The role of innovation partnerships in healthcare innovations

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Work-in-progress paper submitted to the 35th IMP Conference,

Paris, France, 28. – 30. August 2019

Abstract: *The public health sector faces significant challenges in the coming years as an ageing population requires improved services. Parallel to this development are innovations on two frontiers: One is the increase in innovations in healthcare technology (eg. Hoholm, Larocca and Aanestad, 2018), the other is the increase in innovations in how the public sector is organising its procurements of such technology (Axelsson and Torvatn, 2017). In industrial markets, the development of and access to new technology is increasingly taking place in close collaboration and interaction with actors outside own organization (Håkansson and Waluzewski, 2002). Alternative ways of organizing this are through arms-length relationships with suppliers (transactions or "market arrangements" where the opportunities for innovation is often limited) or utilising internal capabilities and resources (which requires costly investments) (Axelsson and Torvatn, 2017).*

In the public health sector, the possibilities for interacting with key suppliers to create innovative solutions and new technology have so far been limited due to a strict regulatory framework for public procurement. However, the regulations now open up for hybrid solutions or "innovative procurement", i.e. new ways of cooperating that provide opportunities for closer dialogue between customers and suppliers throughout the development process. There are several ways to organize innovative procurement, of which "innovation partnerships" are the most comprehensive. The innovation partnership has however received little attention by researchers so far, and we know little about how this particular procurement procedure enables innovative solutions for the public sector.

This is the background for this paper which reports findings from an ongoing longitudinal research project of a Norwegian innovation partnership organised between a municipality and a hospital with the intention of developing innovative solutions for rehabilitation of stroke patients. The research design is exploratory and processual where key actors are follow during the course of the project. Data collection methods include personal interview, group interviews and non-participant observation in addition to secondary data sources such as internal documents and reports.

Keywords: Innovation, public procurement, healthcare, policy, process research

1. Introduction

Recently we have seen a growing interest from researchers and policy makers into the role of public procurement as a driver for innovation. Technology is rapidly changing, and the opportunity to create new welfare solutions lies in the intersection between the technological expertise of suppliers, and the public sectors' knowledge of societal needs and the demands of its end users. Aiding this development is a growing pressure on the public sector to become more efficient, along with an increased demand for public services due to an ageing population and cuts in funding because of limited or scarce public resources (Torvinen & Ulkuniemi, 2016). The public sector is thus seen as playing a key role in innovation as it has "powerful means to stimulate private investment in research and innovation" (The European Commission cited in Rolfstam, 2012, p. 8).

The EU policies have been particularly directed towards stimulating innovation through public procurement. Utilising public procurement to stimulate innovation further represents a sharp contrast to the neo-liberal economic policies of the 1980s and 1990s, which focused on "ensuring competition, avoiding corruption and national discrimination through increasing transparency, as well as eventually establishing a common market" (Rolfstam, 2012, p. 304). Public procurement is often referred to as demand-side innovation policy instruments (Aschhoff & Sofka, 2009) where "public agencies could help stimulate private sector innovation by putting out for tender contracts on products, services or systems that, in order to be delivered, require some kind of innovative effort by the supplier" (Rolfstam, 2012, p. 303). According to Rolfstam (2012), public contracts are efficient incentives and create competitive advantage for companies, particularly under uncertain economic conditions where companies are reluctant to move into risky innovation projects. Similarly, for public agencies innovative procurement policies may result in improved public services or service at lower costs.

Innovativeness in public procurement actually represents innovativeness on two dimensions: First, there is the development of the innovative solutions or technologies in themselves, i.e. product or service innovations. Secondly, there is the innovation in public procedures or policies by which such innovative solutions are acquired, i.e. process innovations. These two dimensions are interlinked as the starting point is an understanding that in order to develop innovative solutions, suppliers and customers need closer interaction and involvement than public procurement practices traditionally have allowed for.

