.e. environments, structures and processes aimed at building long-term innovation capacity. In addition to providing financial support for conducting activities that contribute in one way or another to strengthening innovation capacity, these initiatives also contribute through bringing together the various projects within the respective initiatives for conferences and workshops, with the goal of contributing to learning and the exchange of experience. 85 municipalities, all administrative regions and 42 government agencies have participated in one of these initiatives. A few of the organisations have participated in multiple projects of this kind.

The Innovation Barometer

In 2018, SALAR conducted the first Innovation Barometer in collaboration with the City of Gothenburg, the Council for the Stockholm Mälar Region, and Vinnova[44]. The Innovation Barometer is a quantitative survey consisting of two questionnaires aimed at municipalities, administrative regions, county councils and government agencies (total of 525 organisations). The Swedish Innovation Barometer has been inspired by an equivalent tool developed by the National Centre for Public Sector Innovation (COI) in Denmark[45]. The barometer has been conducted twice in Denmark, in 2015 and 2017, and once in Norway, in 2017, by the municipal sector organisation KS. In 2018, surveys have also been carried out in Finland, Iceland and for the government sector in Norway.

Figure 7.16
Responses to the question of what type of innovation has been introduced in recent years, according to the Innovation Barometer. The results are based on answers from 1,608 public sector workplaces



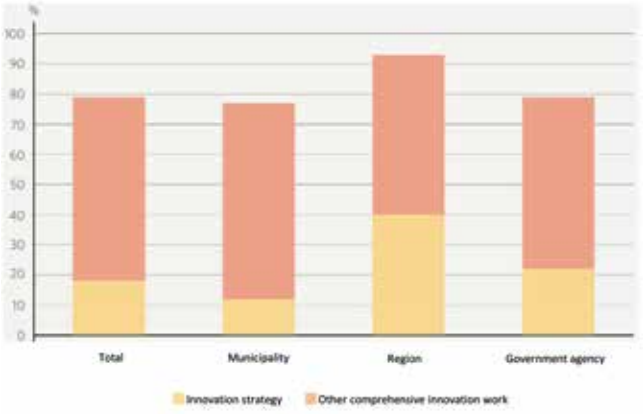
Comment: Vinnova translation

A large majority, around 80 per cent of the respondents, indicate that they have introduced one or several innovations in recent years. The most common type of innovation is new or changed ways of organising the work, for example, new processes or working methods, figure 7.16. The least common type is a new or changed product. The vast majority of innovations are said to be inspired by another solution and adapted to the workplace in question, while significantly fewer are said to be the first of their kind. Around half of the respondents say they have done something active to disseminate the innovation outside the workplace. More than 80 per cent indicate that the innovation has been financed by the workplace's own budget, with only about 5 per cent stating government grants (such as Vinnova) as the source of funding.

44 Swedish Association of Local Authorities and Regions, 2019b.
The survey is based on data compiled from a census survey that has been sent to those in charge of innovation and development issues at all municipalities, administrative regions and government agencies (47% response rate, 246 responses) and a workplace survey sent to the heads of a sample of public sector workplaces (32% response rate, 1,608 responses).
45 www.coi.se

About 80 per cent indicate that they pursue comprehensive innovation work in the form of an innovation strategy or other active work. In particular, the administrative regions distinguish themselves in this regard, with 40 per cent having an innovation strategy and a further 50 per cent engaging in active work. This is closely followed by government agencies and municipalities, but only 10 per cent of the municipalities and a little over 20 per cent of the government agencies having an innovation strategy, figure 7.17.

Figure 7.17
The proportion responding that they have an innovation strategy or pursue other comprehensive innovation work, according to the Innovation Barometer. The results are based on responses from 246 municipalities, administrative regions and government agencies



Comment: Vinnova translation

Fewer than 20 per cent indicate that the workplace is characterised by a culture that promotes experimentation and risk-taking, and fewer than one-third indicate that there are methods, tools or processes that support innovation work, that there is a clear idea or set of goals that describe what the innovation work should lead to, that there is access to competence, or that top management or politicians have expressed their support for innovation.

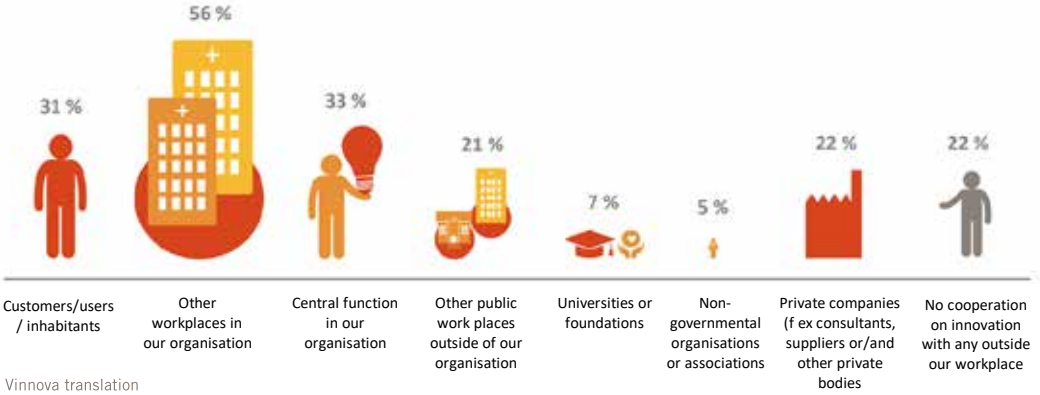
About half of the respondents indicate that they collaborate on innovation with other workplaces within the same organisation, around one-third state that they collaborate with a central function in the organisation, and around as many indicate collaborating with customers, users or inhabitants. 22 per cent state that they collaborate with private companies, only 7 per cent with universities, university colleges or foundations, and 5 per cent with non-governmental organisations and associations. Just over one-fifth engaged in no such collaboration, figure 7.18.

Vinnova Survey 2016

Within the context of Vinnova's government assignment concerning a boost for innovation leaders in the public sector[46], a questionnaire was circulated to around 1,300 managers in the public sector, who were asked to answer questions on the conditions for innovation and innovation management in the respective organisations[47].

With regard to perceived barriers to working with innovation, a lack of time and financial resources is the primary response. Among those that rated their own organisational skills as low, "a lack of knowledge regarding what to actually do" was stated to be a dominant obstacle. The responses of senior managers differed from those of middle management. Senior management rated their own organisation's innovation capacity as higher than was indicated by middle management. Part of the survey was directed specifically at government agencies with administrative responsibilities, where the questionnaire was also supplemented with interviews. The results indicate extensive dissemination regarding the innovation work of the administrative authorities. It is evident that government agencies are not a homogeneous group. The

Figure 7.18
The proportion that collaborate with other actors on innovation, according to the Innovation Barometer. The results are based on responses from 1,608 public sector workplaces.



Comment: Vinnova translation

46 N2014/2618/FIN
47 The results are presented in the final report from the government assignment, Vinnova, 2016.

variation is great both between and within agencies when it comes to engaging in conscious or focused innovation work.

The differences are also evident between departments and units within several of the agencies. One factor indicated to have led to increased activity, and in most cases to the express organisation of the innovation work, is when it is explicit in the appropriation directions that the agency is to work with innovation. Other key drivers are said to be the threat and opportunities of digitisation and the goal of adopting more of an "from the outside in" perspective, i.e. to work more based on the perspective customers and other users rather than that of the staff or organisation.

In the interviews, leadership is highlighted as a critical success factor for innovation work. However, the questionnaire shows that it is not a lack of support from management that poses an obstacle. Rather, the survey indicates that the innovation work is not clearly "led by anyone" and that the knowledge on how to lead innovation work is not so developed. The support that is being sought varies from wanting to raise awareness of the need for innovation and renewal, to wanting support for a more structured and systematic way of working with innovation, from idea to implementation.

KTH and Implement Consulting Group have also published a recent analysis[48] based on the data from the interview and questionnaire study directed at administrative authorities which was conducted within the referenced government assignment. The survey involved 112 agencies that were analysed and classified based on the type of operation in order to investigate differences regarding the extent to which the innovation work has yielded the desired effect. The agencies were categorised by 1) size, 2) whether they focus internally on other agencies or externally on companies and citizens, and 3) if they focus on companies or citizens.