2. Public procurement as a policy tool

Procurement practices and directives often reflect an underlying economic logic. Axelsson and Torvatn (2017) find that "legal experts, economists and politicians have turned to economic theories and translated them into directives and practices" (p. 174), "[or] procedures on how to act in real life" (p. 177). They distinguish between two types of procurement practices: first- and second-generation directives. First-generation directives and resulting purchasing practices focused on best price and arms-length transactions, following a typical microeconomic approach. This has created friction as interaction between buyers and seller is restricted, even prohibited, thus limiting the scope for developing new solutions and innovations. Recently we have seen a development of second-generation directives, which is "an effort in the public procurement context, to try to align with the interactive world, and doing this to enable the public sector to take advantage of…economic value creation" (Axelsson and Torvatn, 2017, p. 177). Lawther and Martin (2005) describe this as '21st century governance'. They describe a historical development from the 1930s, where government was viewed as the answer to societal problems, to the 1970s and 1980s where government became the problem and not the solution. Rather, privatisation and outsourcing became important public policy tools, together with a

renewed confidence in the market and a belief that competitive forces could best serve public interests. In the 1990s, a re-evaluation due to economic stagnation led to a new realisation: "If government was not the solution and if the market was not the solution, then what was the solution?" A new paradigm emerged where "public procurement is encouraged to abandon its traditional ways of doing business and move towards more relationship contracting" (Lawther and Martin, 2005, p. 213). This paradigm has several names (collaboration, networks, strategic alliances, partnerships, etc.) but the common denominator is that these concepts are a mid-form between government and market. In their analysis, Axelsson and Torvatn (2017) argue that criticism of first-generation purchasing directives, often associated with the market mode, has led to changes and revisions in the underlying legal procurement framework. As a result, second-generation purchasing directives imply a change towards supplier development similar to the relational mode. Examples of such new practices are early supplier involvement, innovation-based product development and legal changes such as life-cycle contracts, broader scope of the public business tendered, function-based specifications, category management contracts and innovation partnerships.

Similarly, Edquist and Zabala-Iturriagaoita (2012) observe that EU regulations have been an important obstacle for innovative public procurement. Historically two conflicting ideologies have been proposed: a 'free market' orientation which "emphasizes the need to exclusively apply commercial criteria when awarding the contract", and an 'interventionist orientation' which "regards public procurement as an instrument to realize social and economic objectives wider that the mere efficiency in the use of public money" (Martin, 1996, p. 41).

Axelsson and Torvatn argue that, although second-generation directives are positive steps toward a more relational mode, the very point of departure creates a problem: "The moves made are – basically – rooted in the market governance mode and are only slightly corrected for perceived deficiencies." (p. 190)"…"So far we have witnessed an adaptation of practices that are theoretically more closely connected with the Williamson approach – that the Relationship mode is a minor deviation from the market view… and thus a midform between market and hierarchy." (p.191) One of the main reasons for this is that the public sector is subjected to expectations such as equal treatment, non-discrimination and transparency, all strongly related to the view of efficiency from micro-economic theory, and the market mode still has a strong dominance. In 2017 for instance, according to the European Commission, 55% of public procurement in the EU still used lowest price as the dominant supplier selection criteria (Bøe & Skandsen, 2018). Axelsson and Torvatn (2017) believes that the public sector still has a long way to go: "Either 'we' in the IMP community are totally wrong about how to achieve efficiency and effectiveness in B2B and B2G operations or public sector procurement will still have a long path to walk until it can take a full advantage of all five governance modes and particularly the relational governance mode" (p. 194).

3. Public procurement for innovation

According to Edquist and Zabala-Iturriagaoita (2012) public procurement for innovation (PPI) is when "public organisations may place an order for something (normally a product or a system) that does not exist; hence this 'something' has to be developed before it can be delivered. In other words, innovations are needed before the delivery can take place… It is a matter for using public demand (or similar) to trigger innovation" (Edquist & Zabala-Iturriagagoitia, 2012, p. 1757). The logic behind public procurement for innovation is that "by placing a sophisticated demand upon market, desirably through functional requirements and standards, public procurers can introduce strong incentives for private providers to come up with new solutions or to upgrade their production-related processes in order to cope with the demand imposed by the government." (Lember et al., 2015, p. 405). However, buying

something that ‘does not exist’ involves a high degree of risk and uncertainty, as “a comprehensive determination of the outcome is neither possible at the procurement stage nor at the development stage resulting from the nature and uncertainty of innovation” (Amann & Essig, 2015, p. 284). Additionally, Uyarra and Flanagan (2010) argue that seeing innovation procurement as something that does not yet exist is somewhat problematic because it overlooks innovation effects beyond the initial purchase and is biased towards radical innovations. Indeed, the idea behind PPI is not the development of an innovative solution in itself (or its diffusion) according to Edquist and Zabala-Iturriagaoita (2012), rather the rationale is to satisfy human needs and/or solve societal problems. PPI as they see it is primarily relevant to tackle the ‘grand challenges’ in our society. According to Edquist (1997), innovations are new creations of economic or societal significance. They are the result of interactive processes among multiple actors. Innovations may be new or improved products or processes and needs to have a commercial impact: “To qualify as an innovation, the product or process needs to be implemented, which means that the new products must be introduced on a market or that the new processes are used in production. Innovations must therefore be commercialised” (Edquist et al., 2016, p. 3). As a result, there has been an effort to introduce demand-oriented policy instruments and ‘holistic innovations policies’ by the European Union member countries. However, few have achieved this and the linear model is still the dominant in innovation policies: “Member countries do not pursue much innovation policy that can be characterised as demand-side oriented. Together these responses clearly indicate that many of the countries striving in the direction of pursuing a holistic innovation policy have a long way to go on the path from linear to holistic” (Edquist et al., 2016, p. 5).

4. Innovation partnerships as a public procurement procedure

The innovation partnership was first introduced as part of a new public purchasing directive by the European Union in January 2014: “In addition to considering the lowest price in the procurement, other dimensions are now important in the selection of the contractors: Quality, sustainability, social conditions and innovation. The decision also includes a ‘new procedure’ called innovation partnerships. Such partnerships make possible collaboration between the procuring organisation and suppliers in order to achieve the objectives of the procurer.” (Edquist et al 2016, p. 9).” Fact Sheet No. 9 at the EU homepage on public procurement reform describes it as: “A new procedure called the ‘innovation partnership’ will enable public purchasers to select partners on a competitive basis and have them develop an innovative solution tailored to their requirements.” The procedure has three main steps: 1) A competitive phase will take place at the very beginning of the procedure, when the most suitable partner(s) are selected on the basis of their skills, abilities and price; 2) the partner(s) will develop the new solution, as required, in collaboration with the contracting authority. This research and development phase can be divided into several stages, during which the number of partners may be gradually reduced, depending on whether they meet certain predetermined criteria; and 3) the partner will then provide the final solution (commercial phase). This procedure is believed to improve the potential for innovative solutions as it allows more interaction and cooperation than traditional purchasing formats. For instance, Torvatn & de Boer (2017) argue that “Although the innovation partnership procedure still starts with a ‘classic’ competitive approach, the ‘middle section of the procedure allows for an unrestricted interaction with a few or only one supplier in order to jointly develop an innovative solution. If only one supplier was chosen for this middle section, this particular supplier will then also be the supplier to actually produce the solution developed” (Torvatn & de Boer, 2017, p. 444).

The innovation partnership is a good example of what Axelsson and Torvatn (2017) refer to as a second-generation directive and it has characteristics similar to the ‘relational mode’. It also has characteristics associated with ‘21st century governance' (Lawther & Martin, 2005) or the