The study found no correlation between these divisions and how well the agency succeeds with innovation. Instead, they found that innovation capacity was strengthened with the help of four building blocks: The agency's mission, purpose and focus regarding innovation; The agency's conditions for driving innovation; The agency's approach to creating innovation; and The results generated through the innovation work (Benefit realisation). The results indicate that the agencies that succeed with their innovation work have a significantly clearer profile and ability within each area that ultimately create benefits.

Evaluation, impact studies and illustrative examples

Vinnova's initiatives are in many cases followed up and evaluated by evaluators or through impact studies. The following section summarises some of their findings.

For successful work with innovation, it is fundamental that the conditions for working with innovation are created at different levels of the organisation. The strategic innovation work also needs to be based on knowledge of the organisational conditions required to support the innovation work. Nählinder and Fogelberg Eriksson[49] suggest that it is difficult for research to provide clear-cut answers to how innovations can best be supported in the public sector, which makes it hard to pursue proactive innovation work as there are few role models and finished models. In the Innovation Barometer, few of the respondents state that their workplace is characterised by a culture that promotes experimentation and risk-taking, that there are methods, tools or processes in place to support innovation work, or that there is access to competence.

A key element in creating good conditions is for the organisation to build up its capacity with the help of temporary projects. In a study of Vinnova-funded projects within urban development, where the municipalities often play a vital role, Sandoff et al.[50] suggest that mechanisms for learning, continuity, upscaling and dissemination are rarely components of the projects, but rather it is expected that the ability to implement and consolidate results is created adjacent to the projects. They also conclude that learning takes place mainly on an individual basis and that structures and power are not established to be able to transfer individual insights to a more organisational level. In terms of the ability to coordinate and manage, they see very little structural capital that could be linked to such an ability.

Krohwinkel et al.[51] also highlight the importance of avoiding the project trap. They specifically underline the risk of projects developing targeted solutions during the project's run that may impair receptiveness later. They mention that temporary solutions for data processing, exceptions from the rule and special procedures are common strategies for circumventing system obstacles and enabling a smoother project implementation. The change perspective needs to be broadened to include "life after the project", and analysis of how the project will fit into the regular operations is needed. There are common notions that innovations need to be pilot-tested and that evidence needs to be produced under strictly controlled conditions that may need to be questioned as the norm. Designing a perfect study and achieving operational change are two goals that are frequently incompatible.

48 Lundegård et al. 2017.
49 Nählinder and Fogelberg Eriksson 2017.
50 Sandoff et al. 2018.
51 Krohwinkel et al. 2015.

Experience from Vinnova's work indicates that in innovation projects, the objective of developing a solution that can be implemented in the operations is often overlooked early on in the process. The public sector actors participate in innovation projects without advance planning for a possible procurement in the event of successful results in the project. Procurement competence has not been involved at an early stage of the project planning, and it may then prove to be difficult or even impossible to procure the solution in the end. This often opens to comments on obstructive regulations, but can in fact be a question of a lack of capacity to integrate project results in the regular operations.

With the right planning from the start of a project, solutions can be found. The regulatory framework for public procurement has tools for linking innovation to procurement, for example, through the procurement process of innovation partnership, where both development and purchases are covered in a coherent and regulated process. The example concerning mobility as a service in Facts 7.2 illustrates what the difficulties may look like in regard to the link between project results and implementation in the regular operations.

A recent report by the National Agency for Public Procurement[52] suggests that they will develop support for interwoven innovation and procurement methods based on experience from RISE, the Swedish Energy Agency and Vinnova. In their description of the current situation, they mention that there is a general lack of knowledge on and processes for both innovation management and innovation procurement. As a result, the organisations are unable, unwilling or afraid to take on major innovation projects or more complex procurements linked to innovation. They also mention that the knowledge on methodology within innovation procurement is limited in the public sector and often lacks the link to procurement in most innovation processes.

Insufficient competence and weak support within the organisation are also alluded to in another report[53] as important obstacles to carrying out successful innovation procurements, based on a review of ten completed innovation projects. Conversely, these obstacles can be turned into opportunities The ability to develop and run this type of project and strong support from the highest level of management enabling the mobilisation of resources and competence from different parts of the organisation constitute an essential foundation for the projects that succeed. The study highlights Karolinska University Hospital and Region Skåne as examples of organisations that have gradually developed their organisational learning in regard to these issues, and which now engage in innovation procurements to a greater extent than other organisations.

Among other things, the procurement strategy aims to provide the right conditions for smaller companies and nonprofit actors to participate in the procurement of public contracts. A survey by the National Agency for Public Procurement[54] showed that a little over 75 per cent of all tenderers in 2016 were micro-enterprises or small companies, but that they submit relatively few tenders when compared to large companies: on average 1.9 tenders for micro-enterprises and 3.1 for small companies, compared with 23.8 tenders as an average for large companies.

An analysis of disbursements from government agencies, municipalities and county councils in 2016 indicated that a significant proportion of the amount paid out goes to small and medium-sized enterprises. Micro-enterprises, which made up 39 per cent of all companies, received eight per cent of disbursed funds. However, the survey showed that many smaller companies, primarily micro-enterprises, refrain from submitting tenders because they consider it to be too complicated. Dialogue with the contracting authority was what the suppliers valued most in terms of facilitating participation.

In order to achieve broadened participation in procurements, it is therefore vital to get a handle on the difficulties that tenderers view as obstacles to tendering and cater to the suppliers' need for dialogue. Svenskt Näringsliv, the Confederation of Swedish Enterprise, highlights UpphandlingsCenter in the Falun-Borlänge region as a good example of how simplification and dialogue regarding procurements can promote local business[55].

UpphandlingsCenter has, for example, worked hard to establish dialogue at an early stage with the suppliers on the market. Questions asked in this dialogue have inquired about which requirements are cost drivers and which requirements exclude the small and medium-sized enterprises. They also divide the procurements into small enough parts that local tenderers are able to submit tenders. Another extensive undertaking has been to attempt to simplify the procurement documents and to use language that is easy to understand for suppliers. The goal is for it to be easier for companies to bid. Collaboration with the nonprofit sector usually takes place through a nonprofit public partnership (IOP), where the nonprofit organisation and the public organisation together

52 National Agency for Public Procurement 2019.
53 Hedman Rahm et al. 2019.
54 The survey is presented in the National Agency for Public Procurement, 2017.
55 Svenskt Näringsliv 2019.

Facts 7.2

Mobility as a service and UbiGo

Mobility as a service is based on a mindset that mobility is something that can be purchased as a service and does not require owning your own car. It can also involve combining transport services with other types of service. In 2011, a collaboration project was started with funding from Vinnova with the goal of developing and testing a mobility service with participation from both public and private actors. The pilot test with the service UbiGo demonstrated a mobility service that offered public transport, rental cars, a car pool, taxis and bike sharing schemes. The evaluation of the test indicated reduced use of private cars and the increased use of other modes of transport, including public transport.

After the pilot test, the public transport company (Västtrafik) was reluctant to continue offering the opportunity for others to sell their tickets, as is the case in a mobility service. Instead, a process of pre-commercial procurement was initiated. Depending on how the tender request documentation in the procurement was formulated, it was shown however that few of the potential tenders found there to be sufficient business opportunities as the design was considered far too narrow. The public transport company then decided to not go forward with the procurement, but instead chose to continue joint development on mobility services together with other public transport companies within Samtrafiken.

In one study that analysed the process in more detail, representatives from both the public and private sector were interviewed with the goal of identifying factors that had made the process more difficult. One obstacle concerned the legislation, at the national and EU level. The regulations were interpreted as not allowing the possibility for a public transport company to assume a role other than that of a public transport provider. This prevents them from offering combined mobility services themselves. Another difficulty involved the search for new roles and responsibilities within an area that requires far-reaching business cooperation and risk-sharing, but which lacks established approaches in this regard. Not least, the issue of who would own the relationship with the customer (the passenger) was intractable. Mobility services only work if most of the dominant operators providing transport services want to be involved, otherwise the service may not be sufficiently reliable or attractive. The fear of losing control over their own transport services (including the customer relationship) and becoming dominated by other actors can make the operators cautious. Business models and agreements that work well for all parties involved, both public and private, are thus far lacking. Furthermore, a perceived obstacle was that the public transport company's organisational structure and goals were designed for their traditional assignment of managing the regional public transport system, while the assignment of improving public transport through innovation had been a recent addition and had not affected the organisation to any great extent. There were no systematic approaches for managing innovation projects in collaboration. There was also no defined strategy and vision regarding mobility services.