'interventionist orientation' (Edquist & Zabala-Iturriagagoitia, 2012). The innovation partnership can be used to develop solutions that do not already exist in the market. It opens for a closer dialogue and cooperation between the supplier and the purchasing organisation during the procurement process. However, as we have seen from the above discussion, public purchasing practices and regulations have traditionally limited or prohibited the close contact and cooperation needed to develop innovative solutions. The innovation partnership is thus believed to increase the potential for innovation in public procurement. For instance, Torvatn & de Boer (2017) argue that "Especially the innovation partnership procedure should create possibilities for boosting innovation by intensive collaboration and interaction with a limited number or even one supplier over a longer time period" (Torvatn & de Boer, 2017, p. 444). It implies a far more positive view on interaction than previous purchasing procedures. Interaction is a prerequisite for innovation as a strong body of research exists emphasising the role of interaction and collaboration between actors in innovation processes (Baraldi, 2008; Edquist et al., 2016; Hoholm, 2011; Håkansson & Waluszewski, 2002; La Rocca, 2018; Uyarra et al., 2014). On this background, the introduction of interactive and innovative purchasing formats, such as the innovation partnership, is an important development. At the same time, the development of long-lasting relationship with selected suppliers beyond the initial purchase is a precondition for interaction (Araujo et al., 1999, 2016; Bygballe et al., 2010) and the procedure does not open for this. The procurement of the solution is still seen as a single purchase, and the fundamental principle is still competition. Torvatn & de Boer (2017) therefore questions whether it is realistic for it to be used by public purchasers after all, as research from the private sector shows that interaction requires effort and investment, which the innovation partnership does not open for to the same extent.

Despite an increasing body of research into innovative purchasing formats as presented above, it appears that the innovation partnership as a particular procurement procedure has received little attention by researchers and no major study of its application by public procurers has been undertaken yet. An important question is therefore to what extent innovation partnerships can help the public sector to create innovative solutions, knowing that on the one hand this procedure opens for closer interaction and collaboration between suppliers and public procurers, but at the same time the interacting parties are subject to regulations specific to the public sector which may diminish or limit their ability to be innovative.

To answer this research question, this paper reports findings from a longitudinal case study of an innovation partnership in the Norwegian health care sector. The healthcare sector has recently received particular attention concerning innovations and new solutions (Hoholm et al., 2018; La Rocca, 2018). Attention from policy makers and researchers is growing for several reasons; the health care sector is one of the largest sectors of employment in many countries. In Norway, it is believed that one third of all jobs in 2060 will be in the health sector. Healthcare is also experiencing rapidly increasing expectations from the public which is a good example of what Edquist & Zabala-Iturriagagoitia (2012) refer to as a 'grand challenge. Additionally, ever-increasing healthcare costs and an ageing population means that there is a growing demand for substantial innovation of practices, services, technology and business models (Hoholm et al., 2018). This is also the focus of the innovation partnership in this particular study.

5. Innovation partnerships in Norway

The EUs 2014 public purchasing directive became part of Norwegian legislation in 2017, when "an entirely new procurement procedure, innovation partnership, is introduced which will contribute to innovation." (Europalov, 2017 - author translation). The Norwegian government has introduced this new directive because it wants "public procurement to be a driving force for innovation and restructuring in the Norwegian economy. Public purchasers have a great

opportunity to contribute to innovation and development in the supplier market by demanding new and better solutions" (Norwegian Government, 2019 - author translation). Currently, there are nine innovation partnerships in Norway, all receiving funding from Innovation Norway. In their interpretation of this new legislation, Difi has established a procedure for how to conduct an innovation partnership: "Innovation partnerships facilitate product and service development in a collaborative process between buyer and developer/supplier. The procedure is used for procurement of solutions that are previously *not known to the market*. In the case of innovation partnerships, the developing phase and the later purchase [of the solution] is combined in one contract. The procedure enables close collaboration between the purchaser and suppliers. The purpose of innovation partnerships is to develop new products, services [and] to solve a specific need."

Difi and Innovation Norway has developed a five-stage process model for how to conduct an innovation partnership: 1) need description, 2) market dialogue, 3) competition, 4) develop solution and 5) purchase. They describe several advantages of using the this procedure: "The most important change compared to previous models for procurement…is that the competition phase where the public enterprise selects a supplier now takes place before the development phase. Both the solution and subsequent purchase is regulated *in one and the same contract*. This makes it easier to invite companies with different ideas about how the problem can be solved, in cooperation with the public customer. Another advantage is that the public agency can buy and use the solution which the supplier has developed without making a new tender" (Innovation Norway, 2019 - author translation).