The issue of mobility services has been further investigated within the Government's partnership programme The Next Generation's Travel and Transport. A road map has been developed in collaboration between several actors. Aside from the difficulties mentioned above, regulatory and legislative issues are also identified in the road map as one of the biggest challenges. In many areas, the car is prioritised as a means of transport in legislation and fee regulations. For example, tax reductions, parking benefits and congestion taxes are currently included in the norm represented by the fringe benefit car. At present, there is no similar way to offer subsidised mobility services to the employees.

Sources:
Smith et al., 2019. Public–private innovation: barriers in the case of mobility as a service in West Sweden. Public Management Review, 21(1): 116-137 http://dx.doi.org/10.1080/14719037.2018.1462399
Holmberg, P-E and Perneståhl Brendan, A., 2018. Road map for the action area Combined mobility as a service in Sweden (Färdplan för åtgärdsområde Kombinerad mobilitet som tjänst i Sverige). Revision 2. On behalf of the Government's partnership programme Next Generation's Travel and Transport (Nästa generations resor och transporter).

try to solve a societal challenge, and where both contribute their experience and knowledge. Collaboration can take many forms, sometimes as a grant and sometimes resembling more commercial agreements. It has been unclear whether cooperation in the form of an IOP shall be procured according to the Public Procurement Act (LOU), or whether there are grounds to argue that an IOP is exempt from the procurement rules. The Administrative Court in Gothenburg has recently examined this issue in a case involving Alingsås Municipality engaging Bräcke Diakoni to run retirement homes through an IOP, where Alingsås Municipality was ordered to pay a procurement fine[56]. The municipality has appealed the ruling to the Supreme Administrative Court as they believe that the matter has not yet been properly clarified.

Sandoff et al. define four roles (Figure 7.6) that municipalities can assume in collaborative projects for the development of system innovations. According to their study,[57] participation in collaborative projects had increased municipal awareness of the importance of assuming these roles, especially in terms of the role of creating legitimacy and ensuring local access. The role as representative of public and latent stakeholders received the least attention, and the projects had not supported the municipalities in developing this role.

They also highlight the fact that the link to the city's priority goals and strategies is often insufficient in projects, which can make the results difficult to implement. In addition, the municipalities lack capacity in terms of coordination-related challenges and are unable to take a leading role in the development of projects. The sectorisation of the municipalities with different administrations also comes into play with regard to managing system solutions, with communication difficulties, a lack of understanding of different roles, or different goals that lead to power and resource-related conflicts.

What is highlighted as perhaps the most difficult type of challenge involves different roles in collaboration with external parties linked to complex societal challenges. This can apply to goals, needs, time perspectives, experience of or willingness to cooperate, conflicts of interest or varying rationales that make it difficult to manage system perspectives in a holistic way. This is sometimes expressed as regulations and legislation or contractual requirements constituting barriers, but in reality it often involves clashes between the logic and purposes of development projects on the one hand, and on the other, the municipality's authority role with requirements to act impartially and treat all parties equally. The challenges described here suggest the difficulty of fulfilling the task as co-creator without having good structures for innovation in the organisation's own operations. The example of mobility as a service above shows how this can manifest itself in innovation processes. The study by Sandoff et al. applies to municipalities in their role related to urban development issues. Similar studies are lacking for other operational areas (e.g. healthcare) and levels (regional, national). However, Vinnova's experience suggests that the challenges can be perceived as general in nature, regardless of operational focus or level.

The programme Challenge-Driven Innovation has been run by Vinnova since 2011 and focuses on projects that take on societal challenges in order to develop solutions in partnership. Participation from public sector actors is very common within the projects, and this involvement can be seen as an example of their role as co-creator of system solutions. On behalf of Vinnova, Ramböll is conducting an impact study of the programme.

In an initial interim report, 15 projects have been studied[58]. It describes, among other things, how the projects have addressed the high complexity associated with taking on societal challenges. The analysis shows that the projects are delimited and focus on specific problem areas, that they are divided into more or less independent sub-projects with only limited exchanges between them, and that they often choose to focus on finding technical solutions to the problems.
This restricts the opportunities of the projects to actually contribute to solving the bigger underlying societal challenge. On the one hand, they quickly define a solution instead of collaborating to really explore the challenge and the potential scope for solutions, and on the other hand, the intensity in the collaboration is too low to generate new types of solutions. In this respect, public sector actors could contribute to maintaining a broader focus on the societal challenges through their role as a representative of public and latent stakeholders and their role as a developer of infrastructure, norms, policies and markets. According to the study by Sandoff et al. described above, at any rate the municipalities rarely assume these roles in projects, especially as a representative of public and latent stakeholders.

Another study[59] that addresses the issue of projects aimed at finding solutions to complex societal challenges provides some recommendations regarding how complexity can be

56 https://www.upphandlingsmyndigheten.se/verktyg/trendens/samverkan-med-leverantorer-for-att-hantera-forandring/samverkan-med-ideburen-sektor--bara-iop/
57 Sandoff et al. 2018.
58 Ramböll 2019.
59 Krohwinkel et al. 2015.

handled. The recommendations are based on their study of eight projects that tested alternative compensation models within health and social care. They conclude that different ways of dealing with obstacles/surrounding systems entail different pros and cons.

- A finished model is easy to implement in the short term as obstacles are often considered to be outside the project. In the long term, reality can "catch up" so that the change finds it difficult to gain traction and become permanent.

- With a continuous testing model that runs tests, the change takes longer to implement as so many factors are taken into account. Sometimes nothing comes of it at all. But whatever does gain traction is more likely to be well anchored and have better survival potential.

- Both downwards consolidation (in the organisations concerned) and upwards consolidation (towards decision-making politicians/principals) is needed. Few projects are entirely without anchoring but they often lean towards one way or the other, depending on the party running the project and existing relationships with surrounding actors. This is a challenge that needs to be addressed.

Experience from Vinnova's programmes that support public sector innovation indicates that project results are often hard to implement long-term and to disseminate, both within the organisation/s that have participated in the project and to other public sector actors that should be facing similar needs and challenges.

One example that to some extent highlights this aspect is the so-called Trelleborg model, Facts 7.3. This example is often referred to simplisticcaly, where it is described that the model involves a digital review and assessment of applications for income support. However, an evaluation linked to the dissemination of the model[60] emphasises that digitisation has not been a driving component in the Trelleborg model. The digital adaptation should rather be seen as a positive result of a radical shift towards process-oriented and results-oriented management that the model has entailed. This means that it has also brought with it major changes in culture, competence and approach.

When the work was initiated by Trelleborg Municipality to disseminate the model, after having been named winner of the Innovation Award at the Innovation Day organised by Vinnova and SALAR in 2016, the starting point was also that those who wanted to adopt the model needed to begin in the conceptual frameworks and routines, principles and tools entailed by the Trelleborg model. The participants who were not prepared for such changes also fell away over the course of the dissemination project.

The dissemination of the model was done through six learning sessions of one to two days, where the participants learned about and performed exercises with the different components of the model, and in the meantime also worked within their own organisation with related tasks. The evaluation of the dissemination project showed that it was challenging for the participants to, for example, produce a well-analysed process map of the actual production apparatus in their organisation. It requires us to reevaluate what we "know" as well as our own perception of reality in relation to seemingly unproblematic and fundamental elements of everyday activity. This re-examination can be seen as something taking place beyond the individual process of knowledge gathering. It is rather a social process that largely takes place in interaction with the local context within which the individual finds themselves. At the same time, these elements were deemed necessary to really be able to implement the model, and those participants that were not prepared to engage in such an immersive process fell away.

The evaluator also considers it to be a success factor that Trelleborg chose to use the entire management team in the process-organised labour market administration as the active team in the dissemination project. This suggests that dissemination of this type of new working method is relatively resource-intensive in terms of time and commitment from the right people, even when it is a question of models with well-established positive results with a clear connection to needs, as in this case. For Trelleborg, funding from Vinnova enabled them to allocate the necessary resources for the process.

With funding from Vinnova, one project was also conducted with the aim of disseminating the service design-based working methodology used within the project Förändra Radikalt (Radical Change)[61], and the project was studied by an evaluator[62]. He saw few signs of real dissemination, even though the aim of the project was to contribute to this, and he discusses different interpretations of this. He believes that

60 Rakar, 2018.
61 The project Förändra Radikalt was conducted in 2014-15 with funding from VINNOVA and SALAR, information can be found at www.skl.se. Nine municipalities took part, including Oxelösund Municipality, which then together with FoU i Sörmland initiated a follow-up project in order to disseminate further to more Sörmland municipalities and the County Council.
62 Holmlid, S. 2017.