6. Research design and data analysis

This study applies elements from a qualitative research methodology and process research where a researcher will follow the innovation partnership project from start to finish. Data collection methods are in-depth personal interviews with key respondents and open non-participatory observations in project meetings, seminars and workshops. Additional information is collected from secondary data and internal documents such as reports, notes and briefs.

The data analysis is two-fold. First, the key events of the project are described on basis of secondary data and internal documents as they unfold. Then, the respondents' reflections and understanding of these events are analysed using content analysis at first to get an impression of the data and its contents, and subsequent coding of data using empirical categories as they emerge.

This paper will present some preliminary findings from the first two phases of the project, the need description phase and the market dialogue phase.

7. Preliminary findings

7.1. The Stroke innovation partnership: Main actors and project background

The innovation partnership in this study is part of a research project where three actors (Oslo Municipality, Sunnaas Hospital and the "C3" Centre for Connected Care – a research centre focusing on innovations in public health care) received funding from Innovation Norway with the aim of using this particular purchasing procedure to develop innovative solutions for improving the rehabilitation of stroke patients. Stroke patients are selected because this patient group implies severe public expenditure: Each year, 12,000 people are affected by a stroke with an annual cost to society of NOK 7-8 billion. The health authorities expect that the number of strokes will increase by almost 50 per cent over the next 20 years due to an aging population

(internal document – original project application). The main objective of the project is to develop a solution that can save one overnight hospital stay per stroke patient per year and improve the patient's functional level. The economic gain from reduced hospitalisation is estimated to be NOK 120 million annually.

The project procurers are Sunnaas Hospital and Oslo Municipality. Sunnaas Hospital is Norway's largest specialist hospital in rehabilitation and physical medicine. The hospital treats about 7,500 patients per year, of which more than 1000 are stroke patients. The hospital interacts with over municipalities annually, of which Oslo Municipality is Norway's largest municipality with 660,000 inhabitants and receives patients from Sunnaas. Oslo Municipality has a wide range of rehabilitation services for stroke patients. The municipal services include a municipal rehabilitation department, four health centers that have short-term and rehabilitation sites and 15 districts responsible for rehabilitation. Already in the project application, the project partners highlight the innovation potential that lies in the use of new technology: "Today, new technologies make it increasingly possible to support integrated and patient-oriented solutions and home-based services tailor-made based on the patient's individual's needs." Self-service technology can advantageously replace inefficient solutions based on personal contact, which currently accounts for almost 90% of all services. Home-based technologies, sensors, health applications and integrated ICT solutions are expected to improve services and reduce costs. Interaction with business is a prerequisite for meeting the future demands .... Our goal is to develop completely new products and solutions that do not exist on the market today" (internal document –original project application). This requires close interaction between business and public actors.

Applying the model developed by Innovation Norway and Difi, the project is divided into five phases (fig. 1):

Fig. 1: Stroke project innovation partnership phases

Here is a description of the first two phases.

Phase 1: Need description

The need description phase is conducted with help from two external actors. First three workshops are held with invited participants under the supervision of the School of Architecture and Design in Oslo (AHO), and a further need description and analysis is conducted by a service design company, Designit. AHO is already a partner in C3 and the project group wants to make use of their expertise in service design as an integral part of the needs description phase. The workshops are facilitated in cooperation with representatives from the main actors (Sunnaas Hospital, Oslo Municipality and C3) and other parties affected such as the Hospital

Procurement Agency, Innovation Norway, The National Association of Strokes, the Lung and Heart Disease Association, Oslo University Hospital and Aker Hospital.