Facts 7.3

The Trelleborg model

What is now called the Trelleborg model has emerged and been developed over an extended period at the labour market administration in Trelleborg Municipality. Between 2006 and 2013, Trelleborg was the municipality in the country that reduced its expenses for long--term income support by the greatest amount, percentage-wise. This was made possible through a number of much publicised and relatively successful projects such as Navigatorcentrum, where the focus was on activities with the stated goal of getting the participants into the labour market. The social aspects of exclusion and long-term income support were seen as symptoms rather than the cause of low labour force participation in the target group. The municipality and the administration had adopted a clear job focus. This shift from the municipality's traditional competence within social issues to adopting a distinct labour market perspective and helping applicants secure an income through work was not in itself unusual among Sweden's municipalities after the 1990s crisis. However, making the institutional and organisational changes that follow from this perspective shift have, according to the evaluator, become more consistently implemented in Trelleborg than in many other comparable municipalities.

The Trelleborg model has attracted particular attention for its digitisation component. The first step was to cut the lead times in the application stage itself, which meant offering the option of applying via customer service instead of just being able to apply during the opening hours of the old social welfare office. The next step was an electronic form online, which meant that applications could be received around the clock and the applicant avoided having to physically get themselves to the municipal office. When submitting the electronic form, the applicant was able to directly choose one of the three available times to meet a labour market secretary the very next day to discuss job opportunities. This saved additional time as the process of provided support in finding work could go ahead in parallel with investigating the right to income support, which saved valuable weeks. In the end, the electronic application form was developed so that the assessment could also be performed using algorithms, a so-called robotisation of the processing.

Source: Rakar, 2018. Learning project: The Trelleborg model - from rebel to model
(Lärprojekt Trelleborgsmodellen – från rebell till modell).

it is by focusing on design as organisational ability that long-term and sustained results can be made possible, and thus also effects beyond an individual project. He suggests that the public sector is in dire need of developing its explorative learning, not just in terms of identifying other parties' good solutions. To further develop knowledge of design and the ability in Sweden to use design as an innovative force, it is not enough to want to test design as a method; it is necessary to visualise how design will be integrated into development processes. With the perspective from this study, the issue of dissemination therefore lands close to the issue of innovation management, here with a particular focus on service design methods.

Palm has conducted an analysis[63] based on 6 initiatives aimed at raising awareness and inspiring reflection on working methods and forms used to disseminate knowledge within the public sector. There results of the analysis show that there are many different ways of working and forms for knowledge dissemination within the sector. The analysis identifies a number of factors highlighted by those interviewed as interesting and important for the effective exchange of experience between municipalities and county councils.

Ramböll's study of the programme Challenge-Driven Innovation (UDI)[64] highlights some complementary aspects regarding dissemination and implementation, particularly

63 Palm, K. 2017.
64 Ramböll 2019.

Facts 7.4

Care of the chronically ill at home

A collaborative project funded by Vinnova was initiated in 2011 with the aim of developing a scalable holistic solution for the care of chronically ill people at home with the support of IT. The background description of the project states that 85% of Sweden's healthcare budget goes to managing chronic diseases, and an ageing population with more chronic illness entails an increasing burden on the healthcare system. One way to achieve more effective care is to develop the care provided in the home of chronically ill patients. A preliminary study was launched to explore the possibilities of developing a holistic solution for home care. It indicated that Chronic Obstructive Pulmonary Disease (COPD) is an appropriate example diagnosis for developing such a solution, and it also resulted in insights on what is required in the form of technology and operational processes (both in the home and at the care provider) for it to be possible to offer adequate care in the home for the chronically ill.

After subsequent development and implementation projects, a holistic solution for care in the home has been developed and verified using around 80 chronically ill patients. The solution involves open solutions and open interfaces. The project has developed and verified the role of the technology operator and healthcare operator throughout the process of care in the home. The technology operator is responsible for a functioning IT environment in the patient's home, including communication, training, data management, video, operation and maintenance, and associated safety mechanisms. The healthcare operator is responsible for the daily contact with the patient, monitoring sensor data and contacting a responsible doctor in the event of deviation. The project has also created new business opportunities for companies that are contracted to conduct supervision of patients (so-called healthcare operators) and for companies contracted to manage the technology that enables supervision (so-called technology operators).

However, it has been shown that there are barriers to introducing the solution on a large scale:

Current compensation models in healthcare are not properly designed for the solution: The responsible clinic or primary care unit to which the patient belongs must cover the costs associated with remote care. Cost savings, in the form of minor emergency visits and hospital stays, are not directly linked to the unit responsible for the costs of remote care. The compensation model must be changed in order to develop the financial incentive that drives remote care.

Regulatory challenges regarding remote care: The project has had to break new ground in terms of the regulatory framework for remote care, for example, regarding the management of patient data. The regulatory challenges contributed to the project's tests out at the clinics being delayed by more than six months.

Limited resources at the clinics concerned: Despite the great need to find new solutions, such as remote care, there are limited resources at the clinics concerned when it comes to developing and implementing new solutions. The project has funded tests at clinics but it does not solve the shortage of staff who can work with a focus on the project. Among others, the project lost one clinic that was originally one of the project's test clinics but did not have the staff required for the commitment.

Lack of national coordination: A lack of national coordination between healthcare providers is an obstacle for the widespread introduction of remote care across all providers. The decision to introduce digital solutions falls to each individual county council. There is also no national actor that can decide to initiate a widespread national and coordinated implementation.

Source: Material for Vinnova from Ramböll's Programme Analysis of Challenge-Driven Innovation, 2018.

linked to collaborative projects for system innovation. They see signs of limited incentives for benefit realisation, even when successful solutions have in general been able to be developed. If the collective benefit of a solution to a societal problem is greater than, for example, the commercial benefit for an individual company, the perceived responsibilities of participating organisations will with the project without being assumed by another party. No organisation feels called upon to push the work forward or scale up and implement the solution at a broader system level.

They also describe difficulties in implementing new solutions in tightly regulated industries, for example, in relation to infrastructure. A clear example of a difficult industry is the municipally owned water treatment plants that participates in several UDI projects. These operations are characterised by very lengthy planning and investment horizons, where new knowledge from a project becomes one of several aspects for new investment decisions. Water treatment plants also act in a strictly regulated monopoly market where security of supply and proven practices are held in high regard. This may have the consequence that new solutions fall outside the parameters of the regulated core mandate of the party with such needs.

In the study, Ramböll states that it is not primarily technical barriers that limit the realisation of solutions that shape society. Instead, it appears that limited commercialisation opportunities for participating companies, inhibitory regulations or resistance to changing ingrained behaviour are recurring factors that prevent the scaling up of solutions developed in the projects. The example regarding care of chronically ill people in the home as described in Facts 7.4 highlights some aspects of what the difficulties might look like.

An inventory of needs carried out by Vinnova within the framework of innovation management support has shown that there is usually a need to strengthen:

- **The external environment:**
  - international connectivity for cooperation and learning
  - the ecosystem or the surrounding environment to which the initiative belongs, including collaboration with partners in the project and other relevant actors
  - the intermediate organisational spaces – where it is unclear whose responsibility it is to deal with something.
- **The internal organisation:**
  - politicians or the strategic ability of senior management to establish a clear direction describing what the innovation work will lead to
  - the ability of systematically developed innovation processes that permeate the entire organisation
  - the conditions available to the innovation leader and their ability to strengthen innovation capacity horizontally and address implementation challenges.

In the final report on a government assignment concerning a boost for innovation leaders in the public sector[65], Vinnova provides some suggestions regarding which measures can be expected to contribute to sustainable effects over time in the organisations that carry out initiatives to stimulate innovation capacity: It is about encompassing more organisational levels, including the political; it is about strengthening the competence of the organisation in its role as client and its susceptibility as regards linking innovation more closely to its actual needs; it is about the need for competence development and concrete knowledge support to drive change and development, including increased competence in terms of procurement rules and contractual relations. It is also about how we design initiatives to best develop and disseminate relevant knowledge on innovation management through collaboration between public sector actors with needs, researchers and different types of intermediaries (such as service developers and research-based management consultants). At all levels, in all functions, it is also a question of courage and desire – the courage to dare to experiment and the desire for change. The issue of competence is emphasised as a key ingredient, not least (innovation) management competence, in stimulating and supporting innovation. It is also about the need for concrete methods and tools to develop innovation strategies and practically execute the determined innovation projects.

Vinnova's work with building innovation platforms aims to provide support and coordination to remove obstacles and, based on testing and experimentation, influence decision processes and organisation for improved conditions as regards innovation work, with the goal of a sustainable society. The innovation platforms are run by the municipality and involve collaboration with industry, researchers and to some extent civil society. A number of observations have been made regarding their function through ongoing evaluation and other follow-up[66]:

65 Vinnova, 2016.
66 Sandoff et al., 2015, Zingmark, 2018.

- The initiative addresses clear needs, specifically the need for a more comprehensive holistic perspective, management of complexity and broader collaboration in urban development in order to strengthen the innovation perspective.

- Overall results of the initiative so far include strengthened and new networks, knowledge development, new forms of organisation, reinforced structural capital regarding innovation in the municipal organisation, a clearer picture of urban development needs, and new methods and approaches when working with innovation.

- Unique values arising from the initiative include the city being viewed as a "playing field" for innovation, and the fact that the platforms have been able to utilise ideas that have not found recipients specifically in the respective organisation.

- The platforms and the implementation have been developed over time and lessons have been learned that have contributed to gradual development. New forms of organising, consolidation and execution have been created and implemented.

- The work with innovation platforms involves modifying working methods in collaboration between actors, and in each organisation. Project management of a platform is demanding and complex and also entails spearheading the work with making changes. Special abilities are required to be able to work across boundaries and work "crosswise".

- Organisational issues have been pivotal in the implementation of the innovation platforms, and anchoring initiatives at a high level of the municipal organisation seems to be an important prerequisite for successful implementation. In this respect, a holistic

Facts 7.5

Innovation in government agencies

In 2017, Vinnova took the initiative to create a learning network between government agencies. Six agencies participated in the network: The Swedish Agency for Marine and Water Management, the Swedish Mapping, Cadastral and Land Registration Authority (Lantmäteriet), the Swedish Civil Contingencies Agency (MSB), the Swedish Environmental Protection Agency, the Swedish Transport Administration, and Statistics Sweden. Researchers at KTH together with Implement Consulting Group (ICG) acted as coordinator and convener of the network meetings.

Over a period of eighteen months, employees from the participating agencies met during six network meetings to alternately learn and test how innovation in government agencies can be managed and organised. The researchers and ICG have a model for innovation and innovation management that has been developed in a previous project that they bring with them to the network. During the work in the network, the model was further developed so as to better suit the specific conditions for agencies' innovation work.

In retrospect, the participants indicate that the benefit of the network has been to create space and opportunity to learn from research and share practical experiences and good examples. At the same time, it was a welcome challenge to try new things and develop the work with innovation within the respective agency. The learning network has resulted in the participating agencies to varying degrees developing their strategies for innovation, creating new internal roles and/or functions, and updating their processes and tools for innovation work.

In August 2019, Vinnova invited 150 people from 40 government agencies to a conference, the goal of which was to share experiences and results from the learning network. This was also an occasion of discussion on what is needed to promote support and develop the ability and conditions for innovation in government agencies. Among other discussion points was the need for a knowledge node that gathers and disseminates knowledge on innovation in agencies, an actor that can act as a "matchmaker" for innovation and innovation work across different agency boundaries, and the importance of innovation being clearly sought after by the agency's management and board.

perspective on the city is important, which is why different parts of the municipal organisation need to be involved.

- Collaboration has been reinforced through the innovation platforms, but there is always room for development.

- The initiative is a first step towards achieving sustainability but the development of platforms takes time and requires a long-term perspective.

In several publications, the innovation platforms have compiled their experiences regarding opportunities and difficulties involved with innovation work, often with a bearing on leadership and organisation. Their descriptions clarify some of what the challenges are for those working everyday with innovation in the public sector (in this case municipalities). They illustrate that complexity requires more of human interaction and social processes and that public sector organisations in their current form are in many ways ill-suited to this. One of their reports highlights challenges concerning a lack of knowledge integration and untrained abilities in terms of interaction and collaboration[67]. Highest on the list of the platforms' biggest challenges and barriers to innovation are the need for new and common processes for solving problems, and support and routines for also being able put solutions into action and scale up.

In a follow-up report[68], they highlight that complex challenges are difficult to take on with today's organisations, which have been structured based on a logic that is more suited to tasks and problems that can clearly be defined and divided up. This shortfall in ability involves three dimensions: (1) organisational assessment and decision-making ability; (2) increased heterogeneity and complexity in the organisation; and (3) intermediate organisational spaces. They suggest that the explorative and learning approach of the innovation platforms is an essential support in building organisational innovation capacity and innovation leadership, and an approach that involves many collaborative actors and calls for new value-creating ways to lead and organise societal development.

67 Rise in collaboration with the innovation platforms, 2017.
68 Rise in collaboration with the innovation platforms, 2019.

04. Policy initiatives

Since 2012, Vinnova has focused on innovation in the public sector as a vital area of activity, and it has gradually increased its efforts in this regard. Several of the initiatives have been carried out within the framework of agreements, especially within one agreement that Vinnova has had since 2012 with the Swedish Association of Local Authorities and Regions (SALAR). Since then, an agreement has also been concluded with the National Agency for Public Procurement. In addition to the formal agreements, other types of collaboration take place with actors that are important for the sector. For example, in 2019, there has been close cooperation with the Agency for Digital Government (DIGG) as well as within the framework of the GD Forum - Swedish government agencies in collaboration for Agenda 2030. Vinnova has also implemented the initiatives Challenge-Driven Innovation, Innovation Platforms for Sustainable Cities, Policy Labs, and developed support for innovation management.

4.1 NATIONAL COLLABORATION

Agreement between Vinnova and the Swedish Association of Local Authorities and Regions (SALAR)

Vinnova and SALAR have had a partnership since 2012 through agreements and annual action plans. The latest agreement is from 2018, and the purpose of this is to contribute to the challenges addressed in Agenda 2030 by strengthening the innovation capacity of activities for which municipalities, county councils and administrative regions are responsible. This is done by stimulating and disseminating innovation and exploring new ways of organising and providing welfare services. Particular focus is on the implementation and widespread introduction of new effective solutions. The goal is to contribute to better service and increased quality in the services and assignments offered by municipalities, county councils and administrative regions to citizens, the business sector and civil society. The agreement specifies four areas of cooperation:

- Stimulating innovation that addresses current societal challenges through, for example, digitisation, innovation management and co-creation.
- Implementation through initiatives that stimulate and facilitate the introduction of potential innovations.
- Dissemination of innovations developed within the framework of previous agreements and other initiatives.
- Knowledge development on public sector innovation through external surveillance, learning networks, research initiatives and measurement methods.

Under the agreement, both shorter pilot projects and single projects are carried out as well as longer and more extensive initiatives. These longer initiatives include FRÖN (For increased innovation in public service), which supports individual innovation projects; Idea hubs in municipalities, which supports the creation of idea management systems; and Test beds for societal challenges, which supports the building of structures for the testing of ideas and solutions in operational environments.

The latest action plan (2018–2019) also includes initiatives to contribute to gender equality as a driver of innovation, to knowledge development on how policy issues can be developed using policy labs, support for greater use of public procurement as a tool for the development and utilisation of new innovative products and services, and several initiatives to contribute to dissemination and implementation.

Agreement between Vinnova and the National Agency for Public Procurement

The National Agency for Public Procurement and Vinnova have an agreement with the common ambition to create even better conditions for “Strategic societal and operational development with a high level of innovation”. A number of general challenges have been identified in relation to innovation and procurement within the public sector:

- The ability to apply organisational ambidexterity
- For public sector organisations, it is a challenge to deal with development issues at a strategic level and at the same time engage in operational development work, which leads to an inability to prioritise long-term thinking above short-term measures.
- Culture and fragmentation

- Silos in the organisation linked to responsibility and budget allocation within its operations or within a specific policy area make it difficult to achieve a cross-functional approach and high degree of innovation.

- Incentive structures

- Public sector organisations place greater focus on evaluating risk than on evaluating potential benefits. This results in a reluctance to invest in processes that in the short term may entail increased costs, uncertainty and other operational risks, even if the long-term outcome would be reduced costs, more efficient ways of working, better public services etc.

- Knowledge and processes

- In many public sector organisations, there is a lack of knowledge on and processes for innovation management and innovation procurement, which means that the organisations are unable/unwilling/do not dare take on bigger innovation projects or more complex procurements linked to innovation.