AHO summarises their findings from the three workshops into four main need areas (internal presentation held 08.05.18): 1) Strengthen patients' cognitive clarification, 2) Ensure continuation of patient treatment, 3) Empowerment of patients and their relatives (giving cognitive training to patients) 4) Remote monitoring and digital points of contact. To further redefine these needs, a service design agency (Designit) is selected after a tender competition (announcement 10.04.18 at Doffin, the public tender portal). Based on conversations with connected actors, Designit arrives at this definition of needs: "The purpose is to develop new solutions that help to regain as much as possible of lost functions. The solution will contribute to quality, intensity and continuity in the rehabilitation process. The patient needs to get the right type and the right amount of training after they have left the rehabilitation institution. The solution must motivate usage as this is an important factor." Designit specify six need areas: 1) Patient overview of the rehabilitation process (The patient does not have either a short term or long term overview of their treatment process), 2) Understanding the needs of stroke survivors in general (Generalists have little stroke specific competence. This makes it hard to know what activities to prioritise with a patient and increases likelihood of errors), 3) Rehabilitation must feel tailored to the patient's needs (The patient needs to know that his/her treatment is personalised (to their age, capabilities, individual goals and general life situation), 4) Information gets diluted and fragmented (Information comes from many sources and in many forms, creating a "whispering game" for the patient), 5) Hesitance to engage in independent training (patients lack the knowledge and experience with how much, how far and in what way to conduct training without assistance from professionals), and 6) "Use it or lose it" (the patient loses ownership for his own situation.)

Phase 2: Market dialogue

Based on this need description, the project group invites potential suppliers to a market dialogue. The announcement of the market dialogue takes place at Doffin in July 2018: "The market dialogue aims to gather information about what is available in the market today and what can be expected to be ready for commercialization in the foreseeable future. There is a need for input from the suppliers on what they see of opportunities and realistic solutions through an innovation partnership. The market dialogue will give an indication of the direction of the project and the further competition". An additional invitation is sent to potential suppliers. These are suppliers that the participants in the project group know from before and who they think may be interested in hearing about the project.

The market dialogue is conducted at Oslo City Hall on 27. September and 45 people from 29 companies participate. For each need, participants in groups discuss ideas to address the defined need and possible existing technology that may be used.

Following the market dialogue, it is decided to proceed with theme no. 3: "Rehabilitation must feel tailored to the patient's needs". This is an area which have elicited most discussion and activity in the groups. The project group defines the final need as follows: "*The need for innovation opportunities: I continue to improve because I am confident that my rehabilitation is adapted to me and carried out properly by me and my helpers.*" There are further two matchmaking workshops organised: one in Oslo under the supervision of Norwegian Health Care Cluster, and one in Stavanger under the supervision of Stavanger Smart Care Cluster.

A tender document is finally prepared. This is first sent to consultations with partners and other stakeholders. Final tender documents are then presented to the steering committee in December 2018.

We will now look at this process from the perspective of the actors involved, using main themes emerging from a content analysis of their responses to guide the presentation of results.

7.2. The respondents' reflections and understanding of this process

a) Innovation on two dimensions: Process and result

It is believed that the innovation partnership represents an innovation in two dimensions: One dimension is the innovative solution which is the potential outcome of this process. The other dimension is the innovative purchasing procedure adopted by the actors involved. As one of the respondents explains: "Innovation means that the solution to a need should be both new and useful, and can be utilized by others. But it also means working on a new type of process, and not just buying a finished product. Thus, there are two dimensions in this project". Another respondent argues: "The biggest innovation is the willingness to conduct a purchase in new ways. You never know how innovative this ultimately becomes when you start. The process is an innovative element in itself." Clearly, this procedure is seen as an improvement: "Public healthcare is not used to working with business and develop something new in this way. Traditionally, things are first produced and then purchased. Now, we must develop something as we go along."

b) Supplier mobilisation

The ability to innovate also depends on the ability to mobilise a network of suppliers: "I believe that innovations often occur when you connect partners who are not used to working together. Only then you will see new opportunities arising", says one respondent. Similarly, "one option is that you have two solutions that already exist, and then you put them together. Even if a supplier has not done it this way before, it may work for us. And you can get two suppliers to work together in solving a need."

c) A challenging and complex process

However, the innovation partnership is a challenging exercise in several ways. One challenge is concerned with the magnitude of this process: "For me, this is a completely new process. I have not been in an innovation partnership before. Everything is new to me, and this is a very large and extensive project." Another respondent points to the organisational complexity: "In order be successful with this innovation partnership, much is required from the buying organisation. I am not sure if we are fully aware of the responsibilities we have and whether we have the resources and expertise required."

Clearly, not everyone involved is aware of these challenges: "I don't think everyone in the project is fully aware of what is expected here. This is not just implementing an innovation partnership and then signing a contract. One has got a partner and the real job begins. I think this is very under-communicated." There is also a question whether this process has started at the wrong end: "We started by selecting a purchasing procedure. Then we found a need that may be appropriate for this process and thereafter used the market dialogue to determine if the need can be met. We should have started by determining if we actually have a need, and then determine if the need can be solved with existing solutions or not."

d) Needs are difficult to define

Although the first phase of the project has defined and formulated a particular need for a solution, it is apparent that it is difficult to describe a need this early in the project. The respondents have very different perceptions of the needs in questions. One describes the need

in very general terms, mainly concerned with general welfare in the population: “We have a hope that we will succeed with something, that we get something which can give a better everyday life for those in our city”. Other respondents are concerned with organisational needs: “We must look into the life cycle treatment costs, namely both what is possibly before the patient gets a stroke, and then all the complications and re-admissions and that the patient gets in retrospect.” Yet, other respondents are concerned with the lives of this particular patient group: “We want to improve the lives of stroke patients, at the same time as we want to reduce the need for municipal health services. In addition, we want to reduce the need for expensive hospital arrangements.”

e) Unknown territory is a challenge

The innovation partnership is clearly unknown territory for the actors involved. This imposes several challenges. Defining needs is a difficult process: “I'm terrified of thinking about one particular solution. If it was that simple, we would not have needed such a project. We could just go out and buy it.” Another argues “…that is the problem: defining the need because it is so unclear. Some wants to have some kind of technology, but what kind is not entirely obvious. Some speak about technical solutions and iPads and so on. This suggests that we need to develop a software or something, but then you do not necessarily need a long process. It gets a little messy.”

f) Easy to refer to known solutions?

Hence, it is much easier to think in terms of known solutions but this is not the purpose of the innovation partnership: “It is clear that both we and the patients are at risk of thinking the thoughts we have been thinking before. It is always difficult to see brand new solutions, how to come up with new things”. Respondents also bring up typical ‘buzz-words’: “Everyone believes that it will be something involving digitalization. But we think about different things. I think we are looking for something that has to do with gamification, probably we will land on something that can be built around this.” It is also difficult to define what such buzz-words imply. Thus, descriptions revolve around known concepts: “When we work with supplier companies, I think it may be easier to think that this is a physical thing”, as one respondent puts it, or “one has actually defined this as a technological device. This is clearly a risk using the words of another respondent.

g) Solutions will have consequences for the type of suppliers eventually approached

Such conceptual yet vague perceptions may have consequences for the type of suppliers which are eventually approached. One of the respondents argue that: “maybe some kind of technology companies? Or someone who works with patient information? Or maybe there are some who design services?” Another asks “when it comes to self-empowerment of patients and relatives, maybe there are someone who works with cognitive training? Someone who might work with training and instructions?” At the same time, the respondents seem to be aware of this risk: “I think the most important thing is that we do not approach those suppliers we already know of. This process allows us to have a wide focus in the market. Then we get a better solution”, as one actor states.