Collectively, these challenges and obstacles result in the following:

- that innovation projects do not end up in solutions being procured and implemented in the public sector; neither companies/organisations nor the public sector see any profit from the venture.

- that the potential in possible solutions is neither sought after, evaluated nor leads to benefit realisation.

- that developed solutions are not disseminated and are therefore not further developed either.

4.2 CHALLENGE-DRIVEN INNOVATION

During Sweden's presidency of the Council of the European Union in 2009, Sweden pushed for the EU to focus on societal challenges as a driving force for innovation and for this to characterise the EU's forthcoming Framework Programme for Research and Development. The EU Framework Programme Horizon 2020 was also developed in the direction proposed by Sweden during its presidency and has generated sub-programmes and financing opportunities for Swedish researchers, companies and public sector organisations.

Vinnova also developed a new form of initiative that could form the basis for a Swedish programme in line with the ambitions of the Lund Declaration. The result was the programme Challenge-Driven Innovation (UDI), which was launched in 2011. In broad dialogue processes, four societal challenges were identified as the focus of the programme in the initial years: Healthcare of the future, Sustainable attractive cities, Information society, and Sustainable industrial development. After Agenda 2030 was adopted in 2015, the programme was revised, and the four societal challenges were replaced with the Sustainable Development Goals as the focus of the programme.

The programme offers financing in three stages: initiation, collaboration and implementation. In order for projects to be able to work long-term with solving complex societal challenges, significant sums are granted in stages 2 and 3.

- In Stage 1: initiation, focus is upon developing an idea regarding innovation and planning how it will be realised and later used. Other important activities include a more in-depth needs analysis and seeking out partnerships with more actors.

- In Stage 2: collaboration, the cooperation between the actors is deepened and innovative solutions begin to be developed and tested.

- Stage 3: implementation involves testing and introducing the results on a larger scale and in reality. The work also includes laying the groundwork for what the business model looks like and how dissemination and upscaling should be done to promote utilisation.

Challenge-Driven Innovation provides public sector organisations with opportunities and incentives to, in partnership with companies and researchers, initiate and develop innovation processes to generate solutions to the concrete societal challenges ahead. It provides direct incentives for public actors to pursue these innovation processes and develop the innovation partnership required to achieve this. It contributes firstly to public actors developing their own innovation processes, and secondly to attracting engagement from the business sector in this context.

The programme is intended to achieve goals linked to overall systemic effects and changes in actors' innovation capacity in relation to societal challenges, and to contribute to concrete solutions in the form of innovations.

- **Innovation capacity – the programme shall contribute to**
  - New, renewed or deepened strategic alliances, partnerships and networks:

  - The programme contributes to the mobilisation of actors and the establishment of long-term and transboundary collaborations, as well as new models for organisation, collaboration and business, which increases the ability to address societal challenges. This is manifested, for example, in a way that ideas, knowledge, innovations and the like generated in funded projects are utilised in different ways in other organisations, for other target groups or in other projects.

  - A strengthened ability to conduct innovation work in the borderland between the private and public sector:

  The programme contributes to public sector organisations actively and systematically seeking out and contributing to developing innovative solutions to respond to societal challenges, conditions and requirements, as well as the initiation and development of regulations and instruments that both strengthen and develop the actors' ability to solve complex societal challenges.

  - Increased/real customer and user involvement:

  The programme contributes to the actors, to a greater extent compared with previous projects, developing innovations together with users, customers and citizens. For example, it can be a case of public actors and companies after the project seeing users, customers and citizens as a natural co-creator in the development of innovations to meet societal challenges.

- **Innovations – the programme shall contribute to**
  - o Concrete value creation and utility: In the programme, solutions are developed that directly or indirectly clearly contribute to green or socially sustainable growth. Values that contribute to a sustainable transition and strengthen competitiveness can manifest themselves in a variety of forms, such as new business opportunities and market segments as well as significant/clear cost savings for companies and public sector organisations.

  - o Strengthened attractiveness and willingness to invest:

  - o The projects have a vibrancy and relevance that makes Swedish actors and places attractive to international actors, and also attract new investments, which in turn leads to increased innovation capacity.

4.3 INNOVATION PLATFORMS FOR SUSTAINABLE ATTRACTIVE CITIES

In 2011, Vinnova received the government assignment within the Environmental Technologies Strategy[69], which involved an investment in research and knowledge development within the field of environmental technologies. Part of the assignment focused on supporting strong innovation environments for sustainable cities. The call for proposals looked for challenge-driven collaboration platforms between municipalities, businesses and research organisations, focused on one geographical area (e.g. city district) where new solutions could be tested and demonstrated with a view to dissemination of these solutions nationally and internationally.

The work within the framework of the government assignment became the starting point for a longer pilot project in several phases, which increasingly was focused on building innovation capacity in municipalities and developing the local innovation system. In the latter phases, the innovation platforms have focused on identifying and eliminating different types of obstacles to renewal and innovation (for example, in regulations and policies) and strengthening the municipality's ability and capacity to work innovatively, independently and in collaboration with others.

The innovation platforms are based on the importance of a strengthened holistic and platform perspective, a local needs overview and strengthened collaboration between actors that can enable the exchange of information, knowledge, problem descriptions and solution proposals. The work involves creating awareness of what innovation can be in different contexts, the function that the platform work can fill in different contexts and in relation to different actors, and ensuring broad anchoring and political "capital". Challenges in the work can include, for example, the allocation of roles when a municipality and private sector actor enter each other's spheres. This poses a challenge to established perceptions of responsibility, professions and actions, and lessons emerge based on new municipal administrative logic where the municipal mission is in certain parts defined and carried out through broader collaboration with different stakeholders.

The city's challenges are systemic, broad and complex, and the city can thus be seen as a central arena for system innovation. Urban development projects are complex and are characterised by interdependence, and the holistic perspective can be achieved by focusing on such issues. The broad collaboration can enable innovation, on the basis that it is often in the intersection between different perspectives that renewal can arise. This creates the potential to contribute to paradigm or system innovation.

69 N2011/5142/E

4.4 POLICY LABS

In 2017, the Government commissioned Vinnova to strengthen the coordination between government agencies with the goal of a more coherent innovation process[70]. In the final report on the assignment, Vinnova emphasised that there is great potential to strengthen government agencies' ability to manage the innovation process in regulated sectors. The experience of the government assignment has been that the greatest value entailed by policy labs is about how the process itself, with regard to, for example, developing proposals for amended regulations, can be streamlined and quality assured through new innovation methodology and new methods of cooperation.

Though the administration models often look entirely different to those employed in Sweden and other countries, there is much to learn from an international perspective. In various countries, the public administration has tested setting up special policy labs to stimulate a more exploratory attitude where experimentation and testing can take place under orderly forms. A policy lab can be a forum and tool for working across boundaries, sectors and between different administrations, government agencies and ministries. It is often particularly important to also involve users and citizens in the process, which should be transparent and inclusive.

The first policy lab in the world was Mindlab in Denmark, a cross-sectoral development team inside the Danish Government Offices. After 16 years as an active lab, the Danish government decided in the spring of 2018 to create a new lab with a stronger focus on digitisation; Disruption Task Force. Other notable policy labs include UK Policy Lab, GovLab in the USA, La 27e Region in France and MaRS Solutions Lab in Canada.

There are also other related initiatives for supporting policy development. In the UK, the Department for Business, Energy & Industrial Strategy has set up a fund involving GBP 10 million (equivalent to SEK 118 million) where authorities that issue and apply regulations can apply for project funding, known as the Regulators Pioneer Fund. The aim is to create mandates and provide the conditions to work with proactive policy development. Innovation Deals were introduced in 2016–2017 as a trial undertaking by the European Commission to help innovators faced with regulatory obstacles. There are voluntary agreements between the EU, innovators and national and local government administrations. Only two deals have been signed in practice.

4.5 INNOVATION MANAGEMENT SUPPORT

In order to establish a holistic overview and address challenges on multiple organisational level, thereby preventing silo thinking within and between different levels, Vinnova has developed needs-driven innovation management support. The approach has been to create a coherent whole by strengthening the innovation capacity of ongoing initiatives and existing structures, rather than a project focus that risks demarcating and tackling isolated problems, placing focus on technical solutions and thus limiting the possibilities of solving greater societal challenges. In this context, the whole includes support at all levels that affects the conditions of the initiative, including:

- policies and civil servants
- senior management, managers and employees in organisations
- project management and other key individuals driving the initiative
- parties within the initiative, surrounding environments and other important actors in the innovation system.