There is also a need for targeting suppliers that have a good understanding of the public health sector: “We must have suppliers that understand the health service. The best thing about being selected for this project is perhaps that if you get involved there is a potential for added value, and there is knowledge and learning to gain.” This is nevertheless challenging: “Our challenge is to get actors interested in this project, because that in a partnership there are two parties. That is complicated.” Along with the potential innovative solutions gained, organisational learning seems to be a major outcome: “The process is useful regardless of the result of the project. It will provide us with methods and competence in public procurement in any case”, as one

respondent puts it. Another argues that "When you work on innovations, we do not know what results we will get. It may well be that we spend the eight million without completing the project. But this project provides experience and learning for the partners involved. The investments will not be sunk cost. One must be willing to take risk. Innovations do not always succeed, but maybe give something to build on later." Or in the words of a second respondent: "I simply want to learn about how we can run innovation partnerships. What is most important in this context is to gain such experience, and get to work with Innovation Norway and connected suppliers so that we can run similar processes later."

The following table presents a summary of key preliminary results:

Possibilities	**Challenges**
• Innovation partnership is seen as having good potential for developing innovative solutions	• Different understandings of what an innovation is • Unknown territory is demanding • Easy to focus on known solutions • Initial supplier selection may have consequences for final innovative solution
• Positive expectations create possibilities	• Different expectations among actors
• Need specification is vital	• Needs are difficult to define
• Organisational support is important	• Difficult to define who needs to be involved
• Possibilities for organisational learning	• Different perspectives and different organisational support

8. Concluding discussion

This paper reports from the early stages of a particular innovation partnership. It is therefore difficult at this point to establish how effective this purchasing mode is when developing innovative solutions in the public sector. However, these preliminary findings allow us to discuss some of the possibilities and challenges when applying this purchasing format.

It appears that there is a profound belief in the innovation partnerships as an opportunity to innovate on two dimensions: process and result. This is a new purchasing procedure and hence an innovation in the way these two organisations relate to their suppliers. It also represents an opportunity to create innovative solutions. The learning outcome of participating in this process by the two organisations seems to be one of the main results so far. At the same time, this process reveals several challenges when implementing an innovation partnership.

First, an innovation partnership is a very demanding process. So far this has involved 120 people from 40 different organisations, and still only the two first phases of the innovation partnership are completed. One of the advantages of having this many people involved, is the "buy in" of connected actors later on in the process. Additionally, involving a magnitude of actors has helped addressing the needs that the new solution is meant to address when finally developed at a later stage. However, comparing the final need description with the initial need description, it seems that this process has not added much in terms of a deeper understanding of patients' needs. Several respondents mention that this information was known initially.

Second, it seems to be difficult to define a need for something which is unknown whereas it is easier to define solutions. The respondents are aware of this, but this is a challenging exercise. It appears that some frame of reference is needed. The above discussion suggest that it is tempting to look towards known solutions, technology and even suppliers, with the implication this has for the room (or lack of room?) for innovation at a later stage of the process.

At the start of this paper, we introduced the innovation partnership as an example of a second generation purchasing procedure, leaving room for extended relationships between buyers and

sellers in the public sector. This is early in the process, but it may be argued that even if the innovation partnership implies a relational mode, it has several characteristics of a market mode. For instance, the very way the innovation partnership is introduced in the Norwegian legislation, emphasises its competitive framing: "The purchaser can *use competition for innovation partnerships* to develop and acquire innovative goods, services or construction work" (Norwegian legislation database, 2017 – author translation and highlight). Further, in this particular innovation partnership, a tender process has been used to select a service design company to finalise the need description and facilitate the market dialogue. Concerning the next step in this process, the market dialogue phase, invitations and public tender will be used to attract potential suppliers. These are characteristics of a market mode. Finally, according to the initial description of the innovation partnership phases, each phase can be terminated on the discretion of the buyer. This also implies a short-term perspective to buyer-seller relationships.

One of the reasons for adopting this particular process framework, was to adhere to the demands from Difi and Innovation Norway who had advocated this process framework when giving the necessary research funds. One may question whether this process would have been more effective if the actors were free to interpret the purchasing procedure in their own right. As one of the respondents puts it, this procedure has started in the wrong end by selecting a purchasing framework and then finding an appropriate area for testing the potential for innovation. This means that the actors are forced to act in a particular way. A different kind of process may have started with first defining a need for an innovative solution, and thereafter selecting the purchasing procedure which seems most suitable. But this is not within the scope of this project.

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