To identify the need for support efforts, Vinnova has conducted a needs inventory with the following three steps:

1. workshops to identify challenges and opportunities regarding how each project within the initiative is organised and managed.
2. surveys are sent out to better understand how the support can be designed to build innovation capacity and develop the innovation system.
3. workshops with the projects to verify that the needs are consistent with the perceived need for support.

The initiatives that have been packaged to address the challenges identified (at different levels) have been chosen based on different tools, methods and models that Vinnova has funded within the programme Innovation Management and Organisation. The tools, methods and models that have been offered have been based on a number of modules at a strategic, tactical and operational level. The idea has been to test this support in relation to different target groups in a pilot stage. It includes initiatives within various

70 N2017/01832/IFK

Vinnova programmes, such as Social Innovation, Idea hubs in municipalities, Vinnväxt and the Competence Centre programme. Several pilot tests will be carried out in another round to ensure sufficient breadth and variety, with the goal of producing both general and more contextual insights.

Preliminary results from the ongoing innovation management support initiatives indicate that they have strengthened the conditions to work systematically with reinforcing innovation capacity in both the internal and external context. For Vinnova, this support provides new conditions for monitoring initiatives in a more agile and holistic way, which increases the possibility of addressing challenges and opportunities continuously during the life cycle of the initiative.

05. Conclusions

The public sector is a fundamental part of society and the national economy in all modern societies. Societal infrastructures and service production of various kinds constitute different public societal functions that are crucial for the functioning and renewal capacity of society.

In many ways, public sector actors play vital roles in determining the state of the innovative social climate, i.e. how idea generation and innovation are stimulated, rewarded and implemented. It concerns the development goals that are formulated by the public sector and towards which efforts are directed, as well as the demand for new solutions to achieve the operational goals of the public sector organisations. It is about how the public sector designs and implements different regulations regarding what is permitted and impermissible and possible and impossible to address in society. It is about the instructions and instruments established and applied by the public sector for its government agencies and bodies at the state level, county council level and municipal level. In addition, it is about how the public sector prioritises and designs policies and different investments in research, development and innovation.

The Swedish public sector is characterised by high quality and high efficiency in an international perspective. It is the result of a long history of innovation and continuous operational development. In many respects, Sweden is an international example in terms of the quality and renewal capacity of the public sector, the explanations for which are internationally unique in essential aspects. The Innovation Barometer shows that the innovation capacity in the public sector is great, but it also concludes that most innovation initiatives concern innovation within the organisation's own operations and largely relate to organisational process innovation.

However, society has changed dramatically in many important respects which has led to several major societal challenges and has put pressure on the business sector and the public sector to transform their operations. Green conversion, digital transformation and social sustainability place new and different demands on the innovation capacity of societal functions and public actors when it comes to being able to continue to deliver high quality and efficiency. The societal challenges impose significantly greater demands on cross-system solutions and thus on the interplay between different public sector organisations and innovation-driven collaboration with the business sector, to ensure that future societal functions are capable of meeting these challenges.

Digitisation in general and AI in particular enable rapid change, which will result in raising the expectations of citizens and politicians with regard to public sector organisations utilising these opportunities. Achieving this requires that control mechanisms, organisation and processes are adapted with a high degree of conversion capacity. This presents a major challenge in the public sector, which needs to relate this development to other requirements, not least to legal certainty. If Sweden as a nation and each government agency, municipality and county council are to be able to use AI for value-creating innovation in various activities and system innovation for addressing transboundary societal challenges, this requires clear objectives that clarify the direction and strategic governance needed to ensure that the development is on the right track:

- **Governance.**
  Various state instruments, in the form of appointments, appropriation directions and agency dialogue should be used in order to take full advantage of the potential of AI. For municipalities and county councils, SALAR or another national actor needs to take an active role in running the most important joint projects with a focus on information sharing.

- **Leadership.**
  In order for Sweden to be successful in terms of AI application, management must act as a good example by using AI at a management level, for example, through decision support, effective meeting management or through other applications. It is also about allowing pilot projects where different applications are developed and tested.

The different roles of public actors easily clash with each other when it comes to innovation, where trade-offs become increasingly important between, on the one hand, different innovation needs, and on the other hand, providing stable service and safeguarding legal certainty and democracy. At the same time, innovation is necessary to safeguard important values in the long term, i.e. for sustainable development. Being able to lead and organise innovation – formulate goals,

find tools, shape culture and create structures – become very important skills in the development of the public sector.

Important factors in this context are:

- Clear goals and strategies for innovation
  - An ability to build capacity and competence via temporary projects
  - Capacity to take on coordination-related challenges
  - Project leadership in development projects
- Sectorisation and silos prevent system solutions, as these lead to:
  - Difficulties in communication
  - A lack of understanding regarding different goals and roles
  - Power and resource-related conflicts
- Collaboration with external actors is often challenging depending on:
  - Goals, needs and conflicts of interest
  - Time perspectives and organisational logic
  - Experience of or a willingness to engage in collaboration
- Learning is an important challenge, since:
  - Mechanisms for learning, continuity and upscaling are rarely components of different projects
  - Learning is mainly done on an individual basis
  - Structures and driving force for learning on an organisation level are often weakly developed
  - The dissemination of successful solutions is far too limited and resource-intensive

System solutions require well-developed strategy processes and innovation processes in the public sector. Organisational structures that have been developed to address previous societal challenges and which are logical from a production perspective, are today clear obstacles with regard to renewal within public sector organisations and their ability to take on new challenges. The development of the societal functions will require purposeful innovation strategies in the public sector. This is lacking in many cases today.

The absence of clear and systematic processes that focus on service quality in the public sector and on innovation processes poses a threat to the development of the welfare systems and to Sweden's innovation capacity and attractiveness in terms of increasingly globalised business. The development logic that today largely characterises public sector operations leads to:

- The absence of innovation strategies
- Poorly developed innovation processes
- Undeveloped learning regarding organisations' development processes
- Poorly developed innovation competence
- Undeveloped quality requirements in procurements
- Poorly developed innovation procurement capacity
- Undeveloped ability to address current societal challenges
- Poorly developed innovation leadership in the public sector
- Inhibited creativity in the public sector
- Work environments that in many cases cause mental and physical ill-health

It is therefore an important societal challenge to reformulate this conservative development logic. This places great demands on political leadership to establish significantly changed incentive structures for public sector operations. It also places great demands on modified political processes nationally, regionally and locally, and on improved interaction between these different political levels. Such a development needs to be based on a new perspective on the development of societal functions and on different public actors' contributions to this development.

Public innovation procurement has been on the innovation policy agenda for over a decade and has historically played a central role in the development of Sweden's innovation capacity. It has also been a feature of the latest national innovation strategies and has resulted in several different government assignments. However, these have focused almost exclusively on improved competence support, project support and coordination support for contracting authorities. As a result, a lot of important processes have been initiated in this area and significant experience has been gained.

That being said, no significant policy measures have been taken to strengthen the incentives for innovation-promoting procurement. Since the root cause of the limitations in innovation focus in the public procurements lies in the incentive structures, this is deemed a serious policy problem.

In practice, it is impossible to fundamentally compensate for a lack of incentives through different types of competence-strengthening measures for public procurement, although these are nevertheless important.

However, incentive structures for public innovation procurement concern incentive structures in general for the public sector, and not specifically incentives linked to public procurement. Unless innovation for quality and efficiency in the public sector is high up on the strategic agenda of state and municipal authorities, this will result in the following:

- qualified innovation strategies will not be developed
- the competence to implement these will not be recruited
- the fragmented organisation of the public sector will not be addressed
- goods and services will not be procured to this end
- follow-up and learning in this regard will not be developed

This essentially presents a much greater and more important organisational societal challenge than a unilateral focus on public procurement, even if this is an important element of this challenge.

The public sector must assume pivotal roles in the societal changes that will be required to achieve the goals of Agenda 2030 through the following:

- innovation within the different public sector organisations themselves
- conditions for innovation in the business sector created through demand, regulations and public services
- policy processes for the development of system innovation to solve societal challenges

Many of the needs are common to different public actors while at the same time the societal challenges often require significantly better collaboration between different public actors than what is currently the case. Processes for goal formulation, strategies and the implementation of various initiatives for innovation and system innovation therefore need to be much more transboundary and collaborative in nature.

The societal challenges facing Sweden and the world require system innovation in order to be effectively addressed. This places great demands on the public sector and necessitates the following

- Genuinely horizontal and long-term policy processes that intersect policy areas
- Well-developed interaction between state, regional and local actors and processes
- Development-based collaboration between different public sector organisations

Achieving this requires purposeful policy that challenges traditional ways of organising policy process, relationships between state and regional actors, and interplay between different public sector organisations. The policy challenges for attaining this are significant, but the potential to contribute to societal benefits, international competitiveness and sustainable growth through such development is considerable.

References

Report 2009/10:FiU38. Offentlig förvaltning för demokrati, delaktighet och tillväxt.

CEN/TC 389 Innovation Management.

National Centre for Public Sector Innovation, 2015. Spredning af offentlig innovation. Hvad kan vi lære af forskningen?

National Centre for Public Sector Innovation, 2016. Spredningsguiden. Gør det nemt at dele og genbruge innovation.

Denti, L. och Krueger, M., 2019. Spridningslabbet: ny metod för att sprida goda innovationer i offentlig sektor.

Ministry of Finance, 2016. Nationella upphandlingsstrategin.

Frankelius, P., 2014. Innovation i offentlig verksamhet – vart står vi? Vart går vi? Swedish Association of Local Authorities and Regions.

Hedman Rahm, L., Hedman, P. and Bruse, L., 2019. Utvärdering 10 projekt inom innovationsupphandling. Regionakademin AB and Balanserad 3.0 AB on commission from the National Agency for Public Procurement in collaboration with Vinnova.

Holmberg, P-E. and Perneståhl Brendan, A., 2018. Färdplan för åtgärdsområde Kombinerad mobilitet som tjänst i Sverige. Revision 2. On behalf of the Government's partnership programme Next Generation's Travel and Transport (Nästa generations resor och transporter).

Holmlid, S. DEPLOY Spridning av design- drivna arbetssätt i offentliga organisationer. Linköping University.

http://www.myndighetsregistret.scb.se/, retrieved on 08/02/2019

https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG), retrieved on 28/10/2019

https://oecd-opsi.org, retrieved on 28/10/2019

https://skl.se/, retrieved on 28/10/2019.

https://skl.se/naringslivarbetedigitalisering/forskningochinnovation/innovation.25352.html, retrieved on 28/10/2019

https://www.arbetsgivarverket.se/nyheter--press/fakta-om-staten/medarbetare/verksamhetsinriktning/, retrieved on 28/10/2019

https://www.coi.dk/, retrieved on 28/10/2019.

https://www.fornyelselabbet.se/, retrieved on 28/10/2019

https://www.scb.se/hitta-statistik/statistik-efter-amne/utbildning-och-forskning/forskning/forskning-och-utveckling-i-sverige/, retrieved on 20/06/2019

https://www.spridningsguiden.se/, retrieved on 28/10/2019.

https://www.upphandlingsmyndigheten.se/verktyg/trendens/samverkan-med-leverantorer-for-att-hantera-forandring/samverkan-med-ideburen-sektor--bara-iop/, retrieved on 08/05/2019

ISO/TC 279 Innovation Management.

IVA, 2005. Utmaningar för staten, näringslivet och forskningen. Om kunskap, strategier och tillväxtfrämjande aktiviteter på avreglerade marknader.

Krohwinkel, A., Rognes, J. and Winberg, H., 2015. Ersättningssystem för innovation i vård och omsorg – En studie av åtta projekt som utvecklar nya ersättningsmodeller. Vinnova Report VR 2015:08.

Lundegård, R., Winqvist, J. and Wallenholm, H., 2017. Innovation och förnyelse inom 112 svenska myndigheter – vad utmärker dem som lyckas och vilka är framgångsfaktorerna? Implement Consulting Group.

N2011/5142/E. Uppdrag att genomföra en satsning på forskning och kunskapsutveckling inom miljöteknikområdet.

N2014/2618/FIN. Uppdrag om innovationsledarlyft för beslutsfattare för ökad förmåga att bedriva innovationsarbete i offentlig verksamhet.

N2017/01832/IFK. Uppdrag att stärka samordningen mellan myndigheter för en sammanhållen innovationsprocess.

Nählinder, J. and Fogelberg Eriksson, A., 2017. The MIO Model. A Guide for Innovation Support in Public Sector Organisations. Scandinavian Journal of Public Administration 21(2):23-47.

Nählinder, J. and Fogelberg Eriksson, A., 2017. Att skapa förutsättningar för innovation. Erfarenheter från "Idéslussar i kommuner - förstudier 2015" Vinnova Report VR 2017:01

Nählinder, J., 2012. Vi tar höjd för innovationerna - Att förstå innovationer i kommunal sektor. HELIX Working Papers 12/03.

OECD/LEGAL/0450. OECD. Declaration on Public Sector Innovation.

Palm, K. 2017. Erfarenhetsutbyte inom offentlig sektor - en kartläggning baserad på 6 initiativ.

Pettersson, O. and Söderlind, D., 1993. Förvaltningspolitik. Stockholm: Publica.

Govt. Bill 2009/10:175. Offentlig förvaltning för demokrati, delaktighet och tillväxt.

Rakar, F., 2018. Lärprojekt Trelleborgsmodellen – från rebell till modell.

Ramböll, 2019. Utmaningsdriven innovation Programanalys Delrapport 1 March 2019.

Parliament Decision 2009/10:315.

Rise in collaboration with the innovation platforms, 2017. Leda och organisera innovation för hållbara städer och samhällen – erfarenheter från innovationsplattformarna.

Rise in collaboration with the innovation platforms, 2019. Innovationskapacitet för att leda och organisera hållbar samhällsutveckling - erfarenheter och rekommendationer från innovationsplattformarna.

Sandoff, A., Algehed, J., Bladini, F., Jensen, C., Palm, K. and Williamsson, J., 2015. Innovationsplattformar för hållbara attraktiva städer. Slutrapport följeforskningen. Mistra Urban Futures Report 2015:16.

Sandoff, A., Algehed, J., Williamsson, J., Jensen, C. and Bladini, F., 2018. Staden som arena för innovation. En studie av transformativ kapacitet, kommunens roll och Vinnovas påverkan. Vinnova Report VR 2018:05.

SIS/TK 532 Innovation Management.

Smith, G., Sochor, J., Karlsson, M., 2019. Public–private innovation: barriers in the case of mobility as a service in West Sweden. Public Management Review, 21(1): 116-137. http://dx.doi.org/10.1080/14719037.2018.1462399

SOU 2007:10. Ansvarskommittén. Hållbar samhällsorganisation med utvecklingskraft. Final report by Ansvarskommittén.

SOU 2013:40. Swedish National Innovation Council. Att tänka nytt för att göra nytta – om perspektivskiften i offentlig verksamhet. Final report by the Swedish National Innovation Council.

SOU 2019:13. Agenda 2030 Delegation. Agenda 2030 och Sverige: Världens utmaning – världens möjlighet. Report by the Agenda 2030 Delegation.

Statskontoret, 2018. Den statliga värdegrunden – professionella värderingar för en god förvaltningskultur.

Svenskt Näringsliv 2019. Upphandling som strategiskt verktyg. Guide för bättre lokalt företagsklimat.

Swedish Association of Local Authorities and Regions, 2019a. The Economy Report, May 2019 On swedish municipal and regional finances.

Swedish Association of Local Authorities and Regions, 2019b. Innovationsbarometern. En enkätstudie om innovationsarbete i offentlig verksamhet.

Tyrstrup, 2014. I välfärdsproduktionens gränsland. Organisatoriska mellanrum i vård, skola och omsorg. Entreprenörskapsforum, Fores and Stiftelsen Leading Health Care.

National Agency for Public Procurement 2019. Uppdrag att främja innovationsupphandling genom stöd i form av upphandlings- och innovationskompetens för beställare. Slutrapport Regeringsuppdrag 2017–2018. Report 2019:3

National Agency for Public Procurement, 2017. Trendens – utvecklingen på upphandlingsområdet 2017:2, pp.49–53

Vinnova, 2016. Innovationsledarlyft för beslutsfattare för ökad förmåga att bedriva innovationsarbete i offentlig verksamhet. N2014/2618/FIN

Zingmark, A., 2018. Innovationsplattformar för hållbara och attraktiva städer. Analys och rekommendationer. Vinnova Report VR 2018:02.

Vinnova Rapport VR 2020:02

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